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Richard. [Signed]
Edward A. Machell
Oct. 26
1921
to
the right honourable
the lords commissioners
for executing the office of
lord high admiral
of
great britain, &c.
this work
is,
by their lordships permission,
with the utmost respect,
inscribed
by
the author.
Lately published, by the Author of this Dictionary,
The Fifth Edition, corrected, Price 3s. sewed, of
THE SHIPWRECK, A POEM.

Printed for T. Cadell, in the Strand.
THE following work has engaged my utmost application for some years. Several performances on the same subject have already appeared; as Sir H. Mannering's Seaman's Dictionary; Boteler's Sea Dialogues; Guillet's Gentleman's Dictionary, and Blanckley's Naval Expositor, &c. Far from exhibiting an enlarged and comprehensive view of naval affairs, these productions are extremely imperfect, according to the very circumscribed plan which their authors have adopted. There are besides, the Dictionnaire de Marine of M. Aubin, published in Holland; and that of M. Saverien, published in France. These are indeed voluminous, but very deficient in the most necessary articles. Besides a circumstantial detail of the local economy of different marine departments, they are swelled out with astronomy, navigation, hydrography, natural history, &c. all of which are abundantly better treated in other compositions. Of the machinery of a ship; the disposition of the rigging on her masts and yards; and the comparative force of her different mechanical powers, their accounts however are often vague, perplexed, and unintelligible. With regard to her internal go-

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government in action; to the general regulations of the line of battle; and to the principal movements in failing, they are almost totally silent. Had any of these works been executed with tolerable success, it might have rendered mine unnecessary; or probably have introduced it in the form of a translation.

I acknowledge with great pleasure the advantages I have derived, in the prosecution of this work, from several authors of distinguished reputation: in reality however none of those above-mentioned are of the number. In that part which is dedicated to the theory and art of ship-building, I owe considerable obligations to the ingenious M. Du Hamel. The principal pieces used in the construction of a ship, together with their combination and disposition, are copiously and accurately described in his Elements of Naval Architecture: and his general account of the art itself is perspicuous and comprehensive. Many of his explanations I have therefore implicitly adopted.

In treating of the artillery, I have occasionally consulted Le Blond, Muller and Robins, besides selecting some valuable materials from the manuscripts of officers of long experience and established reputation in that service. Whatever relates to the rigging, sails, machinery, and movements of a ship; or to the practice of naval war, is generally drawn from my own observations; unless where the author is quoted.

As there are abundance of books professedly written on astronomy, and the theory of navigation, I have totally
totally omitted the terms of the former, as foreign to my plan; and slightly passed over the latter; because no reader could acquire a sufficient idea of those sciences from so partial a description. Many of the least important parts of a ship, as well as of her rigging, are very generally defined. To explain the track of every particular rope, through its different channels, would be equally useless and unintelligible to a land reader: to mariners it were superfluous: and even the youths who are trained to the sea would reap little advantage from it; because their situation affords them much better opportunities of making these minute discoveries.

I have in general endeavoured to give the etymology of the most material expressions, unless when their evident analogy to common words rendered this unnecessary. Many reasons may be alleged for introducing the French sea-terms and phrases; particularly that obvious one, of understanding their pilots, when we may have occasion for their assistance. Wherever it was found necessary to explain one technical term by another, the latter is usually printed in italics the first time it is mentioned; so that the reader may refer to it for a further explanation.

As the plates of this publication were intended to illustrate the various objects to which they refer, they are little ornamented; but have in general the recommendation of simplicity and geometrical truth. In this part I have been particularly favoured with many original drawings, which are usually considered amongst the inaccessible
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ceslible arcana of ship-building. They are much more numerous, useful, and correct, than what has hitherto appeared in any work of the kind. In fine, I have endeavoured, to the best of my judgment, to retrench the superfluities, and supply the deficiencies of former writers on the same subject, as well as to digest and methodize whatever appeared loose or inaccurate therein.

This undertaking was first suggested to me by my worthy and ingenious friend George Lewis Scott, Esq; who considered it as a work of extensive utility. Indeed, in a country whose principal sources of strength are derived from the superiority of her marine, it is evidently wanted. I have the pleasure also to know that Sir Edward Hawke, and several officers of respectable abilities in our navy, are of the same opinion. To this may be added, what the celebrated M. Du Hamel lately observed, in a letter to me, Ce livre manquoit absolument; celui qui a été imprimé en Hollande, et qui a eu un debit considerable, est tres imparfait; celui de M. Saverien est encore plus mauvais. I mention this expressly, because some sea-officers have considered the work unnecessary. It is however submitted, with all possible deference, to superior judges; to men of science and letters, who know the difficulty of explaining the parts of a mechanical system, when the readers are unacquainted with the subject.

A N
ABACK, (coeuffe, Fr.) the situation of the sails when their surfaces are flated against the masts by the force of the wind.

The sails are said to be taken aback, when they are brought into this situation, either by a sudden change of the wind, or by an alteration in the ship's course. They are laid aback, to effect an immediate retreat, without turning to the right or left; or, in the sea-phrase, to give the ship stern-way, in order to avoid some danger discovered before her in a narrow channel; or when she has advanced beyond her station in the line of battle, or otherwise.

The sails are placed in this position by slackening their lee-braces, and hauling in the weather ones; so that the whole effort of the wind is exerted on the fore-part of their surface, which readily pushes the ship astern, unless she is restrained by some counteraffing force. See Backing, and Bracing.

It is also usual to spread some sail aback near the stern, as the mizen-top-sail, when a ship rides with a single anchor in a road, in order to prevent her from approaching it so as to entangle the flukes of it with her slackened cable, and thereby loosen it from the ground. See Anchor.

Fig. 14, plate III, discovers the plan of a ship, a b, with her main-top-sail, c d, aback; in which the curved dotted line expresses the cavity of it, as blown back by the wind on each side of the masts. The fore-top-sail, which is full, is exhibited by the line e f. Fig. 13. represents a perspective view of the ship in the same situation; and the dart shews the direction of the wind upon both.

Lay all flat aback, the order to arrange all the sails in this situation.

ABAFT, (avriere, Fr. abastan, Sax. behind) the hinder part of a ship, or all those parts both within and without, which lie towards the stern, in opposition to astore; which see.

ABAFT, (avriere de, Fr.) is also used as a preposition, and signifies further ast, or nearer the stern; as, the barricade stands abaft the main-mast, i. e. behind it, or nearer the stern.
ABOARD (à bord, Fr. abordo, Ital.) the inside of a ship: hence any person who enters a ship is said to go aboard: but when an enemy enters in the time of battle, he is said to board. A phrase which always implies hostility. See the article Boarding.

To fall Aboard of, (abordier, Fr.) to strike or encounter another ship, when one or both are in motion; to be driven upon a ship by the force of the wind or current.

Aboard-main-tack! (amure la grande veille! Fr.) the order to draw the main-tack, i.e. the lower corner of the main-sail, down to the chefs-tree. See Chess-tree.

ABOUT, (reciré, Fr. abutan, Sax.) the situation of a ship immediately after she has tacked or changed her course by going about, and standing on the other tack. See Tacking.

About-Ship! (adieu-va! Fr.) the order to the ship’s crew to prepare for tacking.

ABREAST, (par le travers, Fr. of bref, Sax.) side by side, or opposite to; a situation in which two or more ships lie, with their sides parallel to each other, and their heads equally advanced.

This term more particularly regards the line of battle at sea, where, on the different occasions of attack, retreat, or pursuit, the several divisions of a fleet are obliged to vary their dispositions, and yet maintain a proper regularity by falling in right or curved lines. When the line is formed abreast, the whole squadron advances uniformly, the ships being equally distant from, and parallel to each other, so that the length of each ship forms a right angle with the extent of the squadron or line abreast. The commander in chief is always stationed in the centre, and the second and third in command in the centres of their respective divisions. See this further illustrated in the article Line.

Abreast, within the ship, implies on a line with the beam, or by the side of any object aboard; as, the frigate sprung a leak abreast of the main hatch-way, i.e. on the same line with the main hatch-way, crossing the ship’s length at right angles, in opposition to afore or abaft the hatch-way. See Aft.

We discovered a fleet Abreast of Beacky Head, i.e. off, or directly opposite to it.

ACORN, (pomme de giroïette, Fr.) a little ornamental piece of wood, fashioned like a cone, and fixed on the uppermost point of the spindle, above the vane, on the mast-head. It is used to keep the vane from being blown off from the spindle in a whirlwind, or when the ship leans much to one side under sail. See plate I. fig. 1. where a represents the acorn, b the vane and flock, c the spindle, and d the mast-head.

ADMIRAL, (amiral, Fr.) an officer of the first rank and command in the fleet, and who is distinguished by a flag displayed at his main-top-mast-head. Also an officer who superintends the naval forces of a nation, and who is authorized to determine in all maritime causes.

The origin and denomination of this important office, which seems to have been established in most countries that border on the sea, have
given rise to a great variety of opinions. Some have borrowed them from the Greek, others from the Arabic, while a third sort, with greater probability, derive both the title and dignity from the Saracens. But since no certain conclusions have been deduced from these elaborate researches, and as it rather appears the province of this work to give the reader an idea of the office and duty of an admiral at sea, than to furnish an historical or chronological detail of the rank and power with which admirals have been invested in different nations, we shall contentedly resign this task to the ingenious lexicographers, who have so repeatedly entertained us with such critical investigations.

The Admiral, or commander in chief of a squadron, being frequently invested with a great charge, on which the fate of a kingdom may depend, ought certainly to be possessed of abilities equal to so important a station and so extensive a command. His squadron is unavoidably exposed to a variety of perplexing situations in a precarious element. A train of dangerous incidents necessarily arise from those situations. The health, order, and discipline of his people are not less the objects of his consideration, than the condition and qualities of his ships. A sudden change of climate, a rank and infectious air, a scarcity, or unwholesomeness of provisions may be as pernicious to the former, as tempestuous weather or dangerous navigation to the latter. A lee-shore, an injudicious engagement with an enemy greatly superior, may be equally fatal to both. He ought to have sufficient experience to anticipate all the probable events that may happen to his squadron during an expedition or cruise, and, by consequence, to provide against them. His skill should be able to counteract the various disasters which his squadron may suffer from different causes. His vigilance and presence of mind are necessary to seize every favorable opportunity that his situation may offer to prosecute his principal design; to extricate himself from any difficulty or distress; to check unfortunate events in the beginning, and retard the progress of any great calamity. He should be endued with resolution and fortitude to animate his officers by the force of example, and promote a sense of emulation in those who are under his command, as well to improve any advantage, as to frustrate or defeat the efforts of his ill fortune.

The most essential part of his duty, however, appears to be military conduct. As soon as the squadron under his command shall put to sea, he is to form it into the proper order of battle, called the Line. In this arrangement he is to make a judicious distribution of strength from the van to the rear, throwing the principal force into the centre, to repel the impressions of the enemy's fleet; which might otherwise, at some favorable opportunity, break through his line, and throw the van and rear into confusion.

A competent knowledge of the sea, weather, and reigning winds, of the coast or region where he is stationed, is also requisite, as it will greatly facilitate his plans on the enemy. It will enable him to avoid being improperly embayed, where he might be surprized in a disadvantageous situation;
situation; and to judge whether it will be most expedient to attack his adversary, or lie prepared to receive his assault. When his squadron is forced by stress of weather, or otherwise, to take shelter in a road or bay, it will likewise suggest the necessary conduct of keeping a sufficient number of cruisers at sea, to bring him early intelligence, that they may be ready to cut or slip the cables when they shall be too much hurried to weigh their anchors.

As the forming a complete, strong, and uniform line is a very material article in naval war, the admiral ought frequently to arrange the squadron under his command into this order, that the inferior officers may observe to bring their ships, with greater, dexterity and alertness, into their several stations, and maintain the regularity of the line when they tack, veer, or fail abreast. See Line.

When the admiral intends a descent on an enemy's coast, or other attack which may be attended with complicated and unforeseen incidents, his orders should be delivered or drawn up with the greatest accuracy and precision: they should be simple, perspicuous, direct, and comprehensive; they should collect a number of objects into one point of view, and, foreseeing the effects of success or defeat, appoint the proper measures to be adopted in either event. History and experience confirm the necessity of this observation, and present us with a variety of difficulties that have happened on such occasions, merely by a deficiency in this material article. In the commanding officer, inattention, barrenness of expedient, or a circumscribed view of the necessary effects of his enterprise, may be equally pernicious. And general orders ought to be utterly free from pedantry and perplexity, which always betray a false taste and confused imagination, besides the probability of producing many fatal consequences.

When an admiral shall conquer in battle, he should endeavor to improve his victory, by pushing the acquired advantages as far as prudence directs; a conduct that merits his attention as much as any in the action! When he shall be defeated, he ought to embrace every opportunity of saving as many of his ships as possible, and endeavor principally to assist those which have been disabled. In short, it is his duty to avail himself of every practicable expedient rather than sink under his misfortune, and suffer himself to become an easy prey to an enemy.

He should be sufficiently acquainted with civil law, to judge with propriety of the proceedings of courts-martial, and to correct the errors, and restrain the abuses which may happen therein by mistake, ignorance, or inattention.

As secret treaties, propositions, or schemes of the enemy, may occasionally be submitted to his inspection, or fall into his possession by capture; and which it might be improper to discover to any person near him, he ought to have a competent knowledge of the modern languages, or at least, those of the countries against whom his military operations are directed, to be able to comprehend with facility the full scope and purport of such papers.
He ought to be well versed in geometry, so as to be capable of ordering proper and correct surveys of unknown coasts, roads, or harbors to be made, and to judge of their accuracy, and detect their errors. To ascertain the situation and longitude of different places, he should be also sufficiently skilled in astronomy and the method of taking observations, which indeed is essentially necessary to the profession of a sea-officer, although too much neglected.

By his instructions the admiral is likewise to assist at all councils of war that relate to naval affairs: to visit, as often as convenient, the other ships of his squadron: to enquire particularly into their condition, and observe the men mustered, taking care that no supernumeraries are born on the books. He is directed to acquaint the secretary of the admiralty with all his proceedings relative to the service, for the information of the lord-high-admiral, or lords commissioners of the admiralty; and to attend him, or them, on his return home, with an account of his voyage or expedition, and to deliver a copy of his journal to their secretary.

Much more might be observed on this occasion. It appears however by the general outline which we have sketched, that the office and duty of an admiral requires greater skill and more comprehensive abilities than is generally supposed necessary to the command of a naval armament. And that he ought to be duly qualified, at least in this kingdom, to assist at the councils of his sovereign, and enter into the enlarged system of protecting his country from an invasion by sea, or of meditating a descent on an enemy’s coast; as well as to improve navigation, and open new channels of commerce. For further particulars of his charge see the articles Engagement, Line, Squadron.

Admiral of the fleet, the highest officer under the admiralty of Great-Britain: when he embarks on any expedition, he is distinguished by the union flag at the main-top-mast-head.

Vice-Admiral, (vice-amiral, Fr.) the officer next in rank and command to the admiral; his flag is displayed at the fore-top-mast-head.

Rear-Admiral, (contre-amiral, lieutenant-general des armées navales, Fr.) the officer next in rank and command to the vice-admiral, and who carries his flag at the mizen-top-mast-head.

There are at present b in England, besides the admiral of the fleet, three admirals of the white squadron, and four of the blue. Three vice-admirals of the red, three of the white, and four of the blue. Four rear admirals of the red, four of the white, and five of the blue squadron: besides twenty-two rear admirals that have carried no flag, who are superannuated upon half-pay.

Vice-Admiral is also a civil officer appointed by the lords-commisioners of the admiralty. There are several of these officers established in different parts of Great-Britain, with judges and marshals under them, for executing jurisdiction within their respective districts. Their decisions, however, are not final, an appeal lying to the court of admiralty in London.

b 1769.
ADMRALTY, (Amirauté, Fr.) the office of lord-high-admiral, whether discharged by one single person, or by joint-commissioners, called Lords of the Admiralty.

ADVICE-BOAT, (papet d'avis, Fr.) a small vessel employed to carry express orders with all possible dispatch.

ADRIFT, (from a and drift, Sax.) the state of a ship or vessel broke loose from her moorings, and driven without control at the mercy of the wind, seas, or current, or all of them together.

AFLOAT, (à flot, Fr.) floating on the surface of the water: a ship is said to be afloat when there is a volume of water under her bottom of sufficient depth to buoy her up from the ground.

AFORE, (avant, Fr. force, Sax.) all that part of a ship which lies forward, or near the stern.

Afore, as a preposition, likewise implies further forward, or nearer the prow; as, the manger stands afores the fore-mast, i.e. further forward, or nearer the stern. In both these senses afores is used in contradistinction to abaft. See the article ABAFT.

AFT, (arrière, Fr. from after, Sax. or abaft) behind, or near the stern of the ship; being opposed to fore; as, run out the guns fore and aft! i.e. from one end of the ship to the other; and whence,

AFTER, (de l'arrière, Fr. after, Sax.) a phrase applied to any object situated in the hinder part of the ship; as, the after-hatchway, the after-capstern, the after-fails, &c.

The Aft or Sails usually comprehend all those which are extended on the mizen-mast, and on the stays between the mizen and main-masts. They are opposed to the head-fails, which include all those that are spread on the fore-mast and bowsprit; and both, by their mutual operation on the opposite ends of the ship, duly balance her when under sail. See the article Trim.

AGENT-Victualler, (cuitelleur, Fr.) an officer stationed at a royal port, to regulate the victualing of the king's ships, under the direction of the commissioners for victualing the navy. He receives all the provisions from the victualing-office in London, and distributes them to the ships in the harbor. He also receives into his store-houses such as may be returned by ships after the expiration of their cruise or voyage, and renders an account thereof to the said commissioners.

AGROUND, (echoué, Fr. from a and ground, Sax.) the situation of a ship whose bottom, or any part of it, hangs or rests upon the ground, so as to render her immoveable till a greater quantity of water shall float her off; or till she shall be drawn out into the stream, by the application of mechanical powers.

This important and high office has seldom been entrusted to any single person, except princes of the blood; or to some nobleman meriting such distinction for his eminent services. In general the crown appoints five or seven commissioners, under the title of "Lords Commissioners for executing the Office of Lord-High-Admiral of Great-Britain," &c. All maritime affairs are entrusted to their jurisdiction. They govern and direct the whole royal navy, with power decisive in all marine cases, civil, military, and criminal, transacted upon or beyond sea, in harbors, on coasts, and upon all rivers below the first bridge sea-ward.

AHEAD,
AHEAD, (avant, au devant, Fr. from a and head, Sax.) further onward than the ship, or at any distance before her, lying immediately on that point of the compass to which her stern is directed. It is used in opposition to astern, which expresses the situation of any object behind the ship. See astern.

To run Ahead of one's reckoning, (dépasser, Fr.) to sail beyond the place shown erroneously in the dead-reckoning as the ship's situation.

Line Ahead. See the article Line.

A-HULL, (à sec, à masts, & à cordes, Fr. from a and hull) the situation of a ship when all her sails are furled on account of the violence of the storm, and, when having lashed her helm on the lee-side, she lies nearly with her side to the wind and sea, her head being somewhat inclined to the direction of the wind. See this further explained in the article trying.

AIM, the direction of a cannon, or other fire-arm, to its object, or the point to which it is directed; whence,

To take Aim, (prendre sa mine, from esmer, Fr.) is to point a gun to its object according to the point-blank range. See cannon and Range.

Alef, (avant, Fr. from a and lee) the situation of the helm when it is pushed down to the lee side of the ship, in order to put the ship about, or to lay her head to the windward.

All in the wind, the state of a ship's sails when they are parallel to the direction of the wind, so as to shake and shiver, by turning the ship's head to windward, either by design, or neglect of the helm's man.

All's well! an acclamation of safety or security pronounced by a centinel, and repeated by all the others who are stationed in different places of a ship of war, at the time of striking the bell each half-hour during the period of the night watch.

All hands high, or All hands hoay! (tout le monde haut! Fr.) the call or order by which all the ship's company are summoned upon deck by the boatswain.

Aloft, (en haut, Fr. lofser, to lift up, Dan.) up in the tops, at the masts-heads, or any where about the higher yards or riging.

Along-side, (bord à bord, flanc & flanc, Fr.) side by side, or joined to a ship, wharf, &c. and lying parallel thereto.

To lay Along-side, (allinger, Fr.) to arrange a ship by the side of another.

Along-shore, along the coast; this phrase is commonly applied to coasting navigation, or to a course which is in sight of, and nearly parallel to, the shore.

Lying Along, (à la bande, au long, Fr.) the state of being pressed down sideways by a weight of sail in a fresh wind that crosses the ship's course either directly or obliquely.

Aloof, (lof, Fr.) this has frequently been mentioned as a sea-term, but whether justly or not we shall not presume to determine; it is known in common discourse to imply at a distance; and the resemblance of the phrases, keep aloof, and keep a luff, or keep the luff, in all probability gave rise to this conjecture. If it was really a sea-phrase originally, it seems to have referred to the dangers of a lee-shore, in which situation the pilot
might naturally apply it in the sense commonly understood, viz. keep all off, or quite off: it is, however, never expressed in that manner by seamen now. See Luff. It may not be improper to observe, that, besides using this phrase in the same sense with us, the French also call the weather side of a ship, and the weather clue of a course, le lef.

AMAIN, (calle-tout, Fr. from main, or maigle, old French) at once, suddenly; as, let go amain! i. e. let it run at once. This phrase is generally applied to any thing that is hoisted or lowered by a tackle, or complication of pulleys.

AMAIN, yield, from a ship of war to an enemy.

Strike AMAIN, lower your topgalls.

AMIDSHIPS, the middle of the ship, either with regard to her length or breadth. Example in the first sense; The enemy boarded us amidships, i.e. in the middle, between the stem and stern. Example in the second sense; Put the helm amidships, i.e. in the middle, between the two sides.

ANCHOR, (ancre, Fr. ancrea, Lat. from ἀγκών, Greek) a heavy, strong, crooked instrument of iron, dropped from a ship into the bottom of the water, to retain her in a convenient station in a harbor, road, or river.

The most ancient anchors are laid to have been of stone, and sometimes of wood, to which a great quantity of lead was usually fixed. In some places baskets full of stones, and jacks filled with sand, were employed for the same use. All these were let down by cords into the sea, and by their weight stayed the course of the ship. Afterwards they were composed of iron, and furnished with teeth, which, being fastened to the bottom of the sea, prevented the vessel immovable; whence êcôtes and dentes are frequently taken for anchors in the Greek and Latin poets. At first there was only one tooth, whence anchors were called ἐρεξεσμεσι; but in a short time the second was added by Eupalamus, or Anacharisis, the Scythian philosopher. The anchors with two teeth were called διμύσταται, or διμυστεωσι, and from ancient monuments appear to have been much the same with those used in our days, only the transverse piece of wood upon their handles (the stocks) is wanting in all of them. Every ship had several anchors, one of which, surpassing all the rest in bigness and strength, was peculiarly termed ἵκα, or ἱαρα, and was never used but in extreme danger; whence sacram anchoram solvere is proverbially applied to such as are forced to their last refuge. Potter's Antiquities of Greece.

The anchors now made are contrived so as to sink into the ground as soon as they reach it, and to hold a great strain before they can be loosened or diloged from their station. They are composed of a shank, a stock, a ring, and two arms with their flukes. The stock, which is a long piece of timber fixed across the shank, serves to guide the flukes in a direction perpendicular to the surface of the ground; so that one of them sinks into it by its own weight as soon as it falls, and is still preferred steadily in that position by the stock, which, together with the shank, lies flat on the bottom. In this situation it must necessarily sustain a great effort before it can be dragged through the earth horizontally. Indeed this can only be effected by the violence of the wind or tide, or of both of them, sometimes increased by
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by the turbulence of the sea, and acting upon the ship so as to stretch the
cable to its utmost tension, which accordingly may dislodge the anchor
from its bed, especially if the ground be soft and oozy or rocky. When
the anchor is thus displaced, it is said, in the sea phrase, to come home.

That the figure of this useful instrument may be more clearly under-
stood, let us suppose a long massy beam of iron erected perpendicularly,
Plate I. fig. 2. b c; at the lower end of which are two arms, d e, of equal
thickness with the beam (usually called the shank) only that they taper
towards the points, which are elevated above the horizontal plane at an
angle of thirty degrees; or inclined to the shank at an angle of sixty
degrees: on the upper part of each arm (in this position) is a fluke, or
thick plate of iron, g h, commonly shaped like an isosceles triangle, whose
baise reaches inwards to the middle of the arm. On the upper end of the
shank is fixed the tstock transversely with the flukes: the stock is a long
beam of oak, f, in two parts, strongly bolted, and hooped together with
iron rings. See also fig. 3. Close above the stock is the ring, a, to which
the cable is fastened, or bent: the ring is curiously covered with a number
of pieces of short rope, which are twilled about it so as to form a very
thick texture or covering, called the puddening, and used to preserve the
cable from being fretted or chafed by the iron.

Every ship has, or ought to have, three principal anchors, with a cable
to each, viz. the sheet, maitresse-ancre, (which is the anchora sacra of the
ancients) the bitt bower, seconde ancre, and small bower, ancre d’affourber,
so called from their usual situation on the ship’s bows. There are besides
smaller anchors, for removing a ship from place to place in a harbour or
river, where there may not be room or wind for sailing; these are the stream-
anchor, ancre de toue; the kedge and grappling, grapin: this last, however,
is chiefly designed for boats.

To drag the Anchors, (chaffer sur ses ancre, Fr.) implies the effort of
making the anchor come home, when the violence of the wind, &c. strains
the cable so as to tear it up from the bed into which it had sunk, and drag
it along the ground; as already explained.

Foul Anchor: it is so called when it either hooks some other anchor,
wreck, or cable, under the surface of the water; or when, by the wind
suddenly abating, the ship slackens her strain, and straying round the bed
of her anchor entangles her slack cable about the upper fluke of it, and
easily draws it out of its place, as soon as she begins to ride with a train.
To prevent this, it is usual, as she approaches the anchor, in light winds,
to draw the slack cable into the ship as fast as possible.

To Anchor, (ancrer, mouiller, &c. Fr.) is to let go the anchor, and to
let the ship ride thereby.

The Anchor is a cock-bill, (ancrer et à la veille, Fr.) implies that the shank-
painter, or rope by which the flukes were hung to the ship’s bow, being
cast off, the flukes drop down perpendicularly; whilst the anchor is sus-
pended at the cat-head by its flopper, ready to be sunk from the bow at a
moment’s warning.
At Anchor, (à l'ancre, Fr.) the situation of a ship which rides by her anchor in a road or haven, &c. Plate I. fig. 6. represents the fore-part of a ship, as riding in this situation.

The Anchor is a-pecck. See the article Apeek.

The Anchor is a-trip, or a-weigh. See those articles.

To back the Anchor. See Back.

To cast the Anchor, (caponner l'ancre, Fr.) is to hook a tackle called the cat to it's ring, and thereby pull it up close to the cat-head; which see.

To fish the Anchor, to draw up the flukes upon the ship's side after it is casted. See the articles Davit and Fish.

To hoist the ship to her Anchor, (gouverner sur l'ancre, Fr.) is to steer the ship's head towards the place where the anchor lies when they are heaving the cable into the ship; that the cable may thereby enter the hawse with less resistance, and the ship advance towards the anchor with greater facility.

To fish the Anchor, See the article Shoe.

To weigh the Anchor, (lever l'ancre, Fr.) to heave the anchor out of the ground by it's cable. See Cæstern and Windlass.

To weigh the Anchor with the long-boat, (lever l'ancre avec la chaloupe, Fr.) is to draw it up by applying mechanical powers to the buoy-ropes, and thereby pulling it up to the boat's stem or stern.

To weigh the Anchor by the hair, is to weigh it by the cable in a boat, when the ship cannot approach it, or when the buoy-ropes is broke. See the French term ancre, and the phrases which succeed in order.

Anchor-ground, (fond de bonne tenue, Fr.) is a bottom which is neither too deep, too shallow, nor rocky; as in the first the cable bears too nearly perpendicular, and is thereby apt to jerk the anchor out of the ground; in the second, the ship's bottom is apt to strike at low water, or when the sea runs high, by which she is exposed to the danger of sinking; and in the third, the anchor is liable to hook the broken and pointed ends of rocks, and tear away its flukes; whilst the cable, from the same causes, is constantly in danger of being cut through as it rubs on their edges.

AN-END, (debout, Fr.) the situation of any mast or boom, when erected perpendicularly on the plane of the deck, tops, &c. The top-masts are also said to be an-end when they are hoisted up to their usual station, at the head of the lower masts, as in fig. 3, Plate VI.

APEEK, (à pique, Fr.) perpendicular to the anchor; a ship is said to be in this situation, when the cable is drawn so tight into the bow as to bring her directly over the anchor, so that the cable bears right down from the ship's stem.

APRON, (from a and foran, Sax.) a platform, or flooring of planks, raised at the entrance of a dock, a little higher than the bottom, against which the dock gates are shut. See the article Dock.

APRON, (contre étrave, Fr.) in ship-building, a piece of curved timber fixed behind the lower part of the stem, immediately above the foremost end of the keel. See plate I. fig. H. in the Pieces of the Hull.

The Apron conforms exactly to the shape of the item, so that when the convexity of the former is applied to the concavity of the latter, it forms...
one solid piece, which serves to fortify the stem, and give it a firmer connexion with the keel.

As the apron is composed of two pieces scarfed together, and used to support the scarf of the stem, it is necessary that the scarf thereof should be at some distance from that of the stem. It is formed of the same thickness with the heel of the stem; but it's thickness is equal throughout. Sometimes the piece immediately under the apron forms a curve, of which the horizontal part covers the dead-wood, whilst the vertical part corresponds with the inside of the stem, to which it is fayed, making the commencement of the apron.

APRON, (platine de lunière, Fr.) is also a square piece of lead fastened over the touch-hole of the cannon, to keep the charge dry at sea, or in rainy weather.

Naval ARCHITECTURE, or the science of ship-building, comprehends the theory of delineating marine vessels upon a plane; and the art of framing them upon the stocks, according to the proportions exhibited in a regular design.

All edifices, whether civil or military, are known to be erected in consequence of certain established plans, which have been previously altered or improved till they have arrived at the desired point of perfection. The construction of ships appears also to require at least as much correctness and precision as the buildings which are founded upon terra firma: it is therefore absolutely necessary that the mechanical skill of the shipwright should be assisted by plans and sections, which have been drawn with all possible exactness, examined by proper calculations, and submitted to the most accurate scrutiny.

Naval Architecture, or ship-building, may be distinguished into three principal parts.

First, To give the ship such an exterior form as may be most suitable to the service for which she is designed.

Secondly, To give the various pieces of a ship their proper figures; to assemble and unite them into a firm, compact frame, so that by their combination and disposition they may form a solid fabric, sufficient to answer all the purposes for which it is intended. And,

Thirdly, To provide convenient accommodations for the officers and crew, as well as suitable apartments for the cargo, furniture, provisions, artillery and ammunition.

The exterior figure of a ship may be divided into the bottom and upper-works.

The bottom, or quick-work, contains what is termed the hold, and which is under water when the ship is laden. The upper-works, called also the dead-work, comprehend all that part which is usually above the water when the ship is laden.

The figure of the bottom is therefore determined by the qualities which are necessary for the vessel, and conformable to the service for which she is proposed.
The limits of our design will not admit of a minute description and enumeration of all the pieces of timber which enter into the construction of a ship, nor of a particular description of their assemblage and union; or the manner in which they reciprocally contribute to the solidity of those floating citadels. It nevertheless appears necessary to give a general idea of the use, figure, and station of the principal pieces, to those who are entirely unacquainted with the subject. As our definitions will be greatly illustrated also by the proper figures, we have annexed to this article a plate which comprehends some of the most material draughts, as well as a representation of the principal pieces employed in naval architecture.

It is usual among shipwrights to delineate three several draughts.

First. The whole length of the ship is represented according to a side-view, perpendicular to the keel, and is termed the plane of elevation, or sheer-draught. Plate I.

Second. The ship is exhibited according to an end view, and stripped of her planks, so as to present the outlines of the principal timbers; and this is properly termed the plane of projection, or the vertical plane of the timbers, plate I. because it shews the projection of their frames relatively to each other.

Third. It is not sufficient to have the vertical curves of the bottom in different places, for a distinct idea of the horizontal curves is also equally necessary and useful: this is obtained by means of water-lines, traced upon what is called the horizontal plane. In this draught, the curves of the transoms called the round-aft, is also marked, and sometimes the breadth and thickness of the timbers.

The plane of elevation, plate I. determines the length and depth of the keel; the difference of the draughts of water; the length and projection, or rake, of the stem and stern-post; the position of the mid-ship frame upon the keel, together with that of the principal frames afore and abaft; the load-water line; the wales, the dimenions and situations of the gun-ports, the projection of the rails of the head and stern-gallery, with the stations of the masts and channels.

This draught, however, conveys no idea of the vertical curve of the ribs or timbers; for as their projection will be only represented in a plane elevated upon the length of the keel, they will appear in this direction no otherwise than as straight lines. To perceive these curves accurately, they must be regarded in another point of view, which will represent their projection upon a vertical plane, supposed to cut the keel at right angles in the place where the ship is broadest. For as all ships are broader near the middle of their length than towards the extremities, it is evident that the timbers are more extended in proportion. The most capacious of these represents what is called the mid-ship-frame; and upon the area of this frame is delineated the projection of all the others.

Thus the plane of projection limits the different breadths of a ship in various points of her length, and exhibits the outline of the timbers respectively to each other, as they are erected upon the keel. Accordingly, this draught ought to present a variety of sections of the ship in different places of her length, and always perpendicular to the surface of the water;
so that the eye of the observer, when placed in what may be properly termed the axis of the ship, may perceive the several sections at one glance; that is to say, when looking full on the stem, from before the ship, (see plate IV. fig. 11.) he shall discover the fore-timbers; and when looking from behind, directly on the stern, he shall perceive the form of the after-timbers, (see plate IX. fig. 2. and 3.) in both of which figures the sections of the inferior timbers are expressed by curved black lines drawn upon the area of the midship-frame, which is already described to be a plane elevated perpendicularly upon the keel at the extreme breadth of the vessel.

To form a just idea of this plane, therefore, we ought to suppose a ship resting upon the stocks, in the same position as when afloat upon the water. Thus a variety of black vertical lines may be drawn at equal distances upon the bottom, which is white, to form different outlines of the ship corresponding to the timbers within. It is to be observed, that the fashion of the inferior timbers must conform to the figure of the midship-frame, which is placed in the fullest part of the ship; and as the planes of all the other timbers diminish in a certain progression as they approach the stem and stern, they are properly delineated on the plane of the midship-frame, which also represents the depth of the keel and length of the midship-beam.

As the two sides of a ship ought to be exactly alike, it is judged sufficient to represent the sections of the fore-part of the ship on the left side, and those in the after-part on the right side, so as to perceive all the sections, as well afore as abaft, upon one plane. See plate I. Projection.

However necessary it may be to understand precisely the vertical curves of the bottom, it is no less requisite to have a just idea of those which are horizontal.

The horizontal, or floor plane, is that upon which the whole frame is erected, and will be more clearly understood by previously describing the water-lines and ribbands, of which it is composed.

When a ship floats upon the stream, it is evident that her upper-works will be separated from the bottom by the surface of the water, which will accordingly describe an imaginary horizontal line upon the bottom from the stem to the stern-post.

The most elevated of those lines is termed the load-water line, which is supposed to be drawn by the surface of the water on the upper part of the bottom, when she is sufficiently laden for a sea-voyage. For if we suppose this surface a rule, and thereby describe a corresponding black line along the vessel's bottom, that line will be distinguished upon the bottom, which is white, and represent what is called the load-water line.

If the ship is lightened of any part of her lading, and preserves the same difference in her draught of water at the two ends, or, what is the same thing, if she is lightened so as to preserve the same equilibrium of the keel with regard to the surface of the water, it is evident that she will rise higher out of the water, so that the black line already described will be elevated above it, and another black line may be delineated upon the bottom, close to the surface of the water, which will exhibit a second water-line parallel
to the first, but nearer the keel in proportion to the number of feet which
the ship has risen.

Thus by lightening a ship gradually, and at the same time preserving the
direction of her keel, or the angle which the keel makes with the surface of
the water, a variety of water-lines may be drawn parallel to each other, and
to the load-water line. See a further illustration of these lines in the article
Water-Line. See also their figure on a ship's bottom, plate I. fig. 5.

The ribbands are likewise of great utility in ship-building; they are nar-
row and flexible planks placed on the bottom at different heights, so as
to form a sort of mould for tainting the inferior timbers between the prin-
cipal ones. They differ from the water-lines, insomuch as the latter have
only one curve, which is horizontal, whereas the ribbands, besides their
horizontal one, have a vertical curve. To convey a just idea of these
curves, which cannot be represented on one draught at their full length,
without an oblique section of the ship's length, it will be necessary to have
recourse to two planes; that of the elevation, which exhibits their vertical
curve; and to the floor-plane, upon which the horizontal curve is expressed.
See Ribbands.

These different lines are extremely useful in exhibiting the various curves
of a ship's bottom, that as they are gradually diminished, their uniformity
or irregularity may be discovered by the skilful artist.

We have already observed, that the qualities required in a ship ought to
determine the figure of the bottom: a ship of war therefore should be able
to fail swiftly, and carry her lower tier of guns sufficiently out of the water.
A merchant-ship ought to contain a large cargo of merchant-goods, and
be navigated with few hands; and both should be able to carry sail firmly;
steer well; drive little to leeward; and sustain the shocks of the sea with-
out being violently strained.

The first thing to be established in the draught of a ship is her length;
and as a ship of war, according to her rate, is furnished with a certain
number of cannon, which are placed in battery on her decks, it is nece-
sary that a sufficient distance should be left between the ports to work the
guns with facility, and particularly to leave space enough between the fore-
mast gun and the stern, and between the aftermost gun and the stern-post on
each side, on account of the arching, or inward curve of the ship towards
her extremities.

When the length of a ship is determined, it is usual to fix her breadth
by the dimensions of the midship-beam. On this occasion the ship-
wrights, for the most part, are conducted by rules founded on their
own observation; for having remarked, that some vessels, which by re-
peated experience have been found to answer all the purposes of naviga-
tion, have a certain breadth in proportion to their length, they have in-
ferred that it would be improper to depart from this proportion: but as
other ships have been constructed with different breadths, which were
equally perfect, a variety of different general rules have been adopted by
these artists, who are accordingly divided in their opinions about the breadth
which ought to be assigned to a ship relatively with her length, whilst each
one
one produces reasons and experience in support of his own standard. Those who would diminish the breadth allege, that a narrow vessel meets with less resistance in passing through the water; 2dly, That by increasing the length she will drive less to leeward; 3dly, That according to this principle, the water-lines will be more conveniently formed to divide the fluid; 4thly, That a long and narrow ship will require less sail to advance swiftly; that her masts will be lower, and her rigging lighter; and, by consequence, the seamen less fatigued in managing the sails, &c.

Those, on the contrary, who would enlarge the breadth, pretend, 1st, That this form is better fitted to receive a good battery of guns; 2dly, That there will be more room to work the guns conveniently; 3dly, That by carrying more sail, the ship will be enabled to run faster; or, that this quality will at least overbalance the advantage which the others have of more easily dividing the fluid; 4thly, That, being broader at the load-water line, or place where the surface of the water describes a line round the bottom, they will admit of being very narrow on the floor, particularly towards the extremities; and, 5thly, That a broad vessel will more readily rise upon the waves than a narrow one.

From such opposite principles has resulted that variety of standards adopted by different shipwrights; and a servile imitation of these mechanical methods has, to the great reproach of the art, produced all these pretended rules of proportion: for the various models they have hitherto adopted indubitably prove their doubt and uncertainty with regard to their proper standard. Hence these pretended mysteries which are only to be revealed to such as are initiated into the craft! Hence this division of the art into classes, or, according to the technical term, into families, each of which affects, with becoming solemnity, to be possessed of the true secret, in preference to all the others! And hence violence of opposition, and mutual contempt amongst the artificers! Indeed nothing appears more effectually to have retarded the progress of naval architecture, than the involving it in mysteries which the professors would gravely insinuate are only intelligible to themselves. This ridiculous affectation is nevertheless tenaciously retained, notwithstanding the example to the contrary of some of the most able shipwrights in Europe, who are real masters of the theory of their art, and do honour to their profession, and who are justly exempted from the cenure to which the others are often exposed.

It is not to be expected that an art so complicated and various, comprehending such a diversity of structures, can be treated at large in a work of this sort. To enter into a particular detail of the theory and practice; to explain the different parts with sufficient accuracy and perspicuity, would of itself require a large volume, and, by consequence, greatly exceed the limits of our design. Being thus necessitated to contract our description into a narrow compass, it will be sufficient to give a general idea of the subject; to describe the principal pieces of which a ship is composed, and to explain the principal draughts used in the construction thereof.
ARC

As the several lines exhibited in the planes of elevation, projection, &c. will be rendered more intelligible by a previous account of those pieces, it may not be improper to begin with reciting their names, and giving a summary description of their uses and stations. They are for the most part represented according to the order of their disposition in that part of plate I. which is termed Pieces of the Hull.

A. The pieces which compose the keel, to be securely bolted together, and clinched.
B. The stern-post, which is tenanted into the keel, and connected to it by a knee, G. It supports the rudder, and unites the sides of the ship abaft.
C. The stem, which is composed of two pieces scarfed together: it is an arching piece of timber, into which the ship's sides are united forwards.
D. The beams, which are used to support the decks, and confine the sides to their proper distance.
E. The false post, which serves to augment the breadth of the stern-post, being also tenanted into the keel.
F. The knees, which connect the beams to the sides.
G. The knee of the stern-post, which unites it to the keel.
H. The apron, in two pieces: it is fayed on the inside of the stem, to support the scarf thereof; for which reason, the scarf of the former must be at some distance from that of the latter.
I. The stemfoot, in two pieces, to reinforce the scarf of the apron.
K. The wing-tranlom: it is fayed across the stern-post, and bolted to the head of it, having it's two ends let into the fashion-pieces.
L. The deck-tranlom, parallel to the wing-tranlom, and secured in the same manner.
M. The lower transoms.
O. The fashion-piece on one side; the heel of it is connected with the dead-wood, and the head is secured to the wing-tranlom.
P. The top-timbers, or upper parts of the fashion-pieces.
Q. The knees, which fashion the tranloms to the ship's side.
R. The breast-hooks, in the hold; they are fayed across the stem, to strengthen the fore-part of the ship.
S. The breast-hooks of the deck; they are placed immediately above the former, and used for the same purposes.
T. The rudder, which is joined to the stern-post by hinges, and serves to direct the ship's course.
U. The floor timbers; they are laid across the keel, to which they are firmly bolted.
V. The lower buttocks, and
W. The top-timbers, which are all united to the floor-timbers, forming a frame that reaches from the keel to the top of the side.
X. The pieces which compose the keelfon: they are scarfed together like the keel pieces, and placed over the middle of the floor-timbers, upon
upon each of which they are scored about an inch and a half, as exhibited by the notches.

Y. The several pieces of the knee of the head; the lower part of which is fayed to the stem; the heel being scarfed to the fore-foot.

Z. The cheeks of the head or knees, which connect the head to the bows on each side.

&. The standard of the head which fastens it to the stem.

a. The catheads, one of which lies on each bow, projecting outwards like the arm of a crane. They are used to draw the anchors up to the top of the side without injuring the bow.

b. The bits, to which the cable is fastened when the ship rides at anchor.

c. The false post, in two pieces, fayed to the fore part of the stern-post.

d. The side-counter-timbers, which terminate the ship abaft within the quarter-gallery.

e. Two pieces of dead wood, one afore, and another abaft, fayed on the keel.

In vessels of war, the general dimensions are established by authority of officers appointed by the government to superintend the building of ships. In the merchants service, the extreme breadth, length of the keel, depth in the hold, heighth between-decks and in the waist, are agreed on by contract; and from these dimensions the shipwright is to form a draught suitable to the trade for which the ship is designed.

In projecting the draught of a vessel of war, the first article to be considered is her length. As all ships are much longer above than below, it is also necessary to distinguish the precise part of her heighth, from which her length is taken: this is usually the lower gun-deck, or the load water-line. It has been already observed, that water-lines are described longitudinally on a ship's bottom by the surface of the water in which she floats, and that the line which determines her depth under the water is usually termed the load-water-line. In this draught it will be particularly necessary to leave sufficient distance between the ports.

The next object is to establish the breadth by the midship-beam. Although there is great difference of opinion about proportioning the breadth to the length, yet it is most usual to conform to the dimensions of ships of the same rate. After the dimensions of the breadth and length are determined, the depth of the hold must be fixed, which is generally half the breadth: but the form of the body should be considered on this occasion; for a flat floor will require less depth in the hold than a sharp one. The distance between the decks must also be settled.

We may then proceed to fix the length of the keel, by which we shall be enabled to judge of the rake of the stem and stern-post. The rake is known to be the projection of the ship at the height of the stem and stern-post, beyond the ends of the keel afore and abaft; or the angle by which
which the length is increased as the fabric rises. To these we may also add the height of the stem and wing-transom.

After these dimensions are settled, may be considered the timbers which form the sides of the ship. A frame of timbers, which appears to be one continued piece, is composed of one floor-timber, U, whole arms branch outward to both sides of the ship: (See plate I. Pieces of the Hull) two or three futtocks, V, and a top-timber, W. The futtocks are connected to the upper arms of the floor-timbers on each side of the ship, and serve to prolong the timber in a vertical direction: and the top-timbers are placed at the upper part of the futtocks for the same purpose. All these being united, and secured by cross-bars, form a circular inclosure, which is called a frame of timbers, (couple d'un caisseau, Fr.) And as a ship is much broader at the middle than at the extremities, the arms of the floor-timber will form a very obtuse angle at the extreme breadth; but this angle decreases in proportion to the distance of the timbers from the midship-frame, so that the foremost and aftermost ones will form a very acute angle. Floor-timbers of the latter sort are usually called crutches.

Shipwrights differ extremely in determining the station of the midship-frame; some placing it at the middle of the ship's length, and others further forward. They who place it before the middle alledge, that if a ship is full forward, she will meet with no resistance after she has opened a column of water; and that the water so displaced will easily unite abaft, and by that means force the ship forward; besides having more power on the rudder, in proportion to its distance from the centre of gravity: this also comes nearer the form of fishes, which should seem the most advantageous for dividing the fluid.

When the rising of the midship-floor-timber is decided, we may then proceed to describe the rising-line of the floor, on the stern-post abaft, and on the stem afore.

The height of the lower-deck is the next thing to be considered. It is determined in the middle by the depth of the hold; and some builders make it no higher than the stem; but they raise it abaft as much above it's height in the middle as the load-water-mark, or draught of water abaft, exceeds that afore. With regard to the height between decks, it is altogether arbitrary, and must be determined by the rate of the ship, and the service she is designed for.

It is also necessary to remember the sheer of the wales, and to give them a proper hanging; because the beauty and stateliness of a ship greatly depend upon their figure and curve, which, if properly drawn, will make her appear airy and graceful on the water.

We come now to consider the upper-works, and all that is above water, called the dead-work: and here the ship must be narrower, so that all the weight lying above the load-water-line may thereby be brought nearer the middle of the breadth, when of course the ship will be less strained by the working of her guns, &c. But although some advantages are acquired by diminishing the breadth above water, we must be careful not to narrow her too much; as there must be sufficient room left on the upper-
upper-deck for the guns to recoil. The security of the masts should likewise be remembered, which requires sufficient breadth to spread the shrouds. A deficiency of this sort may indeed be in some measure supplied by enlarging the breadth of the channels.

With regard to the qualities required in the construction of a ship, to fit her out for the various purposes of navigation, the reader is referred to the article Bottom.

We shall now proceed to explain the sheer draught, or plane of elevation, of a sixty-gun ship; wherein we have been attentive to make the same letters refer to the same objects, as in the explanation of the pieces, as above; at least when the same objects are in both figures. This conduct we shall invariably pursue throughout this work, although it seems to have been forgot by our predecessors. Thus in all the plates of ship-building, the keel, whether separate or joined, is represented by A, the stern-post by B, the stem by C, the beams by D; unless where those objects do not all appear, and then something else is placed instead thereof. Thus in plate III. of the deck, where the keel cannot be seen, the main hatchway is represented by A, as not being inserted in any figure wherein the keel appears.

A A. The keel, whose upper edge is prolonged by the dotted line p q, upon the extremities of which are erected perpendiculars which determine the height of the wing-transom, K, the length of the gun-deck, K C.

A B. The stern-post.
A C. The stem.
D D. The quarter-gallery, with it's windows.
E F. The quarter-pieces, which limit the stern on each side.
F. The taffarel, or upper piece of the stern.
G F. Profile of the stern, with it's galleries.
H. The gun ports.
I. The channels, with their dead-eyes and chain-plates.
K. The wing-transom.
K G. The counter.
L B. The deck-transom.
M N O. The first, second, and third transoms, of which O k is the third or lowest.
M O L P. The direction of the fashion-piece, having it's breadth canted aft towards the stern.
Q R. The main fheads, for hoisting in the boats clear of the ship's side.
L Q Z. The main wale, with it's sheer afore and abaft.
D R X. The channel wales, parallel to the main wale.
S U S. The sheer rail, parallel to the wales.
T t. The rudder.
A t F. The rake of the stern.
V W V. The waist-rail.
P i i. The drift-rails abaft; and i a, the drift-rails forward.
T U C. The water-line.
X X. The rails of the head.
Y. The knee of the head, or cutwater.
Z Z. The cheeks of the head.

M + C. The rising line of the floor.
k u C. The cutting-down line, which limits the thickness of all the floor-
timbers, and likewise the height of the dead-wood afore and abaft.

f + W. The midship-frame.

The frames or timbers in the fore-body of the ship, i.e. before the midship-frame.

The timbers in the after-body, or which are erected abaft the midship-frame.

As the eye of a spectator is supposed in this projection to view the
ship's side in a line perpendicular to the plane of elevation, it is evident
that the convexity will vanish, like that of a cylinder or globe, when viewed
at a considerable distance; and that the frames will consequently be represented
by straight lines, except the fashion-piece abaft and the knuckle-
timber forward.

It has been already observed, that the plane of projection may be defined
a vertical delineation of the curves of the timbers upon the plane of the
midship-frame, which is perpendicular to that of the elevation. It is necessary to observe here, that the various methods, by which these curves
are described, are equally mechanical and arbitrary. In the latter sense,
they are calculated to make a ship fuller or narrower according to the service for which she is designed, and in the former they are drawn according
to those rules which the artist has been implicitly taught to follow, or
which his fancy or judgment has esteemed the most accurate and conve-
nient. They are generally composed of several arches of a circle, reconciled together by moulds framed for that purpose. The radii of those arches
therefore are of different lengths, according to the breadth of the ship in
the place where such arches are swept; and they are expressed on the plane
of projection either by horizontal or perpendicular lines; the radii of the
breadth-sweeps being always in the former, and the radii of the floor-sweeps
in the latter direction. These two arches are joined by a third, which coincides with both, without interfering either. The curve of the top-timber
is either formed by a mould which corresponds to the arch of the breadth-
sweep, or by another sweep, whose center and radius are without the plane
of projection. The breadth of the ship at every top-timber is limited by an
horizontal line drawn on the floor-plane, called the half-breadth of the top-
timbers. The extreme breadth is also determined by another horizontal
line on the floor-plane; and the lines of half-breadth are thus mutually
transferable, from the projection and floor-planes, to each other.

The necessary data by which the curves of the timbers are delineated
then are, the perpendicular height from the keel, the main or principal
breadth, and the top-timber-breadth: for as a ship is much broader
near the middle of her length than towards the ends, so she is broader in
in the middle of her heighth than above and below; and this latter difference of breadth is continued throughout every point of her length. The main breadth of each frame of timbers is therefore the ship's breadth nearly in the middle of her heighth in that part: and the top-timber breadth is the line of her breadth near the upper ends of each timber. It has been already observed, that as both sides of a ship are alike, the artificers only draw one side, from which both sides of the ship are built: therefore the timbers abaft the midship-frame are exhibited on one side of the plane of projection, and the timbers before it on the other.

Plane of Projection, Plate I.

A. The keel.
B C. The line which expresses the upper-edge of the keel, from which the heighth of each timber and heighth of it's different breadths are measured.
B D and C E. Perpendiculars raised on the line B C, to limit the ship's extreme breadth and heighth amid-ships; or, in other words, to limit the breadth and heighth of the midship-frame.
A F. A perpendicular erected from the middle of the keel to bisect the line of the ship's breadth in two equal parts.
F * g. The half-breadth line of the aftmost top-timber; being the uppermost horizontal line in this figure.

Note. The seven lines parallel to, and immediately under this, on the right side of the line A F, are all top-timber half-breadths, abaft the midship-frame; the lowest of which coincides with the horizontal line D E.

The parallel horizontal lines nearly opposite these, on the left side of the line A F, represent the top-timber half-breadths in the fore-body, or the half-breadths of the top-timbers before the midship-frame.
G, H, I, Q, R, S, T. The radii of the breadth-sweeps abaft the midship-frame; those of the breadth-sweeps in the fore-body, or before the midship-frame, are directly opposite on the right side.
⊕ A ⊗. The midship-frame, from the extreme breadth downwards.
1, 2, 3, 4, 5, 6, 7, 8, 9. The outlines of the timbers abaft the midship-frame, in different parts of their heighth.
a, b, c, d, e, f, g, b. The outlines of the timbers before the midship-frame, in different parts of their heighth, b being the foremost, or knuckle timber.
K i. The wing-tranfom, whose ends rest upon the fashion-piece.
1. The deck-tranfom, parallel to, and under the wing-tranfom.
M N O. The lower-tranfoms, of which O k is the third and lowest.
m k l. The dotted line, which expresses the figure of the fashion piece, without being canted aft.
P. The upper-part, or top-timber of the fashion-piece.
u, o, p, q, r, f. The radii of the floor-sweeps, abaft the midship-frame: those before the midship-frame are on the opposite side of the line A F, to which they are all parallel.
1st R\textsuperscript{4}, 2d R\textsuperscript{4}, 3d R\textsuperscript{4}, 4th R\textsuperscript{4}. The diagonal ribbands abaft the midships.

It has been remarked above, that the horizontal plane is composed of water-lines and ribbands; it also contains the main and top-timber breadth-lines, or the longitudinal lines by which the main-breadth and top-timber-breadth are limited in every point of the ship's length. The horizontal curve of the tranioms and harpins are also represented therein, together with the planes of the principal timbers; the cant of the fashion-piece, the length of the rake afore and abaft, the projection of the cat-heads, and the curve of the upper-rail of the head, to which the curves of the lower ones are usually parallel.

**HORIZONTAL PLANE.** Plate I.

B A C. The line of the ship's length, passing through the middle of the stem and stern-post.
B. The upper-end of the stem.
C. The upper-end of the stern.
B F. The length of the rake abaft.
D W X. The top-timber-breadth line, or the line which limits the breadth of each top-timber.
D F. The breadth of the aftmost timber at the taffarel.
B K. The wing-tranfom.
B L P. The horizontal curve of the deck-tranfom.
M M. The horizontal curve, or round-aft, of the first tranfom.
M N. The horizontal curve of the second tranfom: it is prolonged into a water-line, N 8 7.
K O. The horizontal curve of the third tranfom, which is also prolonged into another water-line, O, n, U, p, Q.
m O P. The plane of the fashion-piece, as canted aft.
\( \odot \) W U. The plane of the midhip-frame.
e, b, c, d, e, f, b. The planes of the timbers before the midhip-frame.
1, 2, 3, 4, 5, 6, 7, 8, 9. The planes of the timbers abaft the midhip-frame.
X X. The figure of the upper-rail of the head.
C Y. The projection of the knee of the head.
The third horizontal ribband is marked on the plate.
a a. The projection of the cat-head.

Thus we have endeavoured briefly to explain the nature and uses of the principal draughts used in the construction of a ship, which reciprocally correspond with each other in the dimensions of length, breadth, and depth. Thus the plane of elevation is exactly the same length with the horizontal or floor-plane. The several breadths of the timbers in the floor-plane and that of the projection are mutually transferable; and the real height of the timbers in the projection exactly conforms to their height in the elevation. Thus let it be required to transfer the height of the wing-tranfom from the elevation to the projection:
Extend the compasses from the point K, in the elevation, down to the dotted line prolonged from the upper-edge of the keel, and setting the other foot in the point p, then shall the line K p be the perpendicular height of the wing-tranlom: transfer this from the middle of the line B A C, in the projection, to the point K in the perpendicular A F, then will A K be the height of the wing-tranlom in the plane of projection: and thus the height of all the tranloms may be laid from the former upon the latter.

Again, let it be required to transfer the main-breadth of the midship-frame from the projection to the horizontal plane: Set one foot of the compasses in the point \( \oplus \) on the perpendicular C E, and extend the other along the main-breadth-sweep \( \oplus G \), till it touches the perpendicular A F parallel to C E: lay this distance upon the horizontal plane from the point \( \alpha \) in the line of the ship’s length, B A C, along the plane of the midship-frame to the point \( \oplus \); so shall the line \( \oplus W U \) be the breadth of the midship-frame on the horizontal plane.

Thus also the top-timber-breadth, or the distance of each top-timber from the middle of the ship’s breadth, may be in the same manner transferred, by extending the compasses from the line B A C, in the horizontal plane, to the top-timber-breadth line, upon any particular timber, as 1, 2, 3, &c. which will give its proper dimensions thereon.

In the same manner the breadths of all the timbers may be laid from the projection to the horizontal plane, and \textit{vice versa}, from that to the projection. Thus the height of each timber may also be transferred from the elevation to the projection, &c.

The principal utility of these draughts therefore is to exhibit the various curves of the ship’s body, and of the pieces of which it is framed, in different points of view, which are either tranverse or longitudinal, and will accordingly present them in very different directions. Thus the horizontal curves of the tranloms and water-lines are represented on the floor-plane, all of which are nearly straight lines in the elevation and projection; and thus the vertical curves of the timbers are all exhibited on the projection, although they appear as straight lines in the elevation and floor-plane.

Before this article is closed, it may be necessary to remark, that the various pieces represented in plate I. as well as the lines in the draughts which have not been already defined, are copiously explained in their proper places; as it would have been contrary to the plan of this work to have given a more enlarged description of them here.

That the reader, however, might be better enabled to comprehend the scope of this article, it was judged necessary to give a general sketch of naval architecture itself; to collect into one point of view the most material draughts by which a ship is constructed, and to describe, as concisely as possible, the several parts of which they are composed.

The principal parts of a ship also, which are here reduced into a narrow compass, will be represented at large in different places of this work, to illustrate those explanations to which it may be necessary to refer, in order to understand the subject more clearly. Thus the stern, the quarter, the midship-
midship-frame, the bow and head, of a ship of 74 guns, are exhibited on
a scale of \(\frac{1}{4}\) of an inch to a foot; by which all the subordinate parts may
be distinctly viewed, and their combination and arrangement sufficiently
understood.

ARMED-SHIP, (vaiffeau armé en guerre capre, Fr.) a vessel occasionally
taken into the service of the government in time of war, and employed to
guard some particular coast, or attend on a fleet. She is therefore armed
and equipped in all respects like a ship of war, and commanded by an officer
of the navy, who has the rank of master and commander. All ships of
this fort are upon the establishment of the King's fleets, having a lieute-
nant, master, purser, surgeon, &c.

Top-Armour. See the article Top.

ASHORE, (from a and shore) on the shore, or land, as opposed to
aboard.

A ship is said to be Ashore, (échoué, Fr.) when she has run upon the
ground, or on the sea-coast, either by design or accident.

ASTERN, (au derrière, Fr. from a and stern, Sax.) any distance be-
hind a ship, as opposed to a-head, which is before her. Thus, when south
is a-head, or on the line to which the item is directed, north will be a-
 stern.

ATHWART, (par le travers, Fr. from a and tovert, Dan. traverser) when
used in navigation, implies across the line of the course; as, we dis-
covered a fleet at day-break standing athwart us, i. e. steering across our
way.

Athwart-Hawse, the situation of a ship when she is driven by the
wind, tide, or other accident, across the fore-part of another. This phrase
is equally applied when the ships bear against each other, or when they are
at a small distance; the traverser position of the former to the latter be-
ing principally understood.

Athwart the fore-foot, a phrase employed to denote the flight of a
cannon ball, as fired from one ship across the line of another's course,
to intercept the latter, and compel her to shorten sail till the former
approaches near enough to examine her. The fore-foot is the lower part
of the item; so that the shot flying across it is said to be fired athwart the
fore-foot.

Athwart-Ships, reaching across the ship, from one side to the
other.

ATRIP, (treper, Fr. trippen, Dutch) is applied differently to the anchor
and the fells. The anchor is adrip, derangle, when it is drawn out of the
ground in a perpendicular direction, either by the cable or buoy-rope. The
top-fells are said to be atrip, when they are hauled up to the main-head, or
to their utmost extent.

AVAST, the order to stop, or pause, in any exercise.

AVERAGE, in commerce, (avarie, Fr. avarieum, Lat.) the accidents
and misfortunes which happen to ships and their cargoes, from the time
of their loading and failing, till their return and unlading. It is divided
into three kinds. 1. The simple or particular average, which confines in
the extraordinary expences incurred for the ship alone, or for the mer-
chandise
chandize alone; such as the loss of anchors, mafts, and rigging, occasioned by the common accidents at sea; the damages which happen to merchandifes by storms, capture, shipwreck, wet, or rotting; all which must be borne and paid by the thing that suffered the damage. 2. The large and common average, being those expences incurred, and damages sustained, for the common good and security, both of the merchandise and vessel, consequently to be borne by the ship and cargo, and to be regulated upon the whole. Of this number are the goods or money given for the ransom of the ship and cargo; things thrown overboard for the safety of the ship; the expences of unlading, or entering into a river or harbour, and the provisions and hire of the sailors when the ship is put under embargo. 3. The small averages, which are expenses for towing and piloting the ship out of, or into harbours, creeks, or rivers; one third of which must be charged to the ship, and two thirds to the cargo.

Average is more particularly used for a certain contribution that merchants make proportionably towards their losses. It also signifies a small duty which the merchants, who lend goods in another man's ship, pay to the master, for his care of them, over and above the freight. Hence it is expressed in the bills of lading, paying so much freight for the said goods, with damage and average accustomed.

AUGER, (augure, tarriere, Fr.) a wimble, carpenter's tool for boreing.

AWEIGH, (a quitte, Fr. of a and weigh) the state of the anchor when it is drawn out of the ground in a perpendicular direction, as in fig. 6. plate I. by the application of mechanical powers, as a capstern or windlass, to the cable within the ship; so that aweigh is synonymous to astir.

AWNING, (tendelet, from auivre, Fr.) a canopy of canvas extending over the decks of a ship in hot weather, for the convenience of the officers and crew, and to preserve the decks from being cracked or split, ebaroui, by the heat of the sun. The awning is supported by a range of light posts, called stanchions, which are erected along the ship's side on the right and left; it is also suspended in the middle by a complication of small cords, called a crowfoot. See the article CROWFOOT.

AZIMUTH-Compass, an instrument employed to discover the magnetic azimuth or amplitude of any heavenly object. This operation is performed at sea, to find the exact variation of the magnetic needle. The compass will be described in its proper place: it is, however, necessary here to explain the additional contrivance by which it is fitted to take the magnetic azimuth, or amplitude, of the sun or stars, or the bearings of head-lands, ships, and other objects at a distance.

The brafs edge, originally designed to support the card, and throw the weight thereof as near the circumference as possible, is itself divided into degrees and halves; which may be easily estimated into smaller parts, if necessary. The divisions are determined by means of a cat-gut line stretched perpendicularly with the box, as near the brafs edge as may be, that the parallax arising from a different position of the observer may be as little as possible.
There is also added an index at the top of the inner box, which may be fixed on or taken off at pleasure, and serves for all altitudes of the object. It consists of a bar, equal in length to the diameter of the inner-box, each end being furnished with a perpendicular file, with a slit parallel to the sides thereof; one of the slits is narrow, to which the eye is applied, and the other is wider, with a small cat-gut stretched up the middle of it, and from thence continued horizontally from the top of one file to the top of the other. There is also a line drawn along the upper surface of the bar. These four, viz. the narrow slit, the horizontal cat-gut thread, the perpendicular one, and the line on the bar, are in the same plane, which disposes itself perpendicularly to the horizon when the inner-box is at rest and hangs free. This index does not move round, but is always placed on, so as to answer the same side of the box.

The sun’s azimuth is known to be an angle contained between the meridian and the center of the sun. When this is required, and his rays are strong enough to cast a shadow, the box is turned about till the shadow of the horizontal thread, or, if the sun be too low, till that of the perpendicular thread, in one file, or the slit through the other, falls upon the line in the index bar, or vibrates to an equal distance on each side of it, the box being gently touched if it vibrates too far: at the same time they observe the degree marked upon the brass edge of the cat-gut line. In counting the degree for the azimuth, or any other angle that is reckoned from the meridian, the outward circle of figures upon the brass edge is used; and the situation of the index, with respect to the card and needle, will always direct upon what quarter of the compass the object is placed.

But if the sun does not shine out sufficiently strong, the eye is placed behind the narrow slit in one of the files, and the wooden box turned about till some part of the horizontal or perpendicular thread appears to intersect the center of the sun, or vibrate to an equal distance on each side of it; smoked glass being used next the eye, if the sun’s light is too strong. In this method another observer is necessary, to note the degree cut by the nonius, at the same time the first gives notice that the thread appears to split the object.

Plate II. fig. 20. is a perspective view of the compass, when in order for observation; the point of view being the center of the card, and the distance of the eye two feet.

A B. is the wooden box in which it is usually contained.

K. is a cat-gut line drawn from the inside of the box for determining the degree upon the brass edge.

L, M, N, O. is the index bar with its two files, and cat-gut threads, which being taken off from the top of the box, is placed in two pieces P Q, notched properly to receive it.

The other parts of the figure, with their references, are explained in the article Compass.
BACK of the post. See the article Stern-post.

To Back an anchor, (empenneeler, Fr.) to carry out a small anchor, as the stream or hedge, ahead of the large one by which the ship usually rides, in order to support it, and prevent it from loosening, or coming home, in bad ground. In this situation the latter is confined by the former, in the same manner that the ship is restrained by the latter.

To Back afloat, in rowing, (feier à eulier, Fr.) is to manage the oars in a direction contrary to the usual method, so as that the boat, or vessel, impressed by their force, shall retreat, or move with her stern foremost, instead of advancing.

To Back the ends, (mettre à feier, Fr.) is to arrange them in a situation that will occasion the ship to retreat or move after. This operation is particularly necessary in narrow channels, when a ship is carried along sidewise by the strength of the tide or current, and it becomes requisite to avoid any object that may intercept her course, as shoals, or vessels under sail or at anchor: it is also necessary in a naval engagement, to bring a ship back, so as to lie opposite to her adversary, when she is too far advanced in the line. See Aback.

BACK-BOARD, (le dossier d'un bateau, Fr.) a piece of board of a semicircular figure placed transversely in the after-part of a boat, like the back of a chair, and serving the passengers to recline against whilst sitting in the stern-sheets. See Boat.

BACK-STAYS, (calé-baubons, Fr.) from back and stay, long ropes reaching from the topmast-heads to the starboard and larboard sides of the ship, where they are extended to the channels: they are used to support the top-masts, and second the efforts of the shrouds, when the mast is strained by a weight of sail in a fresh wind.

They are usually distinguished into breast-back-stays and after-back-stays; the intent of the former being to sustain the top-mast when the force of the wind acts upon the ship sidewise, or, according to the sea-phrase, when the ship fails upon a wind; and the purpose of the latter is to enable it to carry sail when the wind is further aft.

There are also back-stays for the top-gallant-masts, in large ships, which are fixed in the same manner with those of the top-masts.

A pair of back-stays is usually formed of one rope, which is doubled in the middle, and fastened there to as to form an eye, which passes over the mast-head, from whence the two ends hang down, and are stretched to the channels by dead-eyes and laniards. See Dead-Eyes, &c.

The figure of the back-stays, and their position, is exhibited in the article Rigging, to which the reader is further referred.
BADGE, (bouteille, fausse galerie, Fr.) in ship-building, a sort of ornament, placed on the outside of small ships, very near the stern, containing either a window, for the convenience of the cabin, or the representation of it: it is commonly decorated with marine figures, martial instruments, or such like emblems. See Quarter.

To Bagpipe the mizen, is to lay it aback, by bringing the sheet to the mizen throuds.

To BALANCE, (balancer, Fr.) to contract a sail into a narrower compass, in a storm, by retrenching or folding up a part of it at one corner: this method is used in contradistinction to reefing, which is common to all the principal sails; whereas balancing is peculiar to few, such as the mizen of a ship, and the main-sail of those vessels, wherein it is extended by a boom. See Boom and Reef.

The Balance of the mizen, (fanon, Fr.) is thus performed: the mizen-yard is lowered a little, then a small portion of the sail is rolled up at the peek, or upper corner, and fastened to the yard about one fifth inward from the outer end, or yard-arm, toward the mast. See Mizen.

A boom main-sail is balanced, after all its reefs are taken in, by rolling up a similar portion of the hindmost or aftmost lower corner, called the clue, and fastening it strongly to the boom, having previously wrapped a piece of old canvas round the part (which is done in both cases) to prevent the sail from being freted by the cord which fastens it.

BALLAST, (left, Fr. ballaste, Dut. ballast, Span.) a certain portion of stone, iron, gravel, or such like materials, deposited in a ship's hold, when she has either no cargo, or too little to bring her sufficiently low in the water. It is used to counter-balance the effort of the wind upon the masts, and give the ship a proper stability, that she may be enabled to carry fail without danger of overfetting.

There is often great difference in the proportion of ballast required to prepare ships of equal burthen for a voyage; the quantity being always more or less, according to the sharpness or flatness of the ship's bottom, which seamen call the floor.

The knowledge of ballasting a ship with propriety is certainly an article that deserves the attention of the skilful mariner; for although it is known that ships in general will not carry a sufficient quantity of fail, till they are laden to deep that the surface of the water will nearly glance on the extreme breadth amidships, yet there is more than this general knowledge required; since, if she has a great weight of heavy ballast, as lead, iron, &c. in the bottom, it will place the center of gravity too low in the hold; and although this will enable her to carry a great fail, she will nevertheless fail very heavily, and run the risk of being difmasted by her violent rolling.

To ballast a ship, therefore, is the art of disposing those materials so that she may be duly poised, and maintain a proper equilibrium on the water, so as neither to be too stiff, nor too crank, qualities equally pernicious: as in the first, although the ship may be fitted to carry a great fail, yet her velocity will not be proportionably increased; whilst her masts are more endangered.
endangered by her sudden jerks and excessive labouring: and in the last, she will be incapable of carrying sail without the risk of oversetting.

Stiffness in ballasting is occasioned by disposing a great quantity of heavy ballast, as lead, iron, &c. in the bottom, which naturally places the center of gravity very near the keel; and that being the center about which the vibrations are made, the lower it is placed, the more violent will be the motion of rolling.

Crankness, on the other hand, is occasioned by having too little ballast, or by disposing the ship's lading so as to raise the center of gravity too high, which also endangers the mast in carrying sail when it blows hard: for when the masts lose their perpendicular height, they strain on the shrouds in the nature of a lever, which increases as the sine of their obliquity; and a ship that loses her masts is in great danger of being loft.

The whole art of ballasting, therefore, consists in placing the center of gravity to correspond with the trim and shape of the vessel, so as neither to be too high nor too low; neither too far forward, nor too far aft; and to lade the ship so deep, that the surface of the water may nearly rise to the extreme breadth amidships; and thus she will be enabled to carry a good sail, incline but little, and ply well to the windward. See the article Trim.

BANIAN-Days, a cant term among common sailors, denoting those days on which they have no flesh-meat: it seems to be derived from the practice of a nation amongst the eastern Indians, who never eat flesh.

BANK, (banck, atterrissienent, Fr. banc, Sax.) an elevation of the ground, or bottom of the sea, which is often so high as to appear above the surface of the water, or at least so little beneath it, as to prevent a ship from floating over it: in this sense, bank amounts nearly to the same as shallows, flats, &c. The shelves that abound with rocks under water are distinguished by other names, as reefs, ridges, keys, &c.

An exact knowledge of the banks, their extent, and the different depths of water in which they lie, constitutes a very essential portion of the science of a pilot, or master of a ship. If the vessel be large, and draws much water, great attention will be necessary to avoid them. If, on the contrary, she is small, the same banks afford a sure asylum, where she may brave the largest ships, which dare not follow her to so dangerous a retreat. Many small vessels have eluded the pursuit of a superior enemy by means of this hospitable barrier.

Banks on the sea-coast are usually marked by beacons or buoys. In charts they are distinguished by little dots, as ridges of rocks are characterized by crosses. The principal banks in the Western Ocean, are those of Newfoundland, and the Bahama-Bank: the most remarkable one in Newfoundland is called the Grand Bank, which is of a vast extent, being nearly two hundred miles in length, and stretching north and south: it's usual depth is from twenty to eighty fathoms: and this is the great scene of the cod-fishery, which is so material an article in European commerce.

Bank of ears, a seat or bench of rowers in a galley.

BANKER, a vessel employed in the cod-fishery on the Banks of Newfoundland.
BAR of a port or haven, a shoal or bank of sand, gravel, &c. thrown up by the surge of the sea, to the mouth of a river or harbour, so as to endanger, and sometimes totally prevent, the navigation.

BARCA-LONGA, a large Spanish fishing-boat, navigated with lug-sails, and having two or three masts: these are very common in the Mediterranean. See Vessel.

BARGE, (barge, Dut.) a vessel or boat of state, furnished with elegant apartments, canopies and cushions; equipped with a band of rowers, and decorated with flags and streamers: they are generally used for processions on the water, by noblemen, officers of state, or magistrates of great cities. Of this sort we may naturally suppose the famous barge or galley of Cleopatra, which, according to Shakespear,

——— Like a burnish’d throne
Burnt on the water; the poop was beaten gold;
Purple her sails, and so perfumed, that
The winds were love-sick with them: the oars were silver,
Which to the tune of flutes kept stroke, and made
The water which they beat to follow faster,
As amorous of their strokes——
———At the helm
A seeming mermaid steer’d: the silken tackles
Swell’d with the touches of those flower-soft hands
That rarely form’d their office.———

There are likewise other barges of a smaller kind, for the use of admirals and captains of ships of war. These are of a lighter frame, and may be easily hoisted into, and out of the ships to which they occasionally belong. See Boat.

BARGE, (cabotiere, Fr.) is also the name of a flat-bottomed vessel of burthen, for lading and discharging ships, and removing their cargoes from place to place in a harbour.

BARK, (barca, low Lat.) a general name given to small ships: it is however peculiarly appropriated by seamen to those which carry three masts without a mizen top-sail. Our northern mariners, who are trained in the coal-trade, apply this distinction to a broad-stered ship, which carries no ornamental figure on the stem or prow.

BARNACLE, (craven, Fr.) a species of shell-fish, often found sticking to the bottoms of ships, rocks, &c.

BARRICADOE, (barricade, Fr. barricada, Span.) a strong wooden rail, supported by several little pillars or stanchions, and extending, as a fence, across the foremost part of the quarter-deck. In a vessel of war, the intervals between the pillars are commonly filled with cork, junko of old cable, or matts of plaited cordage. In the upper part, there is a double rope-netting, supported by double cranes of iron, extending about a foot above the rail; and between the two parts of the netting are stuffed a number of hammocks, filled with the seamen’s bedding, to intercept and prevent
prevent the execution of small-shot fired by swivel-guns, carabines, or
muskets, in the time of battle.

BARS of the Capstern and Windlafs. See those articles.

BASIN of a dock, (bafin, Fr.) a place where the water is confined by
double flood-gates, and thereby prevented from running out at the tide of
ebb. The use of it is to contain ships whilst repairing, either before they
enter, or after they come out of the dock.

Basin, (paradis, Fr.) also implies some part of a haven, which opens
from a narrow channel into a wide and spacious reservoir for shipping.

BATTENS of the hatches, a sort of long narrow laths, scantlings of
wooden stuff, or freight hoops of casks. They are nailed along the edges
of tarpaulings, which are pieces of tarred canvas, of sufficient breadth and
length to cover the hatches at sea; the battens serve to confine the edges
of the tarpaulings close down to the sides of the hatches, to prevent the
water, which may rush over the decks in a storm, from penetrating into the
lower apartments of the ship.

BAY, (baye, Fr.) a gulf or inlet of the sea-coast, comprehended between
two promontories, or capes of land, where shipping frequently ride at
anchor, sheltered from the wind and sea.

BEACON, (bâlfe, Fr. beacon, Sax.) a post or stake erected over a shoal
or sand-bank, as a warning to seamen to keep their ships at a distance.

BEACONAGE, (branche de eipris, Fr.) a small duty paid by shipping in
France, for keeping beacons in repair.

BEAK-HEAD, (coltis, Fr.) a name given to a ship's head whose fore-
castle is square or oblong, a circumstance common to all vessels of war which
have two or more decks of guns. In smaller ships, the forecastle is nearly
shaped like a parabola, whose vertex, or angular point, lies immediately
over the stem.

The strong, projecting, pointed beaks used by the ancients in time of
battle, have been entirely rejected since the use of gun-powder.

BEAMS, (banx, Fr. beam, Sax. a tree) strong thick pieces of timber,
stretching across the ship from side to side, to support the decks, and retain
the sides at their proper distance.

The Beams of ships of war are usually formed of three pieces scarfed
together; as appears in plate III. They are sustained at each end by thick
planks in the ship's side, called clamps, upon which they rest. They are
also firmly connected to the timbers of the ship by means of strong knees,
and sometimes by standards. See Midship-Frame.

It is necessary that the beams, as represented in the midship-frame, should
have a greater height in the middle than at the two ends, to carry the
water more readily off from the decks, and to diminish the recoil of the
guns, which will thereby more easily return into their places.

The longest of these is called the midship-beam; it is lodged in the mid-
ship-frame, or between the widest frame of timbers. At about two-thirds
of the height from the keel to the lower-deck, are laid a range of beams,
to fortify the hold, and support a platform called the orlop, which contains
the cables and stores of the ship.
BEA

There are usually twenty-four beams on the lower deck of a ship of seventy-four guns, and to the other decks additional ones in proportion, as the ship lengthens above.

On the Beam, implies any distance from the ship on a line with the beams, or at right angles with the keel; thus, if the ship steers or points northward, any object lying east or west, is said to be on her starboard or larboard beam. Thus also,

Before the Beam, is an arch of the horizon comprehended between the line that crosses her length at right angles, and some object at a distance before it, or between the line of the beam and that point of the compass which the item. Thus if a ship, steering west, discovers an island on the right, three points before the beam, the island must bear N W by N from the ship. See the article Bearing.

BEAN-COD, a small fishing-vessel, or pilot-boat, common on the seacoasts and in the rivers of Portugal. It is extremely sharp forward, having it's stem bent inward above into a great curve: the stem is also plated on the fore-side with iron, into which a number of bolts are driven, to fortify it, and resist the stroke of another vessel, which may fall athwart-hawse. It is commonly navigated with a large lateen sail, which extends over the whole length of the deck, and is accordingly well fitted to ply to windward.

BEAR-A-HAND! a phrase of the same import with make haft, dispatch, quick, &c.

BEARING, in navigation, (gisement, Fr.) an arch of the horizon intercepted between the nearest meridian and any distinct object, either discovered by the eye, or resulting from the finical proportion; as in the first case, at 4 P. M. Cape Spado, in the isle of Candia, bore S by W. by the compass.

In the second, the longitudes and latitudes of any two places being given, and consequentely the difference of latitude and longitude between them, the bearing from one to the other is discovered by the following analogy:

As the meridional difference of latitude
Is to the difference of longitude:
So is radius
To the tangent bearing.

Bearing is also the situation of any distant object, estimated from some part of the ship according to her position. In this sense an object, so discovered, must be either ahead, aftern, abreast, on the bow, or on the quarter.

These Bearings, therefore, which may be called mechanical, are on the beam, before the beam, abaft the beam, on the bow, on the quarter, ahead, or aftern. If the ship fails with a side-wind, it alters the names of such bearings in some measure, since a distant object on the beam is then said to be to leeward, or to windward; on the lee quarter, or bow; and on the weather quarter or bow.

Bearing-up,
BEARING-UP, or BEARING-AWAY, 

(BEACALM, (derober, abrié, Fr. from calme, Dut.) to intercept the current of the wind, in it's passage to a ship, with any contiguous object, as a shore above her fails, a high sea behind, or some other ship. At this time the sails remain in a state of rest, and are consequently deprived of their power to govern the motion of the ship.

BECKETS, (billé, Fr.) imply in general any thing used to confine loose ropes, tackles, oars, or spars, in a convenient place, where they may be dispofed out of the way till they are wanted. Hence, becketes are either large hooks, or short pieces of rope, with a knot on one end and an eye in the other, or formed like a circular wreath; or they are wooden brackets; and, probably, from a corruption and misapplication of this last term, arose the word becket, which seems often to be confounded with bracket.

Put the tacks and sheets in the Beckets! the order to hang up the weather main and fore-sheets, and the lee main and fore-tack, to a little knot and eye-becket on the foremost main and fore-tack, when the ship is close-hauled, to prevent them from hanging in the water.

BED, a flat thick piece of timber, usually formed of the rough staves of casks, or such like materials, to be lodged under the quarters of casks containing any liquid and flowing in a ship's hold. The use of the beds is to support the cask, and keep the bilge, or middle-part of it, from bearing against the ship's floor, or against the body upon which it rests, lest the staves should give way and break in the place where they are weakest: or lie in a wet place, so as to rot in the course of the voyage. See the article Stowing.
BED

BED of a river, (lit, Fr.) the bottom of the channel in which the stream or current usually flows.

BED of a cannon. See Carriage.

To BÉLAY, (amarrer, Fr. from beleyen, Belg.) to fall a rope by winding it several times round a cleat, belaying-pin, or kevel; this term is peculiar to small ropes, and chiefly the running-rigging, there being several other expressions used for large ropes, as bitting, bending, making fast, loppering, &c. See those articles.

BEND, (azvye, Fr. probably from bindan, Sax. to bind) the knot by which one rope is fastened to another; hence

To BEND, is to fasten one rope to another, of which there are several methods.

BENDING the cable, the operation of clinching, or tying the cable to the ring of it's anchor.

Bending a sail, fastening it to it's yard or stay. See the articles Sail, Stay, and Yard.

BENDS, the thickest and strongest planks in a ship's side. See Wales, by which name they are more properly called.

BETWEEN-DECKS, (entre-pont, Fr.) the space contained between any two decks of a ship.

BEVELLING, (enfoncé, Fr.) in ship-building, the art of hewing a timber with a proper and regular curve, according to a mould which is laid on one side of it's surface.

'In order to hew any piece of timber to it's proper bevel, it will be necessary, first, to make one side fair and out of winding; a term used to signify that the side of a timber should be a plane. If this side be uppermost, and placed horizontally, or upon a level, it is plain, if the timber is to be hewed square, it may be done by a plummet and line; but if the timber is not hewed square, the line will not touch both the upper and lower edge of the piece; or if a square be applied to it, there will be wood wanting either at the upper or lower side. This is called within or without a square. When the wood is deficient at the under-side, it is called under-beveling; and when it is deficient in the upper-side, it is called standing-beveling; and this deficiency will be more or less according to the depth of the piece; so that before the proper bevelings of the timbers are found, it will be sometimes very convenient to assign the breadth of the timbers; nay, in most cases it will be absolutely necessary, especially afore and abaft: though the breadth of two timbers, or the timber and room, which includes the two timbers and the space between them, may be taken without any sensible error, as far as the square body goes. For as one line represents the moulding-side of two timbers, the fore-side of the one being supposed to unite with the aft-side of the other; the two may be considered as one entire piece of timber.' Murray's Ship-building.

BIGHT, (balant, Fr. bygan, Sax. to bend) the double part of a rope when it is folded, in contradistinction to the end: as, her anchor hooked the bight of our cable, i.e. caught any part of it between the ends. The bight of his cable has swept our anchor; that is, the double part of the cable of another ship,
ship, as she ranged about, has entangled itself under the stock or fluke of
our anchor.

Bight, (anse, Fr.) is also a small bay between two points of land.

BILANDER, (bilandre, Fr.) a small merchant-ship with two masts.

The Bilander is particularly distinguished from other vessels of two
masts by the form of her main-sail, which is a sort of trapezia, the yard
thereof being hung obliquely on the mast in the plane of the ship's length,
and the aftmost or hinder end peeked or raised up to an angle of about
45 degrees, and hanging immediately over the stern; while the fore end
flops downward, and comes as far forward as the middle of the ship. To
this the sail is bent or fastened; and the two lower corners, the foremast
of which is called the tack and the aftmost the sheet, are afterwards secured,
the former to a ring-bolt in the middle of the ship's length, and the latter
to another in the taffarel. The main-sails of larger ships are hung across
the deck instead of along it; being fastened to a yard which hangs at right
angles with the mast and the keel.

Few vessels, however, are now rigged in this method, which has prob-
ably been found more inconvenient than several others. See Ship. It may
not be improper to remark, that this name, as well as brigantine, has been
variously applied in different parts of Europe to vessels of different sorts.

BilGE, (supposed from bilik, Sax. a form) that part of the floor of a
ship, on either side of the keel, which approaches nearer to a horizontal
than to a perpendicular direction, and on which the ship would rest if laid on
the ground: or more particularly, those parts of the bottom which are op-
posite to the heads of the floor-timbers amidships on each side of the keel.
Hence when a ship receives a fracture in this place, she is said to be bilged.

BILL, the point or extremity of the fluke of an anchor.

Bill of lading, (connoisement, Fr.) an acknowledgment signed by the
master of a ship, and given to a merchant, containing an account of the
goods which the former has received from the latter, &c. with a promise to
deliver them at the intended place for a certain sum of money. Each bill
of lading must be treble; one for the merchant who ships the goods, another
to be sent to the person to whom they are consigned, and the third to re-
main in the hands of the master of the said ship. It must, however, be
observed, that a bill of lading is only used when the goods sent on board
a ship are but part of the cargo; for when a merchant loads a vessel entirely
on his own account, the deed passed between him and the master of the ship
is called charter-party. See Charter-party.

BINACLE, a wooden case or box, which contains the compasses, log-
glasses, watch-glasses, and lights to shew the compass at night.

As this is called bittacle in all the old sea-books, even by mariners, it
appears evidently to be derived from the French term habitacle, (a small
habitation) which is now used for the same purpose by the leamen of that
nation.

The Binacle (plate I. fig. 4.) is furnished with three apartments, with
sliding shutters: the two side ones, a b, have always a compass in each, d,
to direct the ship's way, while the middle division, e, has a lamp or candle,
with a pane of glass on either side to throw a light upon the compass in the night, whereby the man who steers may observe it in the darkest weather, as it stands immediately before the helm on the quarter-deck.

There are always two binacles on the deck of a ship of war, one being designed for the man who steers, and the other for the person who super-intends the steerage, whose office is called connring, or connning.

BIRTH, or BERTH, (evitée, Fr.) the station in which a ship rides at anchor, either alone or in a fleet; or the distance between the ship and any adjacent object; comprehending the extent of the space in which the ranges at the length of her cables; as, she lies in a good birth, i.e. in a convenient situation, or at a proper distance from the shore and other vessels; and where there is good anchoring-ground, and shelter from the violence of the wind and sea.

BIRTH, (appartement, Fr.) also signifies the room or apartment where any particular number of the officers or ship's company usually meets and reside. In a ship of war there is commonly one of these between every two guns.

To BITE, (mordre, Fr.) to hold fast in the ground; expressed of the anchor.

BITS, (bittes, Fr. bitol, Sax.) a frame composed of two strong pieces of timber, fixed perpendicularly in the fore-part of a ship, whereon to fatten her cables as the rides at anchor. See b b, PIECES of the HULL.

These pieces, being let down through square mortises cut in the decks above and below, are bolted and fore-locked to the ship's beams. There are several bits in a ship, the principal of which are those for the cables; their upper ends commonly reach about four or five feet above the lower deck, over which the cable passes. They are supported on the fore part by strong standards; one arm of which is bolted to the deck, and the other to the bits; and on the after part is fixed a strong beam of timber, g, (plate I. PIECES of the HULL) parallel to the deck, and at right angles with the bits, to which it is bolted and fore-locked. The ends of this beam, which is called the cross-piece, reach about two or three feet beyond the bits, whose upper-ends are nearly two feet above the cross-piece. The cable being passed once round about these bits, may be gradually slackened at pleasure; without which it would be impossible to prevent it from running out with the utmost rapidity, when the ship rides a great strain, which is always the case in a storm, or an impetuous tide. In ships of war there are usually two pair of cable bits, and when they are both used at once the cable is said to be double-bitted. The plan of the bits, with their cross-pieces and standards, are represented in plate III. where b b are the bits, e their standards, and g the cross-piece.

To Bit the cable, is to put it round the bits, in order to fasten it, or slacken it gradually, which last is called veering away.

The other bits are of a smaller kind, but constructed nearly in the same manner. They are used to fasten the top-fail-sheets, or the ropes by which the lower corners of the top-fails are extended.

BLACK-STRAKES, a range of planks immediately above the wales in a ship's side: they are always covered with a mixture of tar and lamp-black, forming an agreeable variety with the white bottom beneath, and the
the scraped planks of the side, covered with melted turpentine, or varnish of pine, above. All the yards are likewise daubed with this mixture, which not only preserves them from the heat of the sun and the weather, but gives them a fine gloss, which makes a good appearance contrasted with the white varnish on the masts.

BLADE. See the article Oar.

BLOCK, (poulie, Fr.) a machine known in mechanics by the name of pulley, and used for various purposes in a ship, particularly to increase the mechanical power of the ropes employed in contracting, dilating, or traversing the sails. The ends of these ropes, being arranged in certain places upon the deck, may thus be readily found whenever they are wanted. The blocks, which are for these purposes disposed in various places upon the masts, yards, and sails, and amongst the rigging, are also of various sizes, shapes, and powers, according to the effect they are calculated to produce. They are single, double, or treble, being so denominated from the number of wheels they contain. There are even some of them five, fix, and seven fold, but these are only employed to raise or move some very weighty bodies, and are not used about the yards or sails. We shall begin by describing the most simple, and afterwards proceed to those which are more complicated.

A common single block is composed of three parts; the shell, the sheave, and the pins. The shell, arcafte, approaches nearest to the figure of a long spheroid, somewhat flattened in the middle. Between the two flat sides it is hollowed so as to receive a narrow cylindrical wheel called the sheave, rouet, formed of lignum-vitae, or other hard wood; and through the center of this sheave is bored a round hole to admit of a pin, which is driven through two corresponding holes in the middle of the shell, perpendicular to the hollow space within. The pin thus becomes the axis of the wheel or sheave, which completes the wooden work of the machine. Thus formed, it is bound with a fort of rope-ring, which is closely fitted to a notch passing round the surface of the shell, and over both ends of the pin: and by this ring, or wreath, which is called a block-strop, they are suspended upon the masts, shrouds, &c.

The complicated blocks, or those which contain a number of wheels, either have all the wheels to run upon one axis, (see plate I.) or have their shells so formed that the wheels are one above another. In the former shape they approach nearest the figure of a cylinder, and in the latter appear like two or more single blocks joined together endways.

In plate I. fig. 7. a, represents a single block, and b, c, two double ones, of different kinds, without strops. Fig. c, f, two double tackle blocks iron-bound, the lower one, f, being fitted with a twivel; g, a double iron-bound block with a large hook; h, a snatch-block; i, a top-block; k, a royal-block, and l, a clue-garnet-block. See Snatch-Block, Tackle, and Voyal.

The Cat-block (plate II. fig. 15.) is employed to draw the anchor up to the cat-head. See the article Cat.

The twivel in the iron-bound block is to turn it, that the several parts of the rope, of which the tackle is composed, may not be twisted round each other, which would greatly diminish the mechanical power.
The top-block is used to hoist up or lower down the top-masts, and is for this purpose hooked in an eye-bolt driven into the cap. See Cap.

The clew-garnet blocks are used to draw the clews, or lower-corners of the courses, up to the yard, and are consequently fastened to the clews of those sails. See Clew-Garnet. The use of the shoulder on the lower-end, is to prevent the Irop from being fretted or chafed by the motion of the sail, as the ship rolls or pitches.

Block and Block, the situation of a tackle when the two opposite blocks are drawn close together, so that the mechanical power becomes destroyed, till the tackle is again over-hauled by drawing the blocks abunder.

BOARD, in navigation, (bordée, Fr.) the space comprehended between any two places where the ship changes her course by tacking; or the line over which she runs between tack and tack, when she is turning to windward, or falling against the direction of the wind. See the articles Beating and Tacking.

She makes a good Board, i.e. fails nearly upon a straight line, without deviating to leeward when she is close-hauled. See Close-hauled.

BOARDING (abordage, Fr.) an assault made by one ship upon another, by entering her in battle with a detachment of armed men; either because the efforts of the artillery, and musquetry have proved ineffectual, or because she may have a greater number of men, and be better equipped for this attack than the enemy who defends herself against it.

This stratagem, however, is chiefly practised by privateers upon merchant-ships, who are not so well provided with men, and rarely attempted in the royal navy; the battle being generally decided in ships of war by the vigorous execution of a close cannonade.

An officer should maturely consider the danger of boarding a ship of war before he attempts it; and be well assured that his adversary is weakly manned; for perhaps he wishes to be boarded, and if so, a great slaughter will necessarily follow.

The swell of the sea ought also to be considered, because it may run so high as to expel both the ships to the danger of sinking.

There is perhaps very little prudence in boarding a ship of equal force; and when it is attempted, it may be either to windward or to leeward, according to the comparative force or situation of the ships. If there be any swell, or sea, it may be more advisable to lay the enemy aboard on the lee-side, as the water is there the smoothest; besides, if the boarder is repulsed in that situation, he may more easily withdraw his men, and stand off from his adversary. But as the weather-ship can generally fall to leeward at any time, it is perhaps more eligible to keep to windward, by which she will be enabled to take her antagonist, or fire the broadside into her stern as she crosses it, in passing to leeward, which will do great execution amongst her men, by scouring the whole length of the deck.

Boarding may be performed in different places of the ship, according to the circumstances, preparation and position of both: the assailant having previously selected a number of men armed with pistols and cutlasses. A number of powder-flasks, or flasks charged with gun-powder and fitted with a fuse, are also provided, to be thrown upon the enemy's deck immediately.
immediately before the assault. Besides this, the boarder is generally furnished with an earthen shell, called a stink-pot, which on that occasion is suspended from his yard-arms or bowsprit-end. This machine is also charged with powder, mixed with other inflammable and suffocating materials, with a lighted fuse at the aperture. Thus prepared for the action, and having grappled his adversary, the boarder displays his signal to begin the assault. The fuses of the stink-pot and powder-flasks being lighted, they are immediately thrown upon the deck of the enemy, where they burst and catch fire, producing an intolerable stench and smoke, and filling the deck with tumult and distraction. Amidst the confusion occasioned by this infernal apparatus, the detachment provided ruff aboard sword in hand, under cover of the smoke, on their antagonist, who is in the same predicament with a citadel stormed by the besiegers, and generally over-powered, unless he is furnished with extraordinary means of defence, or equipped with close-quarters, to which he can retreat with some probability of safety. See the article Close-Quarters.

BOAT, (bet, Sax. boat, Belg.) a small open vessel, conducted on the water by rowing or sailing. The construction, machinery, and even the names of boats, are very different, according to the various purposes for which they are calculated, and the services on which they are to be employed.

Thus they are occasionally light or strong; sharp or flat-bottomed; open or decked; plain or ornamented; as they may be designed for swiftness or burthen; for deep or shallow water; for sailing in a harbour or at sea; and for convenience, or pleasure.

The largest boat that usually accompanies a ship is the long-boat, chaloupe, which is generally furnished with a mast and sails: those which are fitted for ships of war, may be occasionally decked, armed, and equipped, for cruising short distances against merchant-ships of the enemy, or smugglers, or for impressing seamen, &c.

The barges are next in order, which are longer, lighter, and narrower: they are employed to carry the principal ships-officers, as admirals, and captains of ships of war, and are very unfit for sea. See the article Barge.

Pinnaces exactly resemble barges, only that they are somewhat smaller, and never row more than eight oars; whereas a barge properly never rows less than ten. These are for the accommodation of the lieutenants, &c.

Cutters of a ship, (bateaux, Fr.) are broader, deeper, and shorter than the barges and pinnaces; they are fitter for sailing, and are commonly employed in carrying stores, provisions, passengers, &c. to and from the ship. In the structure of this sort of boats, the lower edge of every plank in the side over-lays the upper-edge of the plank below, which is called by shipwrights clinch-work.

Yawls, (canots, Fr.) are something less than cutters, nearly of the same form, and used for similar services; they are generally rowed with six oars.

The above boats more particularly belong to ships of war; as merchant-ships seldom have more than two, viz. a long-boat and yawl: when they
they have a third, it is generally calculated for the countries to which they trade, and varies in it's construction accordingly.

Merchant-ships employed in the Mediterranean find it more convenient to use a lanch, which is longer, more flat-bottomed, and better adapted every way to the harbours of that sea than a long-boat. See Lanch.

A wherry, (

A wherry, (diligence, Fr.) is a light sharp boat, used in a river or harbour for carrying passengers from place to place.

Punts, (flette, Fr.) are a sort of oblong flat-bottomed boats, nearly resembling floating stages; they are used by shipwrights and caulkers, for breming, caulking, or repairing a ship's bottom.

A moles is a very flat broad boat, used by merchant-ships amongst the Carribbee-islands, to bring hog'sheads of sugar off from the sea-beach to the shipping which are anchored in the roads.

A felucca is a strong passage-boat used in the Mediterranean, from ten to sixteen banks of oars. The natives of Barbary often employ boats of this sort as cutters.

For the larger sort of boats, see the articles Craft, Cutter, Periagua, and Shallop.

Of all the small boats, a Norway yawl seems to be the best calculated for a high sea, as it will often venture out to a great distance from the coast of that country, when a stout ship can hardly carry any sail.

Trim the Boat! (barque-droit! Fr.) the order to fit in the boat in such a manner as that she shall float upright in the water, without leaning to either side.

To bale the Boat, is to throw out the water which remains in her bottom or the well-room.

Moor the Boat! the order to fasten a boat with two ropes, so as that the one shall counteract the other.

For a representation of some of the principal boats of a ship of war, see plate III. where fig. 1. exhibits the elevation, or side view, of a ten-oared barge; a a, it's keel; b, the stern-post; c, the stem; b c, the water-line, which separates what is under the surface of the water from what is above it; e, the row-locks, which contain the oars between them; f, the top of the stern; g, the back-board; f g, the place where the cockswain stands or sits while steering the boat; l, the rudder, and m, the tiller, which is framed of iron.

Fig. 2. represents the plan of the same barge, where d is the 'thwats, or seats where the rowers sit to manage their oars; f, i, h, the stern-sheets; i k, the benches whereon the passengers sit in the stern-sheets: the rest is explained in fig. 1.

Fig. 3. is a stern view of the same barge, with the projection of all the timbers in the after-body; and fig. 4. a head view, with the curves of all the timbers in the fore-body.

Having thus explained the different views of the barge, the reader will easily comprehend the several corresponding parts in the other boats; where fig. 5 is the plan, and fig. 6 the elevation of a twelve-oared cutter that rows double banked: which, although seldom employed unless in capital ships, because requiring twelve rowers, is nevertheless a very excellent
excellent boat, both for rowing and failing. Fig. 7 and 8 are the head and stern of this boat.

Fig. 9 is the plan of a long-boat, of which fig. 10 is the elevation, 11 the stern-view, and 12 the head-view.

Boat-hook, an iron hook with a sharp point on the hinder part thereof, to stick into a piece of wood, a ship’s side, &c. It is fluck upon a long pole or shaft, (pl. III. fig. 1. n.) by the help of which a person in the boat may either hook any thing to confine the boat in a particular place, or pull her off by the sharp point attached to the back of the hook.

Boatswain, (contre-maître, Fr.) the officer who has the boats, sails, rigging, colours, anchors, and cables, committed to his charge.

It is the duty of the boatswain particularly to direct whatever relates to the rigging of a ship, after she is equipped from a royal dock-yard. Thus he is to observe that the masts are properly supported by their shrouds, stays, and back-stays, so that each of those ropes may sustain a proportional effort when the mast is strained by the violence of the wind, or the agitation of the ship. He ought also to take care that the blocks and running-ropes are regularly placed, so as to answer the purposes for which they are intended; and that the sails are properly fitted to their yards and stays, and well furled or reefed when occasion requires.

It is likewise his office to summon the crew to their duty; to assist with his mates in the necessary business of the ship; and to relieve the watch when it expires. He ought frequently to examine the condition of the masts, sails, and rigging, and remove whatever may be judged unfit for service, or supply what is deficient: and he is ordered by his instructions to perform this duty with as little noise as possible.

Bob-stay, (fous-barbe, Fr.) a rope used to confine the bowsprit of a ship downward to the stern, or cut-water. It is fixed by thrusting one of it’s ends through a hole bored in the fore-part of the cut-water for this purpose, and then splicing both ends together so as to make it two-fold, or like the link of a chain: a dead-eye is then seized into it, and a lamnard passing through this, and communicating with another dead-eye upon the bowsprit, is drawn extremely tight by the help of mechanical powers. See Bowsprit.

The use of the bob-stay, is to draw down the bowsprit, and keep it steady; and to counteract the force of the stays of the fore-mast, which draw it upwards. The bowsprit is also fortified by shrouds from the bows on each side; which are all very necessary, as the fore-mast and the upper-part of the main-mast are stayed and greatly supported by the bowsprit. For this reason, the bob-stay is the first part of a ship’s rigging which is drawn tight to support the masts. To perform this task more effectually, it is usual to suspend a boat, anchor, or other weighty body, at the bowsprit-end, to press it downwards during this operation.

Bold, an epithet applied to the sea-coast, signifying steep, or abrupt, so as to admit the approach of shipping without exposing them to the danger of being run aground, or stranded.

Bolsters, (chevet, Fr.) a sort of small cushions or bags, filled with tarred canvas, laid between the collars of the stays and the edge of some piece
BOLT-BON

piece of wood on which they lie: they are used to preserve the stays from being chafed or galled by the motion of the masts, as the ship rolls or pitches at sea.

BOLT, is generally a cylindrical pin of iron, of which there are various sorts, (see plate II.) used for sundry occasions in ship-building.

The bolts are principally employed either to unite several members of a ship's frame into one solid piece, or to fasten any moveable body on a particular occasion. Those which are calculated for the former purpose have commonly small round heads, somewhat flatted; on the contrary, the bolts which are intended for the latter use, have either a large round head, as those of the chains, fig. 1. plate II. or an eye, with or without a ring in the same place, fig. 3. and 39, as those which are designed to secure the great guns, the jears of the main-fail and fore-fail, the stoppers of the cables, &c.

The bolts are short or long, according to the thickness of the timber wherein they are to be lodged: they penetrate either quite through the pieces into which they are driven, or to a certain determinate depth. The last of these, called a rag-bolt, is retained in its situation by means of several barbs, fig. 2. which, fastening into the timbers, prevent the bolt from loosening from its station by the working of the ship. The first, after being driven through the pieces it is intended to unite, is confined by a flat iron wedge, called the forelock, which is thrust through a narrow hole in the small end of the bolt, where it is hardened home by a hammer; and to prevent the forelock from cutting the wood-work in this position, a little iron ring is fixed over the end of the bolt, between the forelock and the timber.

Those bolts, which have the largest of the round-heads, are called fender-bolts, being driven into the wales, stem, or sides of some small vessels of burthen, as lighters, beancods, prames, &c. to defend their timber-work, from the shock of any other vessels which may fall aboard by accident.

BOLT-ROPE, (ralingue, Fr.) a rope to which the edges or skirts of the sails are faced, to strengthen and prevent them from rending. Those parts of the bolt-ropes, which are on the perpendicular or sloping edges, are called leech-ropes; that at the bottom, the foot-ropes; and that on the top or upper-edge, the head-ropes. Stay-fails, whose heads are formed like an acute angle, have no head-ropes. To different parts of the bolt-rope are fastened all the ropes employed to contract or dilate the fails. The figure and position of the bolt-ropes is exhibited in the plate referred to from the article SAIL.

BOMB. See the articles MORTAR and SHELL.

BOMB-VESSEL, (bombarde, Fr.) a small ship particularly calculated to throw shells into a fortress. They are said to be invented by M. Reynneau, and to have been first put in action at the bombardment of Algiers. Till then it had been judged impracticable to bombard a place from the sea. See a particular description of these ships in the article KETCH.

BONNET, an additional part laced to the bottom of the main-fail and fore-fail of some small vessels, in moderate winds.

BOOM,
BOOM, (échâcée, barre, Fr. from boom, a tree, Dutch) in marine fortification, a strong chain or cable, on which are fastened a number of poles, bars, &c. extending athwart the mouth of a harbour or river, to prevent the enemies ships of war from entering. It may be occasionally sunk, or drawn up to the surface of the water, by capstans, and other mechanical powers.

Boom-iron, is composed of two iron rings, formed into one piece, so as nearly to resemble the figure of 8. It is employed to connect two cylindrical pieces of wood together, when the one is used as a continuation of the other; such is the jib-boom to the bowsprit; and such are the fludding-fail booms to the respective yards from whose extremities they are prolonged. The rims, or circles of the boom-irons, are broad and flat; and one of them, which is firmly driven upon the main, or fore-yard-arm, is somewhat larger than the other, as exhibited in fig. 5. plate II. The fludding-fail-boom usually rests in the small ring, through which it is occasionally thrust outwards from the yard-arm, when the fludding-fail is to be set. Every boom of this kind has, or ought to have, two boom-irons, one of which is fixed on the extremity of the yard, and the other further inward. The former of these is frequently framed of one ring only, which projects from the end of the yard, where it is fastened by a strong iron bar, opening into a sort of fork or crotch that slides upon the yard lengthways, where it is fastened by nails driven from above and below.

Booms, (boute deboirs, Fr.) certain long poles run out from different places in the ship to extend the bottoms of particular sails. Of these there are several sorts; as the jib-boom, fludding-fail-booms, ring-tail-boom, driver-boom, main-boom, and square-fail-boom; the two last, however, are only appropriated to small ships of one or two masts. See Jib, &c.

BOOT-TOPPING, the act of cleaning the upper-part of a ship's bottom, or that part which lies immediately under the surface of the water, and daubing it over with tallow, or with a coat or mixture of tallow, sulphur, refin, &c.

Boot-topping is chiefly performed where there is no dock, or other commodious situation for breeching or careening; or when the hurry of a voyage renders it inconvenient to have the whole bottom properly trimmed and cleansed from the filth which gathers to it in the course of a sea-voyage. It is executed by making the ship lean to one side, as much as they can with safety, and then scraping off the graps, slime, shells, or other materials that adhere to the bottom, on the other side, which is elevated above the surface of the water for this purpose, and accordingly daubed with the coat of tallow and sulphur. Having thus finished one side, they make the ship lean to the other side, and perform the same operation, which not only preserves the bottom from the worm, but makes the ship slide smoothly through the water. See Careen and Dock.

BORE. See the article Cannon.

BOTH SHEETS AFT, (entre deux écoutes, Fr.) the situation of a ship that sails right afore the wind, or with the wind right aft altern.
BOTTOM, (carene, Fr. bottom, Sax. bedem, Belg.) as a sea-term, is either used to denote the bottom of a ship, or that of the water: thus in the former sense we say, a clean or a foul bottom; a British, French, or Dutch bottom; and in the latter sense, a rocky, sandy, or oozy bottom.

The bottom of a ship, as we have described it in the article Nautical Architecture, comprehends all that part which is under water when the ship is laden; the figure of it must therefore be determined by the qualities required in the ship, and the purposes for which she is designed.

It has been remarked, that a ship of war should carry her lowest tier of cannon sufficiently above the surface of the water to be used when necessary. If this quality is neglected, a small ship will have the advantage of a large one, inasmuch as the latter cannot open her lower battery in a fresh side-wind, without being exposed to extreme danger, by receiving a great quantity of water in at her ports between-decks.

A ship should be duly poised, so as not to dive or pitch heavily, but go smoothly and easily through the water, rising to the waves when they run high, or when the vessel has reduced her sail to the storm. If she is deficient in this article, the seas will frequently burst aboard, and strain the decks or carry away the boats. The masts are also greatly endangered from the same cause.

A ship should sail well when large; or before the wind; but particularly when close-beauled, or sailing with a side-wind. She should also be enabled in the latter situation to keep her wind, without deviating much to leeward; to work and tack easily, and lie in a turbulent sea without straining violently.

Many of our shipwrights have considered it extremely difficult, if not impracticable, to make a ship carry her cannon well, bear a competent sail, and advance swiftly through the water; because a very full bottom is necessary to acquire the two first qualities; whereas a sharp floor is better fitted to procure the latter. But when it is remembered, that a full ship will carry a much greater force of sail than a sharp one, a good artist may form the body so as to unite all these three qualities with the additional one of steering easily, by paying a proper attention to the following general rules.

To make a ship carry a good sail. A flat floor-timber somewhat long, or the lower-futtocks pretty round, a straight upper-futtock, the top-timber to throw out the breadth aloft; at any rate to carry the main-breadth as high as the lower-deck. Now if the rigging be well adapted to such a body, and the upper-works lightened as much as possible, so that the whole contributes to lower the center of gravity, there will be no reason to doubt of the ship's carrying a good sail.

To make a ship steer well, and answer the helm readily. If the fashion-pieces be well formed, the tuck, or spreading-parts under the stern, carried pretty high; the mizhip-frame well forward; a considerable additional depth in the draught of water abaft more than forward; a great rake forward and none abaft; a snug quarter-deck and forecastle; all these will greatly facilitate the steering; and a ship that fails well will always steer easily.
BOT BOW

To make a ship carry her guns well out of the water. A long floor-timber, and not of great rising; a very full midship-frame, and low tuck, with light upper-works.

To make a ship go smoothly through the water, and prevent her from pitching heavily. A long keel; a long floor; not to rise too high afore and abaft; but the area, or space contained in the fore-body, according to the respective weight it is destined to carry: all these are necessary to make a ship pass easily through the sea.

To make a ship keep a good wind and drive little to leeward. A good length by the keel; not too broad, but pretty deep in the hold, which will occasion her to have a short floor-timber and a very great rising. As such a ship will meet with great resistance in driving sideways, and feel very little in advancing or going ahead, so will fall very little to leeward.

Being thus furnished with the methods to qualify a ship for the different purposes of navigation, the only difficulty remains to apply them properly in the construction, which must, in a great measure, be left to the judgment of the artist. The whole art then is evidently to form the body in such a manner, as that none of these qualities shall be entirely destroyed; and in giving the preference to that which is principally required in the service for which the ship is destined. As it therefore appears possible to unite them all in one vessel, so that each of them may be easily discerned, a neglect of this circumstance ought to be attributed to the incapacity of the shipwright, who has not studied the principles of his art with proper application. See Naval Architecture, Building, and Ship.

BOTTOMRY, (bomerie, Fr. from bottom) a contract for borrowing money on the keel or bottom of a ship; so that the commander binds the ship herself; that if the money be not paid at the time appointed, the creditors shall have the ship.

BOTTOMRY is also where a person lends money to a merchant or adventurer who wants it in traffic, and the lender is to be paid a much greater sum at the return of the ship, standing to the hazard of the voyage. Although the interest on this account be greater than the law commonly allows, it is yet not esteemed usury; because the money being supplied at the lender's risk, if the ship perishes, he shares in the loss thereof.

BOW, (épaule, Fr.) in ship-building, the rounding part of a ship's side forward, beginning at the place where the planks arch inwards, and terminating where they cloe at the stem or prow. See the article Head, where the bow of a ship is represented at large. It is proved by a variety of experiments, that a ship with a narrow bow is much better calculated for sailing swiftly, than one with a broad bow; but is not so well fitted for a high sea, into which she always pitches, or plunges, her fore-part very deep, for want of sufficient breadth to repel the volume of water, which she so easily divides in her fall. The former of these is called by seamen a lean, and the latter a bluff bow.

"The
"The bow which meets with the least resistance, in a direct course, not only meets with the least resistance in oblique courses, but also has the additional property of driving the leaf to leeward; which is a double advantage gained by forming the bow so as to give it that figure which will be the leaf opposed in moving through any medium." Bouguer's Traité du Navire.

On the Bow, in navigation, an arch of the horizon, comprehended between some distant object and that point of the compass which is right ahead, or to which the ship's stem is directed. This phrase is equally applicable, when the object is beheld from the ship, or discovered by trigonometrical calculation: as, we saw a fleet at day-break bearing three points on the starboard bow; that is, three points from that part of the horizon which is right ahead, towards the right hand. See also the article Bearing.

BOWER. See the article Anchor.

BOWLINE, (bouline, Fr.) a rope fastened near the middle of the leech, or perpendicular edge of the square sails, by three or four subordinate parts, called briddles. It is only used when the wind is so unfavourable that the sails must be all braced sideways, or close-banked to the wind: in this situation the bowlines are employed to keep the weather, or windward, edges of the principal sails tight forward and steady, without which they would be always shivering, and rendered incapable of service. See the articles Bridle, Close-hauling, and Sail.

To check the Bowline, is to slacken it, when the wind becomes large.

To BOWSE, (palanquer, Fr.) to draw on any body with a tackle, or complication of pulleys, in order to remove it, or otherwise alter it's state or situation: this is chiefly practised when such alteration or removal cannot be conveniently effected without the application of mechanical powers. This term is pronounced bowse.

BOWSPRIT, (bœaupré, Fr. from bow and spirit) a large boom or mast, which projects over the stem, to carry sail forward, in order to govern the fore-part of a ship, and counteract the force of the sails extended behind, or, in the after part. It is otherwise of great use, as being the principal support of the fore-mast, by confining the stays whereby it is secured and enabled to carry sail; these are great ropes stretching from the mast-head to the middle of the bowsprit, where they are drawn tight. See the articles Stay and Dead-eye.

BOXES of the pump. See the article Pump.

BOX-HAULING, in navigation, a particular method of veering a ship, when the swell of the sea renders tacking impracticable. It is performed by putting the helm a-lee, to throw the head up to windward, where meeting with great resistance from the repeated shocks of the waves on the weather bow, it falls off, or turns to leeward, with a quicker effort, and without advancing. The aftermost sails are at this time diminished, or perhaps altogether deprived of their force of action, for a short time, because they would otherwise counteract the sails forward, and prevent the ship from turning. They are, however, extended as soon as the
the ship, in veering, brings the wind on the opposite quarter, as their effort
then contributes to affect her motion of wheeling.

**Box-hauling** is generally performed when the ship is too near the shore
to have room for veering in the usual way. See Veering.

**Boxing**, an operation in sailing somewhat similar to box-hauling. It is performed by laying the head-fails, or the fails in the fore-part of the
ship, aback, to receive the greatest force of the wind in a line perpendicular
to their surfaces, in order to throw the ship's head back into the line of her
course, after she had inclined to windward of it by neglect of the helms-
man, or otherwise.

**Brace** (bras, Fr.) a rope employed to wheel, or traverse the fails upon
the masts, in a direction parallel to the horizon, when it is necessary to shift
the fails, that they may correspond with the direction of the wind and the
course of the ship. Braces are, for this purpose, fastened to the extremities
of the yards, which are called the *yard-arms*.

All the braces of the yards are double, except those of the top-gallant
and spritsail-top-sail yards. The mizen-yard is furnished with *fanks*, or
vangs, in the room of braces. See the article Mizen.

**Brackets** (confrels, Fr.) short crooked timbers resembling knees. They are fixed under the galleries and frame of a ship's head, to support
the gratings.

**Brails**, (cargues, breuils, Fr.) certain ropes passing through pullies
on the mizen-mast, and afterwards fastened, in different places, on the
hinder, or afofmoft ridge of the fail, in order to trufts it up to the mast, as
occasion requires. See Mizen.

Brails, is likewise a general name given to all the ropes which are
employed to *haul up*, or collect to their yards, the bottoms, lower corners,
and skirts of the other great fails, for the more ready *furling* them whenever it shall be necessary. The operation of thus drawing them together,
is called brailing them up, or hauling them up in the brails. See the article Sail.

**Brake** (brimbale, Fr.) the handle, or lever, by which a common
ship-pump is usually managed. It operates by means of two iron bolts
thrust through the inner end of it, one of which resting across two cheeks
or ears, in the upper end of the pump, serves as a fulcrum for the brake,
supporting it between the cheeks. The other bolt connects the extremity
of the brake to the pump-spear, which draws up the box, or pitton, charged
with the water in the tube. See the article Pump.

**Breadth** (largeur, Fr.) the measure of a ship from side to side in
any particular place: it is usually distinguished into extreme-breadth, *ligne
du fort*, main-breadth, and top-timber-breadth. See the explanation of
the plane of projection, in the article Naval Architecture.

As the sides of the ship are formed by a variety of ribs, called timbers,
and the areas of those timbers being of different breadths above and below,
it is necessary to distinguish them in the construction, in order to form
their several curves, and fix the corresponding pieces with more accuracy and precision. The part of every timber which encloses the greatest
space
space from the middle-line of the ship’s length, is therefore called the main-breadth; and the distance between the upper-part of the same timber and the middle-line of the ship’s length, is called the top-timber-breadth.

As the ship is also broader at the midship-frame than in any other point of her length, the distance between her sides in the main-breadth of that timber, is called the extreme-breadth of the ship.

Breadth-sweep, the radius of the arch which forms part of the curve of a ship’s timber; as explained in the horizontal plane. See Naval Architecture.

BREAKERS, (brisans, Fr.) a name given by seamen to those billows that break violently over rocks lying under the surface of the sea. They are distinguished both by their appearance and sound, as they cover that part of the sea with a perpetual foam, and produce a hoarse and terrible roaring, very different from what the waves usually have in a deeper bottom.

When a ship is unhappily driven amongst breakers, it is hardly possible to save her, as every billow that heaves her upwards serves to dash her down with additional force, when it breaks over the rocks or sands beneath it.

BREAKING-BULK, the act of beginning to unlade a ship; or of discharging the first part of the cargo.

To BREAK-UP, (déchirer, Fr.) to rip off the planks of a ship, and take her to pieces, when she becomes old and unserviceable.

BREAK-WATER, the hulk, or hull, of some old ship or vessel, sunk at the entrance of a small harbour, to break off, and diminish the force of the waves, as they advance towards the vessels moored within.

Break-water is also a sort of small buoy, fastened to a large one in the water, when the buoy-ropes of the latter is not long enough to reach from the anchor, lying at the bottom, to the surface of the water. The use of this break-water is therefore to shew where the buoy swims. See Buoy.

To BREAM, (chauffer, Fr. from broom) to burn off the filth, such as grais, ooze, shells, or sea-weed, from a ship’s bottom, that has gathered to it in a voyage, or by lying long in a harbour. This operation is performed by holding kindled turze, faggots, or such materials, to the bottom, so that the flame incorporating with the pitch, sulphur, &c. that had formerly covered it, immediately loosens and throws off whatever filth may have adhered to the planks. After this, the bottom is covered anew with a composition of sulphur, tallow, &c. which not only makes it smooth and slippery, so as to divide the fluid more readily, but also poisons and destroys those worms which eat through the planks in the course of a voyage. Breaming may be performed either when the ship lies aground after the tide has ebbed from her, or by docking, or by careening, which see; as also Coat and Stuff.

 BREAST-FAST, a sort of hawser, or large rope, employed to confine a ship sidewise to a wharf or quay, or to some other ship; as the head-fast confines her forward, and the stern-fast, abaft.

BREAST-
BREAST-HOOKS, (guirlandes, Fr. from breast and hook) are thick pieces of timber, incurvated into the form of knees, and used to strengthen the fore-part of the ship, where they are placed at different heights directly across the stem, so as to unite it with the bows on each side.

The breast hooks are strongly connected to the stem and hawse-pieces by tree-nails, and by bolts, driven from without, through the planks and hawse-pieces, and the whole thickness of the breast-hooks, upon whose inside those bolts are forelocked, or clinched, upon rings. They are usually about one-third thicker, and twice as long, as the knees of the decks which they support.

There are generally four or five of these pieces in the hold between the keelson and the lower-deck, in the form of R, (plate I. Pieces of the Hull), upon the uppermost of which the planks of that deck are rabbed. There are two placed between the lower and the second decks, in the form of S, (plate I.), one of which is immediately beneath the hawse-holes, and the other under the second deck, whose planks are inlaid thereon, and upon which the inner-end of the bowsprit frequently rests.

The fore-side of the breast-hook, which is convex, is formed so as to correspond with the place in which it is stationed, that is to say, it conforms exactly to the interior figure of that part of the bow where it ought to be fayed: accordingly the branches, or arms, of the breast-hooks, make a greater angle as they are more elevated above the keel, whilst the lower ones are more incurvated, and are almost figured like the crotches.

As it is not necessary that the inner, or concave, side of these pieces, should retain a regular form, the artificers frequently let them remain as thick as possible, to give additional support to the ship's fore-part, where she sustains the whole shock of resistance in dividing the fluid, or in plunging down into it.

It is evident that the connexion and solidity of the ship in this place will be reinforced in proportion to the strength and extent of the breast-hooks, so that they may cover a greater number of the head-timbers.

BREAST-WORK, (froncette, Fr.) a sort of balustrade or fence, composed of rails or mouldings, and frequently decorated with sculpture. It is used to terminate the quarter-deck and poop at the fore-ends, and to inclose the forecastle both before and behind.

BREECHING, (brague, Fr. from breech) a rope used to secure the cannon of a ship of war, and prevent them from recoiling too much in the time of battle.

It is fixed by fastening the middle of it to the hindmost knob or cascabel of the gun, which sailors call the pomiglion, or pummelion; the two ends of it are afterwards inerred through two strong rings on the sides of the carriage, and fastened to other bolts in the ship's sides.

The breeching is of sufficient length to let the muzzle of the cannon come within the ship's side to be charged.
The use of the breeching, as it checks the recoil of the cannon, is shown in plate III. Deck, where it is expressed by e e, passing through the ring-bolts, f, on the side of the carriage, g, being fastened to the cap-cable, h. It is also exhibited in the Midship-frame, where it is employed to lafh the cannon when it is houfed during the course of a voyage. See the article Cannon.

BREEZE, (brife, Fr.) a fresh gale.

BREWING, the appearance of a collection of black and tempestuous clouds arising gradually from a particular part of the hemisphere, as the fore-runner of a storm.

BRIDLES, the upper-part of the moorings laid in the king’s harbours to ride ships or vessels of war. See the article Moorings.

Bridles of the bowline, (pattes, Fr.) the legs by which the bowline is fastened to different places on the edge or skirt of a large sail.

We have already explained the use of the bowline; that it is employed to confine or keep steady the windward or weather edges of the principal sails when they are braced for a side-wind. For as the current of air enters the cavity of the sail in a direction nearly parallel to its surface, it follows that the ridge of the sail must necessarily be shaken by the wind, unless it is kept tight forward; but as a single rope has not been found sufficient to confine the whole skirt of the sail, inasmuch as it only draws upon one part thereof, it became necessary to apply bridles or legs spreading out from the bowline. They are represented in the figures annexed to the article Sail.

BRIG, or Brigantine, a merchant-ship with two masts. This term is not universally confined to vessels of a particular construction, or which are masted and rigged in a method different from all others. It is variously applied, by the mariners of different European nations, to a peculiar sort of vessel of their own marine.

Amongst English seamen, this vessel is distinguished by having her main-sail set nearly in the plane of her keel; whereas the main-sails of larger ships are hung athwart, or at right angles with the ship’s length, and fastened to a yard which hangs parallel to the deck: but in a brig, the foremost edge of the main-sail is fastened in different places to hoops which encircle the main-mast, and slide up and down it as the sail is hoisted or lowered: it is extended by a gaff above, and by a boom below.

To BRING by the lee. See To Broach-to.

To BRING-TO, (caperfet, Fr.) in navigation, to check the course of a ship when she is advancing, by arranging the sails in such a manner as that they shall counter-act each other, and prevent her either from retreating or moving forward. In this situation the ship is said to lie-by, or lie-to, having, according to the sea-phrase, some of her sails abaft, to oppose the force of those which are full; or having them otherwise shortened by being jibed, or hauled up in the braces.

BRINGING-to, is generally used to detain a ship in any particular station, in order to wait the approach of some other that may be advancing towards her;
her: or to retard her course occasionally near any port in the course of a voyage.

To Bringo-up, a provincial phrase peculiar to the seamen in the coal-trade, signifying to anchor, &c.

To Broach-to, in navigation, to incline suddenly to windward of the ship's course when she fails with a large wind; or, when she fails directly before the wind, to deviate from the line of her course, either to the right or left, with such rapidity as to bring the ship's side unexpectedly to windward, and expose her to the danger of overfetting.

It is easy to conceive that a ship will carry much more fail before the wind than when she makes a progress with her side to it's direction; because when the current of wind acts nearly endways on her hull, the pressure of it on the masts must be considerably diminished as she yields to it's impulse and flies before it; and that if she carries a great fail at this time, it can only prefs her fore-part lower down in the water. But if, when she carries a great extension of fail, her side is suddenly brought to the wind, it may be attended with the most fatal conseqiuiences, as the whole force of it then pours like a torrent into the cavities of the fails. The masts therefore unavoidably yield to this strong impression, acting like levers on the ship sidewayes, so as nearly to overturn her, unless she is relieved by some other event, which may be also extremely pernicious, such as the fails rending to pieces, or the masts being carried away.

It is generally occasioned by the difficulty of steering the ship; by the negligence or incapacity of the helmsman; or by some disaster happening to the helm or its machinery, which renders it incapable of governing the ship's course.

The difference between broaching-to and bringing by the lee, may be thus defined. Suppose a ship with a great fail set is steering south, having the wind N. N. W. then is west the weather, and eaff the lee-side.

If by some deficiency in the steerage her head turns round to the westward, so that her fails are all taken aback on the weather-side before she can be made to return to the course from which she has deviated, she is said to broach-to.

If otherwise her head, from the same cause, has declined so far eastward as to lay her fails aback on that side which was the lee-side, it is called bringing her by the lee.

Broadside, (bordée, Fr.) in a naval engagement, the whole discharge of the artillery on one side of a ship of war above and below; as,

We poured a broadside into the enemy's ship, i.e. discharged all the ship's cannon on one side upon her.

She brought her broadside to bear on the castle; that is, disposed the ship so as to point all her cannon to it within point-blank range.

A squall of wind laid the ship on her broadside; that is, press'd her down in the water, so as nearly to overfet her.

Broken-backed, (argué, Fr.) the state or quality of a ship, which is so loosened in her frame, either by age, weaknefs, or some great strain, as to droop at each end.
This circumstance is more common amongst French than the English or Dutch ships, owing partly to their great length, and to the sharpness of the floor, whose breadth is not sufficiently carried from the middle towards each end; and partly from being frequently obliged to have a great weight in both ends, when they are empty in the middle, at the time of discharging one cargo and taking in another. See CAMBERING.

BUCCANEER, a name given to certain piratical rovers of various European nations, who formerly infested the Spanish coasts in America, and, under pretence of traffic with the inhabitants, frequently seized their treasure, plundered their houses, and committed many other depredations.

Ship-BUILDING may be defined the manner of constructing ships, or the work itself, as distinguished from naval architecture, which we have rather considered as the theory or art of delineating ships on a plane, and to which this article may properly be understood as a supplement.

The pieces, by which this complicated machine is framed, are joined together in various places, by scarfing, rabitting, tenenting, and scoring. See those articles.

During the construction of a ship, she is supported in the dock, or upon a wharf, by a number of solid blocks of timber placed at equal distances from, and parallel to, each other, as may be seen in the article LANCING; she is then said to be on the flocks.

The first piece of timber laid upon the blocks is generally the keel. I say generally, because, of late, a different method has been adopted in some of the royal dock-yards, by beginning with the floor-timbers; the artists having found that the keel is often apt to rot during the long period of building a large ship of war. The pieces of the keel, as exhibited in plate I. are scarfad together, and bolted, forming one entire piece, A A. which constitutes the length of the vessel below. At one extremity of the keel is erected the stem. It is a strong piece of timber incurvated nearly into a circular arch, or, according to the technical term, compassing, so as to project outwards at the upper end, forming what is called the rake forward. In small vessels this is framed of one piece, but in large ships it is composed of several pieces scarfad and bolted together, as expressed in the explanation of plate I. Pieces of the Hull, and in those terms separately. At the other extremity of the keel, is elevated the stern-post, which is always of one entire straight piece. The heel of it is let into a mortice in the keel, and it's upper-end hangs outwards, making an obtuse angle with the keel, like that of the stem: this projection is called the rake abaft. The stern-post, which ought to support the stern, contains the iron-work or hinges of the rudder, which are called googings, and unites the lower-part of the ship's sides abaft. See the connexion of those pieces in the Elevation, plate I.

Towards the upper-end of the stern-post, and at right angles with it's length, is fixed the middle of the wing-transom, where it is firmly bolted. Under
Under this is placed another piece parallel thereto, and called the deck-transom, upon which the after-end of the lower-deck is supported. Parallel to the deck-transom, and at a proper distance under it, another piece is fixed to the stern-post, called the first transom, all of which serve to connect the stern-post to the fashion-pieces. Two more transoms, called the second and third, are also placed under these, being likewise attached to the fashion-pieces, into which the extremities of all the transoms are let, as exhibited in plate X. fig. 1. The fashion-pieces are formed like the other timbers of the ship, and have their heels resting on the upper-part of the keelson, at the after extremity of the floor-ribbands.

All these pieces, viz. the transoms, the fashion-pieces, and their top-timbers, being strongly united into one frame, are elevated upon the stern-post, and the whole forms the structure of the stern, upon which the galleries and windows, with their ornaments, are afterwards built.

The stern and stern-post being thus elevated upon the keel, to which they are securely connected by knees and arched pieces of timber bolted to both; and the keel being raised at its two extremities by pieces of dead-wood, the midship floor-timber is placed across the keel, whereon it is bolted through the middle. The floor-timbers before and abaft the midship-frame are then stationed in their proper places upon the keel; after which the keelson, which, like the keel, is composed of several pieces scarfed together, is fixed across the middle of the floor-timbers, to which it is attached by bolts driven through the keel, and clinched on the upper-part of the keelson. The futtocks are then raised upon the floor-timbers, and the hawse-pieces erected upon the cant-timbers in the fore-part of the ship. The top-timbers on each side are next attached to the head of the futtocks, as already explained in the article Naval Architecture. The frames of the principal timbers being thus completed, are supported by ribbands, as exhibited in the plate referred to from the article Ribbands.

The ribs of the ship being now stationed, they proceed to fix on the planks, of which the wales are the principal, being much thicker and stronger than the rest; as is represented in the Midship-frame. The harpins, which may be considered as a continuation of the wales at their fore-ends, are fixed across the hawse-pieces, and surround the fore-part of the ship. The planks that inclose the ship’s sides are then brought about the timbers, and the clamps, which are of equal thicknesses with the wales, fixed opposite to the wales within the ship; these are used to support the ends of the beams, and accordingly stretch from one end of the ship to the other. The thick stuff, or strong planks of the bottom within-board, are then placed opposite to the several scarfs of the timbers, to reinforce them throughout the ship’s length. The planks employed to line the ship, called the ceiling, or forewalling, is next fixed in the intervals between the thick-stuff of the hold. The beams are afterwards laid across the ship to support the decks, and are connected to the side by lodging and hanging knees; the former of which are exhibited in their proper stations in plate III. F. and the hanging ones, together with the breadth, thickenets,
and position of the keel, floor-timbers, futtocks, top-timbers, wales, clamps, thick-fluff, planks within and without, beams, decks, &c. are seen in the Midship-frame.

The cable-bits being next erected, the earlings and ledges, which are represented in plate III. and described in their proper places, are disposed between the beams to strengthen the deck. The water-ways are then laid on the ends of the beams throughout the ship's length, and the spirketting fixed close above them. The upper-deck is then planked, and the string placed under the gunnel or planbeer in the waist. The disposition of those latter pieces on the timbers, viz. the water-ways, spirketting, upper-deck, string, and gunnel, are also represented in the Midship-frame.

They proceed next to plank the quarter-deck and forecastle, and to fix the partners of the masts and capsterns with the coamings of the hatches. The breast-hooks are then bolted across the stem and bow within-board, the step of the fore-mast placed on the kelson; and the riders, exhibited in the Midship-frame, fayed on the inside of the timbers to reinforce the sides in different places of the ship's length. The pointers, if any, are afterwards fixed across the hold diagonally to support the beams; and the carlings stationed in the after-hold to unite the half-timbers. The steps of the main-mast and capsterns are next placed; the planks of the lower-decks and orlop laid; the navel-boods fayed on the hawle-holes; and the knee of the head, or cutwater connected to the stem. The figure of the head is then erected, and the trail-board and cheeks fixed on the sides of the knee.

The taffarel and quarter-pieces, which terminate the ship abash, the former above and the latter on each side, are then disposed; and the stern and quarter galleries framed and supported by their brackets. The pumps, with their well, are next fixed in the hold; the timber-boards laid on each side of the keelson, and the garboard-strake fixed on the ship's bottom next to the keel without.

The hull being thus fabricated, they proceed to separate the apartments by bulk-heads, or partitions; to frame the port-lids; to fix the cat-heads and sheps-trees; to form the hatchways and scuttles, and fit them with proper covers or gratings. They next fix the ladders whereby to mount or descend the different hatchways, and build the manger on the lower deck, to carry off the water that runs in at the hawle-holes when the ship rides at anchor in a sea. The bread-room and magazines are then lined, and the gunnel, rails, and gangways, fixed on the upper-part of the ship. The cleats, keels, and ranges, by which the ropes are fastened, are afterwards bolted or nailed to the sides in different places.

The rudder, being fitted with its irons, is next hung to the stern-post; and the tiller, or bar, by which it is managed, let into a mortise at its upper-end. The scuppers, or leaden tubes, that carry the water off from the decks, are then placed in holes cut through the ship's sides; and the standards, represented in the Midship-frame, bolted to the beams and sides above the decks to which they belong. The poop-lanthorns are last fixed upon their cranes over the stern, and the bilge-ways, or cradles, placed
placed under the bottom, to conduct the ship steadily into the water whilst lancing.

As the various pieces, which have been mentioned above, are explained at large in their proper places, with references to their figures according to the plan of this work, it would have been superfluous to have entered into a more particular description of them here. It may, however, be necessary to observe, that as the theory ought always to precede the practice, this article would probably be much better understood by previously reading that of *Naval Architecture*, which may be considered as a proper introduction to it.

**BUILT**, (*fabric*, Fr.) the particular form or structure of a ship, by which she is distinguished from others of a different class or nation. Thus a ship is said to be frigate-built, galley-built, a hag-boat, a pink, a cat, &c., or to be English-built, French-built, American-built, &c.

**In-Bulk.** See Laden.

**Bulk-Heads**, certain partitions, or walls, built up in several places of a ship between two decks, either lengthwise or across, to form and separate the various apartments. Some of those which are built across the ship are remarkably strong. See the article *Close-quarters*.

**Bull's-Eye**, (*cœfe*, Fr.) a sort of small pulley in the form of a ring, having a rope spliced round the outer edge of it, (which is hollowed to admit of the rope) and a large hole in the middle for another rope to slide in. It is seldom used but for the main and fore bowline-bridles of some ships, particularly by the colliers of Northumberland, &c. It is spliced in the outer-end of the bowline, and sliding along the bridle, to rest in the most opposite place, draws it tight above and below. This implement is more frequently used by Dutch than English seamen.

**Bum-Boat**, a small boat used to sell vegetables, &c. to ships lying at a distance from the shore.

**Bumkin**, or *Boomkin*, (*boutte-lof*, Fr.) a short boom or bar of timber, projecting from each bow of a ship, to extend the lower-edge of the forefail to windward; for which purpose there is a large block fixed on it's outer end, through which the rope is passed that is fastened to the lower-corner of the fail to windward, called the *tack*; and this being drawn tight down brings the corner of the fail close to the block, which being performed, the *tack* is said to be *aboard*.

The bumkin is secured by a strong rope which confines it downward to the ship's bow, to counteract the strain it bears from the fore-fail above, dragging it upwards.

**Bunt**, the middle-part, or cavity of the principal square fails, as the main-fail, fore-fail, top-fails, and top-gallant-fails. If one of those fails is supposed to be divided into four equal parts, from one side to the other, then may the two middle divisions, which comprehend half of the fail, be properly called the limits of the bunt.

**Buntine**, (*etamine*, Fr.) a thin woollen stuff, of which the colours and signals of a ship are usually formed.

**Buntlines**,
BUNTINES, (cargues fond, Fr.) are ropes fastened to the bottoms of the square sails, to draw them up to the yards: they are inserted through certain blocks above, or on the upper-part of the yard, whence passing downwards on the fore-part of the sail, they are fastened below to the lower-edge in several places of the bolt rope.

BUOY, (bouée, Fr.) a sort of close cask, or block of wood, fastened by a rope to the anchor, to determine the place where the anchor is situated, that the ship may not come too near it, to entangle her cable about the flock, or the flukes of it.

BuOys are of various kinds; as,

Can-Buoys; these are in the form of a cone, (see plate II. fig. 6.) and of this construction are all the buoys which are floated over dangerous banks and shallows, as a warning to passing ships, that they may avoid them. They are extremely large, that they may be seen at a distance, and are fastened by strong chains to the anchors which are sunk for this purpose at such places.

Nun-Buoys, are shaped like the middle frustum of two cones, abutting upon one common base, (plate II. fig. 7.) being casks, which are large in the middle, and tapering, nearly to a point, at each end.

Wooden-Buoys, are solid pieces of timber, sometimes in the shape of a cylinder, and sometimes of a nun-bouy; they are furnished with one or two holes, in which to fix a short piece of rope, whose two ends being spliced together make a sort of circle or ring called the flrop.

Cable-Buoys, common casks employed to buoy up the cables in different places from any rocky ground. In the harbour of Alexandria, in Egypt, every ship is moored with at least three cables, and has three or four of these buoys on each cable for this purpose.

BUOY-ROPE, the rope which fastens the buoy to the anchor: it should be little more than equal in length to the depth of the water where the anchor lies, as it is intended to float near, or immediately above the bed of it, that the pilot may at all times know the situation thereof. See plate I. fig. 6. b is the anchor, c the buoy-ropc, and d the buoy floating on the surface of the water.

The Buoy-Rope is often extremely useful otherwise, in drawing up the anchor when the cable is broke. It should therefore be always of sufficient strength for this purpose, or else the anchor may be lost through negligence.

Slings of the Buoy, the ropes which are fastened about it, and by which it is hung: they are curiously spliced round it, something resembling the braces of a drum.

To stream the Buoy, is to let it fall from the ship's side into the water, which is always done before they let go the anchor, that it may not be retarded by the buoy-ropc as it sinks to the bottom.

BURTHEN, or Burden, (port, Fr. byrthen, Sax.) the weight or measure of any species of merchandise that a ship will carry when fit for sea.
To determine the burthen, or, in other words, the tonnage, of a ship, it is usual to multiply the length of the keel into the extreme breadth of the ship within-board, taken along the midship-beam, and multiply the product by the depth in the hold from the plank joining to the keelson upwards, to the main-deck, and divide the last product by 94, then will the quotient be the burden required, in tons.

BURTON, (bredindin, Fr.) a sort of small tackle, formed by two blocks or pullies, till the rope becomes three or four fold, and acquires an additional power in proportion.

It is generally employed to tighten the shrouds of the top-masts, but may be otherwise used to move or draw along any weighty body in the hold, or on the deck, as anchors, bales of goods, large casks, &c.

BUSS, (buebe, Fr. buse, Germ.) a ship of two masts, used by the English and Dutch in their herring fisheries. It is generally from fifty to seventy tons burthen; being furnished with two small sheds or cabins, one at the prow and the other at the stern; the former of which is employed as a kitchen.

BUTT, (about, Fr.) the end of any plank in a ship's side which unites with the end of another, continuing its length: when a plank is loosened at the end by the ship's weakness or labouring, it is said to have started or sprung a butt.

BUTTOCK, the convexity of a ship behind, under the stern; it is terminated by the counter above, and by the after part of the bilge below, by the rudder in the middle, and by the quarter on the side.

BUTTONS. See the article Bonnet.
CABIN, (cabane, Fr.) a room, or the apartment in a ship where any of the officers usually reside.

There are many of these in a large ship; the principal of which is designed for the captain, or commander. In ships of the line, this chamber is furnished with an open gallery in the ship's stern, as also a little gallery on each quarter. The apartments where the inferior officers or common sailors sleep and rest, are usually called births; which see.

The bed-places built up for the sailors at the ship's side in merchantmen, are also called cabins.

CABLE, (câble, Fr.) a large, strong rope, of a considerable length, used to retain a ship at anchor in a road, bay, or haven.

Cables are of various sorts and sizes. In Europe they are usually manufactured of hemp; in Africa they are more frequently composed of bays, which is a sort of long straw or rushes; and in Asia of a peculiar sort of Indian grass.

Cables, of what thickness soever, are generally formed of three ropes twisted together, which are then called strands: each of these is composed of three smaller strands; and those last of a certain number of rope yarns. This number is therefore greater or smaller in proportion to the size of the cable required.

There are some cables, however, manufactured of four strands; which are chiefly the production of Italy and Provence.

All ships ought to be furnished with at least three good cables; the sheet cable, and the two bores; best and small.

All cables ought to be one hundred and twenty fathoms in length; for which purpose the threads or yarns must be one hundred and eighty fathoms; as much as they are diminished one-third in length by twisting. Besides this length, it is necessary to splice at least two cables together, in order to double the length when a ship is obliged to anchor in deep water. For although it is not common to anchor in a greater depth than forty fathoms, yet if there is only one cable, and the ship rides in a stormy and tempestuous sea, the anchor will of necessity sustain the whole weight and violent jerking of the ship, in a direction too nearly perpendicular. By this effort it will unavoidably be loosened from its hold, and dragged by the ship, which, thus driven from her station, is in immediate danger of being wrecked on the nearest rocks or shallows; whereas it is evident, that if the cable, by its great length, were to draw more horizontally on the anchor, it would bear a much greater force. See Anchor.

The long cable is not so apt to break as the short one; because it will bear a great deal more stretching before it comes to the greatest strain: it
it therefore resembles a sort of spring, which may be very easily extended, and afterwards recovers its first state, as soon as the force which extended it is removed. Besides all this, a ship will ride much smoother with a long cable, and be less apt to *pitch*, or plunge deep in the water with her fore-part.

On the contrary, the short cable, being too nearly vertical to the anchor, cannot bear such a strain, because it is charged with a greater effort; and, as it will not bear stretching, may break at the first violent tug. The ship also rides with much greater difficulty, labours extremely, and often plunges all her fore-part under water.

By what has been said on this subject, we may see how very necessary it is to furnish a ship with sufficiency of cables, or what is called ground-tackle; and what an inconsiderate policy it is in merchants to expose their vessels to such evident dangers from the want of them. For we may venture to assert, without violation of truth, that many good ships have been lost only on account of a deficiency in this important article.

A cable ought neither to be twisted too much nor too little; as in the former state it will be extremely stiff, and difficult to manage; and in the latter, it will be considerably diminished in its strength.

All cables are to each other as the cubes of their diameters.

The number of threads also, of which each cable is composed, being always proportioned to its length and thickness, the weight and value of it are determined by this number. Thus a cable of ten inches in circumference ought to consist of four hundred and eighty-five threads; and weigh one thousand nine hundred and forty pounds; and on this foundation is calculated the following table, very useful for all persons engaged in marine commerce, who equip merchant-ships on their own account, or freight them for the account of others.

A table of the number of threads and weight of cables of different circumference.

<table>
<thead>
<tr>
<th>Circumference in inches</th>
<th>Threads or rope-yarns</th>
<th>Weight in pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>393</td>
<td>1572</td>
</tr>
<tr>
<td>10</td>
<td>485</td>
<td>1940</td>
</tr>
<tr>
<td>11</td>
<td>598</td>
<td>2392</td>
</tr>
<tr>
<td>12</td>
<td>699</td>
<td>2796</td>
</tr>
<tr>
<td>13</td>
<td>821</td>
<td>3284</td>
</tr>
<tr>
<td>14</td>
<td>952</td>
<td>3808</td>
</tr>
<tr>
<td>15</td>
<td>1093</td>
<td>4372</td>
</tr>
<tr>
<td>16</td>
<td>1244</td>
<td>4976</td>
</tr>
<tr>
<td>17</td>
<td>1404</td>
<td>5616</td>
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<tr>
<td>18</td>
<td>1574</td>
<td>6296</td>
</tr>
<tr>
<td>19</td>
<td>1754</td>
<td>7016</td>
</tr>
<tr>
<td>20</td>
<td>1943</td>
<td>7772</td>
</tr>
</tbody>
</table>
Stream-Cable, a hawser, or rope, something smaller than the bowers, and used to moor the ship in a river or haven, sheltered from the wind and sea, &c.

To bit the Cable. See the articles Bits.

To force the Cable, is to bind it round with ropes, leather, or other materials, to prevent it from being galled, or fretted in the hawse by friction.

Heave in the Cable! the order to draw it into the ship by winding about the capstern or windlass.

Pay away the Cable! slacken it, that it may run out of the ship. This phrase is the same with ever away the cable. See the French term cable, and the phrases following it.

Cable's length, a measure of 120 fathoms, or of the usual length of the cable.

To CALK, or Caulk, (calfater, probably from calage, Fr. hemp) to drive a quantity of oakum, or old ropes untwisted and drawn together, into the seams of the planks, or into the intervals where the planks are joined to each other in the ship's decks or sides, in order to prevent the entrance of water. After the oakum is driven very hard into these seams, it is covered with hot melted pitch or resin, to keep the water from rotting it.

Amongst the ancients, the first who made use of pitch in calking, were the inhabitants of Phæacia, afterwards called Corinca. Wax and resin appear to have been commonly used previous to that period; and the Poles at this time use a sort of unctuous clay for the same purpose, on their navigable rivers.

CALL, (siflet, Fr.) a sort of whistle, or pipe, of silver or brass, used by the boatswain and his mates to summon the sailors to their duty, and direct them in the different employments of the ship.

As the call can be founded to various strains, each of them is appropriated to some particular exercise; such as hoisting, heaving, lowering, veering away, belaying, letting-go a tackle, &c. The act of winding this instrument is called piping, which is as attentively observed by sailors, as the beat of the drum to march, retreat, rally, charge, &c. is obeyed by soldiers.

CALM, (calme, Fr.) the state of rest which appears in the air and sea when there is no wind stirring.

That tract of the Atlantic ocean, situated between the tropic of Cancer and the latitude of 29° north; or the space that lies between the trade and the variable winds, is frequently subject to calms of very long duration: and hence it has acquired, amongst seamen, the name of the Calm Latitudes.

A long calm is often more fatal to a ship than the severest tempest, because if the ship is tight and in good condition, she may sustain the latter without much injury; whereas in a long calm, the provision and water may be entirely consumed, without any opportunity of obtaining a fresh supply.
supply. The surface of the sea in a continued calm is smooth and bright as a looking-glass.

Dread-Calm, (calme tout plat, Fr.) a flat calm.

CAMBERED-DECK, the deck or flooring of a ship is said to be cambered, or to lie cambering, when it is higher in the middle of the ship’s length, and drops towards the stern and fore, or the two ends. Also when it lies irregular; a circumstance which renders the ship very unfit for war. See the article Broken-Backed.

CAN-BUOY. See Buoy.

CAN-HOOKS, an instrument used to fling a cask by the ends of the staves: it is formed by fixing a broad and flat hook at each end of a short rope, and the tackle, by which the cask so flung may be hoisted or lowered, is hooked to the middle of the rope. See plate II. fig. 3. The can-hooks, commonly used ashore by brewers, &c. are all iron, the middle part being fitted with a chain in the place of a rope.

CANNON, a well known piece of artillery, mounted in battery on the decks of a ship, and used in all naval engagements.

This engine has already been so accurately described by a variety of authors, that it may seem unnecessary to give a particular description of it here. As it forms, however, so important an article in all the military operations of the marine, it cannot, consistently with our plan, be omitted in this place.

Cannon then may be defined a long, conical fire-arm of brass or iron, concave within, and smaller at the muzzle, or face, than at the opposite end.

The principal parts of a sea-cannon, as represented in plate VII. fig. 3, are, 1st. The breech, A C, and its button, or calcabel, A h, called by seamen the pomiglion. The breech is generally understood to be the solid metal from the bottom of the concave cylinder to the calcabel, which is the extremity of the cannon opposite to its muzzle.

2d. The trunnions, T, which project on each side like arms, and serve to support the cannon near the middle of its length: on these it may be poised, and held almost in equilibrium. As the metal is thicker at the breech than towards the mouth, the trunnions are placed nearer to that end than the other.

3d. The bore, or caliber, which is comprehended between the dotted lines, and particularly expressed in the longitudinal section of a thirty-two-pounder, fig. 15. This represents the interior concave cylinder, wherein the powder and shot are lodged with which the cannon is charged: the entrance of the bore is called the mouth.

Names of the other parts, including the above plate VII. fig. 3.

A B, the length of the cannon.  |  H B, the muzzle.
A E, the first reinforce.  |  A o, the calcabel, or pomiglion.
E F, the second reinforce.  |  A C, the breech.
F B, the chace.  |  C D, the vent-field.

F I, the
The use of these machines is to discharge upon the enemy globes or balls of iron, called shot, which are therefore of various sizes, in proportion to the caliber of the cannon. The diameter of the ball is always somewhat less than the bore of the piece, that it may be discharged with the greater ease, and not damage the piece by rubbing it too forcibly in its passage; and the difference between these diameters is called the windage of the cannon.

The length of any cannon is always reckoned from the hind part of the base ring, or beginning of the cafcabel, to the extremity of the muzzle. The second reinforce begins at the same circle where the first terminates; and the chace at the same circle where the second reinforce ends.

The first reinforce therefore includes the base ring; the oggee nearest thereto; the vent-field; the vent-afragal, and first reinforce-ring. The second reinforce contains the oggee next to the first reinforce-ring and the second reinforce-ring. The chace comprehends the oggee nearest to the second reinforce-ring; the chace-girdle and afragal; and the muzzle and afragal. The trunnions are always placed on the second reinforce, so as that the breech-part of the cannon may weigh something more than the muzzle-part, to prevent the piece from starting up behind when it is fired.

A variety of experiments, made with great care and accuracy, prove that powder when on fire possesses at least 4000* times more space than when in grains. Therefore if we suppose that the quantity of powder with which a cannon is charged possesses one-fourth of a cubical foot in grains, it will, when on fire, occupy the space of about 1000 cubical feet. The same experiments evince also that the powder, when inflamed, is dilated equally round it's center. One grain of powder fired in the center of different concentric circles, round which grains of powder are placed, shall therefore set fire to all those grains at once.

From this principle it necessarily follows, that powder, when fired in a cannon, makes at the same instant an equal effort on every part of the inside of the piece, in order to expand itself about it's center every way. But as the resistance from the sides of the piece turns the action of the powder, so as to follow the direction of the bore of the cannon, when it presses upon the ball, so as to force it outwards, it presses also on the breech of the cannon; and this gives the piece a motion backwards, that is called it's recoil, which, as we have already observed, is restrained by the breeching and the convexity of the decks. The recoil in some degree diminishes.

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**F I**, the chace-girdle.
**r s**, the base-ring and oggee.
**t**, the vent-afragal and fillets.
**p q**, the first reinforce-ring and oggee.
**v w**, the second reinforce-ring and oggee.

---

**x**, the chace-afragal and fillets.
**z**, the muzzle-afragal and fillets.
**n**, the muzzle-mouldings.
**m**, the swelling of the muzzle.
**A i**, the breech-mouldings.

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* Mr. Bigot de Morogues says from 4000 to 4500, and Mr. Hauksbee 5000.
The somewhat variable float of the fom-bolts, some in the forefront, are, for present, prelent, after compofed (pl. fig. 5), and, joint-bolts, at transformed, the strongeft, called more to pieces. The carriages, twenty-four and the breeching, thirty-two-pounder. The joints, thicknefs of the cannon, without powder, cannon is, for cannon, called powder, or the effort that makes the recoil, would tear them to pieces in a very short time.

All pieces of artillery were formerly dislinguished into the names of sakers, culverins, cannon, and demi-cannon; but at present their names are derived from the weight of the ball which they discharge: thus a piece that discharges a ball of twenty-four pounds, is called a twenty-four-pounder; and one that carries a shot of thirty-two-pounds, a thirty-two-pounder; and so of the rest.

The metal of cannon is not equally thick in all parts, but is in some measure proportioned to the force of the powder which it is to refit. At the breech, where the effort is strongest, the thickness of the metal is equal to the diameter of the corresponding shot. At the first reinforce, where this begins to slacken, the thickness is somewhat less than at the breech: at the second, where the force is still further diminished, the thickness is more reduced than at the first: and, by the same rule, the chace has less thickness than the second reinforce. The thickness of the chace gradually diminishes from the trunnions to the mouth of the piece; so that if a cannon was without caftcabel, trunnion, and mouldings, it would exactly re semble the frustum of a cone, or a cone deprived of the small end.

In a vessel of war, cannon are placed on a sort of wheeled pledge, called the carriage, of which fig. 16. plate VII. is the plan, and fig. 17. the elevation. This carriage is composed of two large pieces of plank, called sides or cheeks, connected together by means of cross-pieces, which are either bolts, axle-trees, or trunnions. The two axle-trees are fixed across under the fore and hinder parts of the carriage, being supported at their extremities by solid wooden wheels called trucks. The trunnion is placed directly over the fore axle-tree, and exactly in the middle of the height of the cheeks or side-pieces. The height of the trunnion is equal to two diameters of the shot, and the breadth to one diameter.

Explanation of the iron-work, and different parts of a sea-carriage, as exhibited in the plan and elevation of a thirty-two-pounder, plate VII. fig. 16. and 17.

a. The cap-squares, commonly called clamps in the sea-service.

b. Eye-bolts, by which one end of the clamp is fixed to the carriage.
c. Joint-bolts, upon which the other end of the clamp is fixed over the trunnions; after which it is fore-locked, to prevent the cannon from starting out of it's carriage when fired.

d. The cheeks or sides of the carriage.
e. The bed-bolt, upon which the bed rests to support the breech of the cannon. The bed is expressed by fig 4.
f. Hind axle-tree bolts.
g. Breeching.
g. Breaching-bolts, with rings, through which the breechings pass.

h. Loops, or eye-bolts, to which the gun-tackles are hooked.

i. The fore axle-tree, with its trucks, k.

l. The hind axle-tree, with its trucks, k.

The wheels are firmly retained upon their axle-trees by means of iron bolts passing through the latter without the wheels; these bolts are called linch-pins.

The breadth of the wheels is always equal to that of the cheeks; but the height of the cheeks and diameter of the trucks must conform to the height of the gun-ports above the deck. The carriages of the lower tiers should therefore be so formed, that when the breech of the cannon lies upon the hind axle-tree, the muzzle of the piece should touch above the port, as expressed in fig. 19, which represents a cannon secured by its tackles and breechings, to prevent it from straining the ship as she rolls in a stormy sea.

Cannon are charged by putting down into the bottom first a quantity of powder, one-third or one-half the weight of the ball. This is done with an instrument, fig. 7, termed a ladle, which is a kind of cylindrical spoon, generally made of copper, and fixed to the end of a staff, called it's handle. Upon the powder is put in a wad of rope-yarn, formed like a ball, which is pressed down upon the powder with the instrument expressed by fig. 10, called a rammer. Upon this wad is put the ball or shot; and to secure it in its place another wad is firmly pressed down upon it, which operation is called ramming-home the wad and shot. The touch-hole of the piece is then filled with powder, from the upper-part of which a little train is laid that communicates with it. The use of this train is to prevent the explosion of the powder from operating directly upon the instrument employed to fire the piece, which in that case might be forced out of the hand of the gunner.

In the modern pieces, a little gutter or channel is framed on the upper-part of the breech, to prevent the train from being dispersed by the wind. This channel reaches from the the touch-hole to the bale-ring.

The cannon being pointed to its object, or the place which it is intended to strike, the train is fired, and the flame immediately conveyed to the powder in the touch-hole, by which it is further communicated to that in the piece. The powder being kindled immediately expands so as to occupy a much greater space than when in grains, and thus dilated it makes an effort on every side to force itself out. The ball making less resistance than the sides of the piece, upon which the powder presses at the same time, is driven out by it's whole effort, and acquires that violent motion which is well known to the world.

In plate VII. all the instruments necessary for charging cannon are exhibited. Besides these already described, there is the sponge, fig. 10, which is used to clean the piece after firing, and to extinguish any sparks that may remain behind. In the land-service, the handle of the sponge
is nothing else than a long wooden staff; but in ships of war this handle, that usually contains the rammer at its other end, is a piece of rope well stiffened by spun-yarn, which is for this purpose firmly wound about it. By this convenience the rammer becomes flexible, so that the piece is charged within the ship, as the person who loads it may bend and accommodate the length of the rammer to the distance between the muzzle and the ship's side; being at the same time sheltered from the enemy's musketry, to which he would be exposed when using a wooden rammer without the ship. To sponge a piece therefore is to introduce this instrument into the bore, and thrusting it home to the furthest end thereof, to clean the whole cavity. The figures 8 and 9 represent sponges of a different kind; one of which is formed of sheep-skin, and the other of the strongest bristles of a hog. See the article Exercise.

The warm, of which there are also different kinds, fig. 6. and 9, is used to draw the charge when necessary.

The bit, or priming-iron, is a kind of large needle, whose lower end is formed into a gimblet, serving to clear the inside of the touch-hole, and render it fit to receive the prime.

The lint-stock is a kind of staff about three feet long, to the end of which a match is occasionally fastened to fire the piece.

The fluctuating motion of the sea renders it necessary to secure and confine the artillery in vessels of war, by several ropes and pulleys, which are called the gun-tackles and breechings, without which they could never be managed in a naval engagement. The breeching has been already explained, as employed to restrain the recoil. The tackles, fig. 18, are hooked to ring-bolts in the sides of the carriage, and to other ring-bolts in the side of the ship, near the edges of the gun-ports, and are used to draw the piece out into it's place after it is loaded. Besides these, there is another tackle hooked to the rear or train of the carriage, to prevent the cannon from rolling into it's place till it is charged: this is called the train-tackle, and is exhibited in fig. 17.

In ships of war, the cannon of the lower-decks are usually drawn into the ship during the course of an expedition at sea, unless when they are used in battle. They are secured by lowering the breech so as that the muzzle shall bear against the upper-edge of the port, after which the two parts of the breeching are firmly braced together by a rope which crosses them between the front of the carriage and the port; which operation is called frapping the breeching. The tackles are then securely fastened about it with several turns of the rope extended from the tackle and breeching, over the chace of the cannon, as represented in fig. 19.

The service of the artillery, or the method of employing it in a naval action, is explained in the articles Engagement and Exercise. The manner of pointing, or directing them to different objects; the effects of different quantities of powder upon the cannon ball; and the different lines described by it's flight, are also treated at large in the article Range.
We shall here subjoin a table of the length and weight of different cannon, for the information of those who may be entirely unacquainted therewith; and particularly of our sea-gunners.

Length and weight of brass cannon according to the measurement in 1753.

<table>
<thead>
<tr>
<th>Pounders</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feet.</td>
<td>Inches</td>
</tr>
<tr>
<td>42</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>32</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

Length and weight of iron guns used in the sea-service, according to the measurement in 1753.

<table>
<thead>
<tr>
<th>Pounders</th>
<th>Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feet.</td>
<td>Inches</td>
</tr>
<tr>
<td>42</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>32</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>24</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

For an account of the particular number of men appointed to manage the different degrees of cannon, and the arrangement or distribution of the cannon according to the several classes of ships, see Quarters and Rate.

The following judicious remarks for increasing the strength of the British navy, by changing the cannon used in ships of war into others of equal weight but of greater bore, have been selected from the proposal of the late ingenious Mr. Robins.

The advantage of large cannon over those of a smaller bore is so generally acknowledged, that a particular discussion of it might perhaps be spared. ***

"The most important advantage of heavy bullets is this, that with the same velocity they break holes out in all solid bodies in a greater proportion than their weight; that is, for instance, a twenty-four pound shot will, with the same velocity, break out a hole in any wall, ramparr,
or solid beam, in which it lodges, above eight times larger than will be
made by a three pound shot; for it's diameter being double, it will make
a superficial fracture above four times as great as the three-pounder,
more of a smaller hole being closed up by the springing of the solid body
than of a great one) and it will penetrate to more than twice the depth;
by this means the firmest walls of masonry are easily cut through their
whole substance by heavy shot, which could never be affected by those of
a smaller caliber; and in ships the strongest beams and masts are hereby
fractured, which a very great number of small bullets would scarcely
injure.

"To this last advantage of large cannon, which is indeed a capital one,
t here must be that of carrying the weight of their bullet in grape or lead
shot, and thereby annoying the enemy more effectually than could be done
by ten times the number of small pieces.

"These are the principal advantages of large cannon, and hence it is
no wonder that those entrusted with the care of the British navy have
always endeavoured to arm all ships with the largest cannon they could
with safety bear; and indeed, within these last hundred years, great
improvements have been made on this head, by reducing the weight of many
of the species of cannon, and thereby enabling the same ships to carry guns
of a larger bore: and, very lately, the six-pounders in some of the smaller
ships have been changed for nine-pounders of a larger fabric than usual,
which hath been justly esteemed a very great addition to the strength of
those ships.

"The importance then of allotting to all ships the largest cannon they
can with safety bear being granted, it remains to shew on what foundation
a change is proposed to be made in the fabric of all pieces from the present
eighteen pounders downwards, so that they may be changed for others of
the same, or let's weight, but of a larger bore. This proposition turns on
the following considerations.—The species of cannon proper for each ship
is limited by the weight of the pieces; and when the charge and effort of
the bullet are assigned, this weight in each species is, or ought to be, de-
termined by the following circumstances;

That they shall not be in danger of bursting;
That they shall not recoil too boisterously;
And that they shall not heat too much in frequent firing.

"All this is to be done by a proper quantity of metal properly disposed;
and when the pieces are secured from these accidents, all additional weight
of metal is not only useless but prejudicial.

"Now what dimensions and weight of metal are more than sufficient for
these purposes, we may learn from the present practice of the navy, in the
fabric of the thirty-two pounders, the heaviest guns in common use; there
are made to weigh (if the author's information be right) from fifty-two to
fifty-three hundred weight; that is somewhat less than an hundred and
two-thirds for each pound of bullet.

From
"From this then the author concludes, that any smaller piece, made upon the model of these thirty-two pounders, and having their weight proportioned in the same manner to the weight of their bullet, will fully answer all the purposes recited above, and will be of unexceptionable service.

"And he founds his opinions on these two principles: first, that the strength of iron, or of any other metal, is in proportion to its substance; so that, for instance, where it has one-half the substance, it has one-half the strength; and this supposition, he presumes, will be scarcely contested. Secondly, that the force of different quantities of powder fired in spaces which they respectively fill, is not exactly in the proportion of those quantities; but the lesser quantity has in proportion the least force: that is, for instance, the force of one pound of powder, in like circumstances, is less than one-half the force of two pounds. And this principle the author has deduced from many repeated and diversified trials of his own; and he believes it will be found agreeable to all the observations which have been made, or shall be made, on this subject.

"From these two considerations, he hopes, it will be granted him, that, if two pieces, a large one and a small one, are made with all their dimensions in proportion to the diameter of their respective bullets, and consequently their weights in the same proportion with the weights of their bullets, then the larger piece, with the same proportion of powder, will be more strained, will heat more, and recoil more than the smaller.

"Hence then, as we are assured, that the present thirty-two pounders are of a sufficient strength and weight for all marine purposes, we have the greatest reason to suppose, that, if all the pieces of an inferior caliber were formed upon the same model, measuring by the diameter of the bullet, these smaller pieces would not be defective, either in strength or weight, but would be to the full as serviceable on ship-board, as the present pieces, which are so much overloaded with metal.

"The author's scheme then, for augmenting the force of the present sea-batteries, is no more than this plain principle, that all ship-guns should be cast upon the model of the thirty-two pounders, measuring by the diameter of the respective bullet; so that for each pound of bullet, there should be allowed one hundred and two-thirds of metal only.

"The advantages of this scheme will appear, by the following comparison of the weight of the present pieces with their weight proposed by this new fabric.

<table>
<thead>
<tr>
<th>Pieces</th>
<th>Weight now in hundreds</th>
<th>Ditto by new fabric</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>48 to 46</td>
<td>40</td>
</tr>
<tr>
<td>18</td>
<td>41 to 39</td>
<td>30</td>
</tr>
<tr>
<td>12</td>
<td>34 to 31</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>29 to 26</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>24 to 18</td>
<td>10</td>
</tr>
</tbody>
</table>

"Hence
“Hence then it appears, that the twenty-four pounders will be eased of six or eight hundred of useless metal; and instead of an inferior caliber now used, much larger ones of the same weight may be borne, especially when it is remembered, that this computation exceeds even the present proportion of the thirty-two pounders; so that from the above projected eighteen-pounders, for instance, two or three hundred weight may be safely taken.

The changes then proposed by the author are these:

<table>
<thead>
<tr>
<th>Pounders</th>
<th>Hundreds</th>
</tr>
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<tbody>
<tr>
<td>6</td>
<td>24 and 18</td>
</tr>
<tr>
<td>9</td>
<td>29 and 26</td>
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<tr>
<td>12</td>
<td>34 and 31</td>
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<tr>
<td>18</td>
<td>41 and 39</td>
</tr>
</tbody>
</table>

“"The nine-pounders lately cast, being, as the author is informed, still lighter than what is here represented, they may perhaps be only transformed into twelve-pounders; but this will be a very great addition of strength, and the twelve-pounders thus borne will be considerably lighter than the smallest nine-pounders now in use. The weight of the present three-pounders are not remembered exactly by the author; but he doubts not, but they are heavier than the proposed six-pounders, and may therefore be changed for them.

“"That many objections will be made to the present proposal is not to be questioned; but, as they will equally hold against the use of the present thirty-two pounders, which are known to be guns of unexceptionable service, that alone, it is conceived, will be an answer.

"If it be supposed (as ancient practice is always favourably heard) that the excesses in the proportionate weight of the small pieces must have been originally founded on some approved principle, or otherwise they could not have been brought into use; it may be answered, that a hundred years since there were four-pounders made use of, which were heavier than some of the present nine-pounders, and had the same prescription to plead in their behalf.——Perhaps the origin of this excess in the smaller pieces may be accounted for by supposing, that when guns are used in batteries on shore, their length cannot be in proportion to the diameter of their bore; because the parapet being of a considerable thickness, a short piece would, by its blast, ruin the embrasures; and the smaller pieces, being for this reason made nearly of the same length with the larger, did hence receive their additional weight of metal. But this reason holds not at sea, where there is no other exception to the shortness of a piece, but the loss of force, which, in the instances here proposed, is altogether inconsiderable; for the old twelve-pounders, for example, being in length from nine feet to nine feet and a half, the new ones here proposed will be from seven feet to seven and a half long. The difference in the force of the bullet, fired from these different pieces, is but little;
little; and it will hereafter appear, that in the present subject much greater differences than these are of no consequence.

"If it should be said, that the new fabric here proposed must have the present allowance of powder (which in the smaller pieces is half the weight of the ball) diminished, and that it must be reduced to the rate of the thirty-two pounders, which is only seven-sixteenths of the weight of the ball; it is answered, that if the powder, in all ship-cannon whatever, was still further reduced to one-third of the weight of the ball, or even less, it would be a considerable advantage, not only by the saving of ammunition, but by keeping the guns cooler and more quiet, and at the same time more effectually injuring the ships of the enemy *; for with the present allowance of powder the guns are heated, and their tackles and furniture strained, and this only to render the bullet less efficacious than it would prove if impelled by a smaller charge. Indeed in battering of walls, which are not to be penetrated by a single shot from any piece whatever, the velocity of the bullet, how much soever augmented, still produces a proportionate effect, by augmenting the depth to which it penetrates: but the sides of the strongest ships, and the greater part of her timbers, are of a limited thickness, insufficient to stop the generality of cannon bullets, fired at a reasonable distance, even with a less charge than is here proposed. And it is a matter of experiment, that a bullet, which can but just pass through a piece of timber, and loses almost all its motion thereby, has a much better chance of rending and fracturing it, than if it passed through it with a much greater velocity.

"That a much better judgment may be made of the reasonableness of this speculation, the author thinks proper to add (and he believes future experience will not contradict him) that a twelve-pounder, as here proposed, which is one of the smallest pieces at present under consideration, when charged with one-third of the weight of the bullet in powder, will penetrate a beam of the best seasoned toughest oak, to more than twenty inches depth; and if, instead of one solid beam, there are a

"The change proposed here, of reducing the quantity of powder in all ship guns to one-third of the weight of the bullet, has for some time past been practised by the French in a much severer service, where the increasing the velocity of the bullet could not at any time diminish its effect; the service I mean is battering in breach. For I learn, that of late years all their breaches, in the different sieges they have undertaken, have been made with this very charge, that is, their twenty-four-pounders have been loaded with eight pounds of powder, and they have found, that though the penetration of the bullet is less with this charge than with a larger one, yet the other conveniencies attending this smaller charge, are more than sufficient to balance that particular.

"And here I must observe, that there have not been wanting persons of considerable name, who have asserted that the velocity of a twenty-four pound bullet was really greater with eight pounds of powder than with any larger quantity, founding their opinion on the ridiculous persuasion, that whatever quantity was put in, no more than eight pounds of it took fire; but this supposition is destroyed by their own experiments, and their own reasonings; and later experiments, made with greater attention, put it beyond all doubt, that to the larger charge (at least as far as twenty pounds of powder) there corresponds a greater velocity.
number of small ones, or of planks laid together; then allowing for rend-
ing and tearing, frequent in such cases, he doubts not, but it will often
go through near double that thickness, and this any where within a hun-
dred yards distance: that is, any where within that distance, which the
most experienced officers have recommended for naval engagements. In
the same distance, a bullet from the twelve-pounders now in use, charged
with half the weight of powder, will penetrate about one-third part deeper:
but if the efforts of each piece are compared together at five hundred
yards distance, the differences of their forces will not be considerable. If
this be so, it will not be asserted, I imagine, that the twelve-pounder here
proposed is less useful, or less efficacious, for all naval purposes, than the
weightier twelve-pounder hitherto made use of.

"The author has in this proposal fixed on the thirty-two pounders,
as the standard for the rest; because experience has long authorized
them. But from the trials he has made, he is well satisfied, a much
greater reduction of weight, than is here proposed, might safely take
place; and that one-fourth, or even one-fifth of the weight of the bullet
in powder, if properly disposed, is abundantly sufficient for every spe-
cies of ship-guns*. However, the author is far from desiring, that his
speculations should be relied on in an affair of this nature, where he
pretends not to have tried the very matter he proposes, but founds his
opinion on certain general principles and collateral experiments, which
he conceives, he may apply to the present case without error. He
would himself recommend an experimental examination of this pro-
posal, as the only one to which credit ought to be given. What he in-
tends by the present paper, is to represent it as a matter worthy of con-
sideration, and really such as it appeared to him: if these, to whose cen-
sure he submits it, are of the same opinion, there is an obvious method
of determining how far his allegations are conclusive; and that is by
directing one of these pieces to be cast, a twelve-pounder for instance,
and letting it be proved with the same proportion of powder allotted for
the proof of the thirty-two pounders: then if this piece be fired a number
of times successively on a carriage, and it’s recoil and degree of heat be
attended to, and if the penetration of it’s bullet into a thick butt of oak-
beams or plank be likewise examined, a judgment may thence be formed,
of what may be expected from the piece in real service; and the result of
these trials will be the most incontestable confirmation or confirmation of
this proposal."

CANNONADE, as a term of the marine, may be defined the applica-
tion of artillery to the purposes of naval war, or the direction of it’s efforts
against some distant object intended to be seized or destroyed, as a ship,
battery, or fortress.

* It is necessary to observe in this place, that Mr. Muller, whose opinion herein has
been confirmed by various experiments, has, with little variation, adopted the sentiments
of the above proposal, and strongly recommended them as a scheme of public utility.
Cannonading is therefore used in a vessel of war to take, sink, or burn the ships of an enemy, or to drive them from their defences on shore, and to batter and ruin their fortifications.

Since a large ship of war may be considered as a combination of floating batteries, it is evident that the efforts of her artillery must in general be greatly superior to those of a fortres on the sea-coast: I say in general, because on some particular occasions her situation may be extremely dangerous, and her cannonading ineffectual. Her superiority consists in several circumstances, as, the power of bringing her different batteries to converge to one point; of shifting the line of her attack so as to do the greatest possible execution against the enemy; or to lie where she will be the least exposed to his shot; and chiefly because, by employing a much greater number of cannon against a fort than it can possibly return, the impression of her artillery against stone-walls soon becomes decisive and irresistible. Besides these advantages in the attack, she is also greatly superior in point of defence: because the cannon shot, passing with rapidity through her sides, seldom do any execution out of the line of their flight, or occasion much mischief by their splinters: whereas they very soon shatter and destroy the faces of a parapet, and produce incredible havoc amongst the men, by the fragments of the stones, &c. A ship may also retreat when the finds it too dangerous to remain longer exposed to the enemy’s fire, or when her own fire cannot produce the desired effect. Finally, the fluctuating situation of a ship, and of the element on which she rests, renders the efforts of shells very uncertain, and altogether destroys the effect of the ricochet, or rolling and bounding shot, whose execution is so pernicious and destructive in a fortress or land-engagement; both of which, however, a ship may apply with great success. See RANGE.

The chief inconvenience to which a ship is exposed, on the contrary, is, that the low-laid cannon in a fort near the brink of the sea, may strike her repeatedly, on or under the surface of the water, so as to sink her before her cannonade can have any considerable efficacy.

CANOE, a sort of Indian boat or vessel, formed of the trunk of a tree hollowed, and sometimes of several pieces of the bark fastened together.

Canoes are of various sizes, according to the uses for which they may be designed, or the countries wherein they are formed. The largest are made of the cotton tree, some of which will carry between twenty and thirty hogheads of sugar or molasses. Some are made to carry sail, and for this purpose are steeped in water till they become pliant, after which their sides are extended, and strong beams placed between them, on which a deck is afterwards laid that serves to support their sides. The other sorts very rarely carry sail, unless when going before the wind: their sails are made of a sort of silk grape or rushes. They are commonly rowed with paddles, which are pieces of light wood some what resembling a corn-shovel; and instead of rowing with it horizontally, like an oar, they manage it perpendicularly. The small canoes are
are very narrow, having only room for one person in breadth, and seven or eight lengthways. The rowers, who are generally negroes or American savages, are very expert in managing their paddles uniformly, and in balancing the canoes properly with their bodies, which would be difficult for a stranger to do, how well accustomed forever to the conducting of European boats, because the canoes are extremely light, and liable to be overturned.

The American Indians, when they are under the necessity of landing to avoid a water-fall, or of crossing the land from one river to another, carry their canoes on their heads; till they arrive at a place where they can launch them again.

The following curious account of the canoes of the Esquimaux Indians, in Labrador, has been lately transmitted to the author, which he apprehends will not be displeasing to his readers.

The Esquimaux canoe has a light wooden frame, and the shell, instead of plank, is made with flesh-skins sewed together, which are not only extended round the bottom and sides, but likewise over the top; forming a complete deck, and having only one opening, conveniently framed and situated to admit the Indian into his seat. A flat hoop is fitted to this hole, rising about four inches, to which the surrounding skin is sewed. The Indian's flesh-skin jacket, being of a proper length, he can occasionally bind the skirt of it round the outside of this hoop; by which means he keeps the canoe free from water, and is enabled to pursue his game far from land or in stormy seas. His paddle is about ten feet long, light, and flat at each end, with which he both rows and steers with great velocity and exactness. Mr. Crantz, in his History of Greenland, informs us, that the young men in their exercise are taught to overturn their canoes, and when the bottom is upward, to recover, by the dexterous management of their paddle, their former upright position, the men rising again either on the side by which they went down, or on the contrary, as they please. The construction of this extraordinary little vessel, so admirably well adapted to the purposes of its owner, does the greatest credit to the ingenuity of this savage people. Though natives of the extensive country of Labrador, they inhabit only the sea-coasts, particularly the islands, the interior parts being no less barren, and peopled by other wandering tribes, their perpetual enemies and superiors at land; so that they are reduced to almost an entire dependence upon the sea for the common necessaries of life. Seals-fleesi and oil are amongst the chief articles of their food; and with the skins they make tents, canoes, and apparel. Those islands on which the sea-fowl breed, they visit for their eggs and young; and kill birds in the water with their darts. We are surprized, that provided thus, they should do so much execution among these creatures; but when we behold a party of savages, each in his canoe, with only his harpoon and his lance, pursue, attack, and kill the largest whale, how justly are we filled with admiration. The whales flesh and oil
oil they eat; and the tough substance of the gills, commonly called whale-
bone, they apply very ingeniously to a great variety of uses; trafficking
with the overplus for such European goods as they want. In their lan-
guage, the canoe is called kaiak, or man's-boat, to distinguish it from
umiak, the woman's-boat. The latter is a large boat, managed by the wo-
men for transporting their families and possessions, when they shift their
encampment from place to place, as most convenient for the particular
hunting of the season. A kind of wolf-dog, natural to that country, is
the only animal they breed for food. The same canoes, language, customs,
and way of life, being common to the Greenlanders with the Esquimaux,
it is evident they have been originally one people.

There is a Greenland canoe in the Repository of the Royal Society,
covered with seal-skins, and exactly conformable to the above descrip-
tion.

CANTING, as a sea-phrase, denotes the act of turning any thing
about.

CANT-TIMBERS, in ship-building, those timbers which are situated
at the two ends of a ship. They derive their name from being canted,
or raised obliquely from the keel; in contradistinction to those whose
planes are perpendicular to it. The upper-ends of those on the bow, or
fore-part of the ship, are inclined to the stem; as those in the after, or
hind-part, incline to the stern-post above. See the articles Timber and
Naval Architecture.

The principal of these last is the fashion-piece, which forms the out-
line of the counter, terminating it on the sides.

CAP, (chouquet, Fr.) a strong, thick block of wood, used to confine two
mafts together, when the one is erected at the head of the other, in order to
lengthen it. It is for this purpose furnished with two holes perpendicular
to it's length and breadth, and parallel to it's thickness; one of these is
square, and the other round; the former being solidly fixed upon the up-
per-end of the lower-mast, whilst the latter receives the mast employed to
lengthen it, and secures it in this position.

The principal caps of a ship are those of the lower-masts, which are
fitted with a strong eye-bolt on each side, wherein to hook the block by
which the top-mast is drawn up through the cap; the process of which is
explained in the article Mast.

The breadth of all caps is equal to twice the diameter of the top-mast,
and the length to twice the breadth. The thickness of the main and fore-
caps is half the diameter of their breadths; the mizen-cap three-sevenths,
and the top-mast-caps two-fifths of their respective breadths.

In the same manner as the top-mast slides up through the cap of the
lower-mast, the top-gallant-mast slides up through the cap of the top-mast.
The cap is represented by fig. 9. plate II.

CAPE, a promontory, or head-land, which projects into the sea further
than the rest of the coast.

CAPPANUS, a name given by some authors to the worm which ad-
heres to, and gnaws the bottom of a ship.
The cappanus is extremely pernicious to ships, particularly in the East and West Indies: to prevent this, several ships have lately been sheathed with copper: the first trial of which was made on his Majesty's frigate Alarm.

CAP-SQUARE. See the article Cannon.

CAPSTERN, or Capstan, (cabejlan, Fr.) a strong masy column of timber, formed like a truncated cone, and having its upper extremity pierced with a number of holes to receive the bars or levers. It is let down perpendicularly through the decks of a ship, and is fixed in such manner, that the men, by turning it horizontally with their bars, may perform any work which requires an extraordinary effort.

A capstern is composed of several parts, (see plate II. fig. 11.) where A is the barrel, b the whelps, c the drum-head, and d the spindle.

The whelps rise out from the main body of the capstern like buttresses, to enlarge the sweep; so that a greater portion of the cable, or whatever rope encircles the barrel, may be wound about it at one turn, without adding much to the weight of the capstern. The whelps reach downwards from the lower part of the drum-head to the deck.

Plate II. fig. 11 and 12. The drum-head is a broad cylindrical piece of wood, resembling a mill-stone, and fixed immediately above the barrel and whelps. On the outside of this piece are cut a number of square holes parallel to the deck, to receive the bars.

The pivot, or spindle, d, which is shod with iron, is the axis or foot upon which the capstern rests, and turns round in the saucer, which is a sort of iron socket let into a wooden stock or standard, called the step, resting upon, and bolted to the beams.

Besides the different parts of the capstern above explained, it is furnished with several appurtenances, as the bars, the pins, the pawls, the swifter, and the saucer, already described.

The bars are long pieces of wood, or arms, thrust into a number of square holes in the drum-head all round, in which they are as the radii of a circle, or the spokes to the nave of a wheel. They are used to heave the capstern round, which is done by the men setting their breasts against them and walking about, like the machinery of a horse-mill, till the operation is finished.

The pins, e, are little bolts of iron thrust perpendicularly through the holes of the drum-head, and through a correspondent hole in the end of the bar, made to receive the pins when the bars are fixed. They are used to confine the bars, and prevent them from working out as the men heave, or when the ship labours. Every pin is fastened to the drum-head with a small iron chain; and, that the bars may exactly fit their respective holes, they are all numbered.

The pawls, f, fig. 10, are situated on each side of the capstern, being two short bars of iron, bolted at one end through the deck to the beams close to the lower part of the whelps; the other end, which occasionally turns round on the deck, being placed in the intervals of the whelps, as the capstern turns, prevents it from recoiling or turning back by any sudden
fudden jerk of the cable as the ship rises on the sea, which might greatly endanger the men who heave. There are also hanging paws g, g, fig. 12. used for the same purposes, reaching from the deck above to the drum-head immediately beneath it.

The **swifter** is a rope passed horizontally through holes in the outer ends of the bars, and drawn very tight: the intent of this is to keep the men steady as they walk round, when the ship rolls, and to give room for a greater number to assist by pulling upon the swifter itself.

The most frequent use of the capstern is to heave in the cable, and thereby remove the ship, or draw up the anchor. It is also used to wind up any weighty body, as the masts, artillery, &c. In merchant-ships it is likewise frequently employed to discharge or take in the cargo, particularly when confilling of weighty materials that require a great exertion of mechanical powers to be removed.

There are commonly two capsterns in a ship of war, the main and the gear capstern; the former of which has two drum-heads, and may be called a double one. This is represented by fig. 12. of plate II. the latter is exhibited in fig. 11.

Formerly the bars of the capstern went entirely through the head of it, and consequently were more than twice the length of the present ones; the holes were therefore formed at different heights, as represented in fig. 10. plate II. But this machine had several inconveniences, such as the persons who heaved at the higher bars incommoding those at the lower ones; the bars being lifted or lowered by the persons who heaved at their opposite ends; some of the bars being too high, and others too low, &c. It has therefore been long entirely disbursed in the navy. Some of these sort of capsterns, however, are still retained in merchant-ships, and are usually denominated crabs. The situation of the bars in a crab, as ready for heaving, is represented in fig. 13. plate II.

To **rig the Capstern**, (garnir, Fr.) is to fix the bars in their respective holes, and thrust in the pins in order to confine them.

To **surge the Capstern**, (choquer, Fr.) is the order to slacken the rope heaved round upon it, of which there are generally two turns and a half about the barrel at once, and sometimes three turns.

To **heave the Capstern**, (vire au cabestan, Fr.) is to go round with it heaving on the bars, and drawing in any rope of which the purchase is created.

To **come up the Capstern**, is to let go the rope upon which they had been heaving. See the French term **Cabestan**, and the phrases annexed thereto.

To **pawl the Capstern**, is to fix the paws to prevent it from recoiling during any pause of heaving.

**CAPTAIN of a ship of war**, (capitaine du haut bord, Fr.) the officer who commands a ship of the line of battle, or a frigate carrying twenty or more cannon. The charge of a captain in his Majesty's navy is very comprehensive, inasmuch as he is not only answerable for any bad conduct in
the military government, navigation, and equipment of the ship he commands; but also for any neglect of duty, or ill management in his inferior officers, whose several charges he is appointed to superintend and regulate.

On his first receiving information of the condition and quality of the ship he is appointed to command, he must attend her constantly, and hasten the necessary preparations to fit her for sea. So strict indeed are the injunctions laid on him by the lord high admiral, or commissioners of the admiralty, that he is forbid to lie out of his ship, from his arrival on board, till the day of his discharge, unless by particular leave from the admiralty, or his commander in chief.

He is enjoined to shew a laudable example of honour and virtue to the officers and men, and to discountenance all dissolute, immoral, and disorderly practices, and such as are contrary to the rules of discipline and subordination, as well as to correct those who are guilty of such offences, as are punishable according to the usage of the sea.

He is ordered particularly to survey all the military stores which are sent on board, and to return whatsoever is deemed unfit for service. His diligence and application are required to procure his complement of men; observing carefully to enter only such as are fit for the necessary duty, that the government may not be put to improper expence. When his ship is fully manned, he is expected to keep the established number of men complete, and superintend the muster himself, if there is no clerk of the check at the port.

When his ship is employed on a cruising station, he is expected to keep the sea the whole length of time previously appointed; but if he is compelled by some unexpected accident to return to port sooner than the limited time, he ought to be very cautious in the choice of a good situation for anchoring, ordering the master, or other careful officers, to sound, and discover the depths of water, and dangers of the coast.

Previous to any possibility of engagement with an enemy, he is to quarter the officers and men to the necessary stations according to their office or abilities, and to exercise them in the management of the artillery, that they may be more expert in the time of battle. See the articles Exercise and Quarters.

His station in an engagement is on the quarter-deck; at which time he is expected to take all opportunities of annoying his enemy, and improving every advantage over him; to exhibit an example of courage and fortitude to his officers and crew; and to place his ship opposite to his adversary in such a position as that every cannon shall do effectual execution. See Engagement.

At the time of his arrival in port after his return from abroad, he is to assemble his officers, and draw up a detail of the observations that have been made during the voyage; of the qualities of the ship, as to her trim, ballast, flowage, and manner of failing, for the information and direction of those who may succeed in command: and this account is
C A R  C A S

is to be signed by himself and officers, and to be returned to the resident commissioner of the navy at the port where the ship is discharged.

CAREENING, *(faire abattre, carinier, Fr.)* the operation of heaving the ship down on one side, by the application of a strong purchase to her masts, which are properly supported for the occasion, to prevent them from breaking with so great a strain.

Careening is used to heave one of the ship’s sides so low in the water, as that her bottom, being elevated above it’s surface on the other side, (See plate I. fig. 5.) may be cleaned from any filth, which adheres to it, by Breaming; which see.

When a ship is laid on a careen, every thing is taken out of her: she is also laid to careen when inclining to one side at sea, as pressed with a weight of sail.

CARGO, *(chargement, Fr.)* the whole lading, or quantity of whatever species of merchandise a ship is freighted with, in order to proceed from port to port.

CARLINGS, *(entremises, Fr.)* short pieces of timber ranging fore and aft, from one of the deck beams to another, into which their ends are scored: they are used to sustain and fortify the smaller beams of the ship, and are exhibited in the Deck, plate III.

CARPENTER of a ship, *(charpentier, Fr.)* an officer appointed to examine and keep in order the frame of the ship, together with her masts, yards, boats, and all other wooden machinery, and stores committed to him by indenture from the surveyor of the dock-yard.

It is his duty in particular to keep the ship tight; for which purpose he ought frequently to review the decks and sides, and to caulk them when it is found necessary. In the time of battle he is to examine up and down, with all possible attention, in the lower apartments of the ship, to stop any holes that may have been made in the sides by shot, with wooden plugs provided, of several sizes, for that purpose.

CARTEL, *(cartel, Fr.)* a ship commissioned in time of war to exchange the prisoners of any two hostile powers; also to carry any particular request or proposal from one to another: for this reason the officer who commands her is particularly ordered to carry no cargo, ammunition, or implements of war, except a single gun for the purpose of firing signals.

CARTRIDGE, *(carabine, Fr.)* a cartridge for a great gun, or other fire-arm.

CARTRIDGE-BOX, *(bandoulière, Fr.)* for musketry.

CAST AWAY, the state of a ship which is lost or wrecked on a lee-shore, bank, or shallow.

CASTING, *(abattre, Fr.)* in navigation, the motion of falling off, so as to bring the direction of the wind on either side of the ship after it had blown for some time right a-head.

This term is particularly applied to a ship when her anchor first looses from the ground, when she is about to depart from any place where she had anchored; and as she is probably reeled at anchor with her head to windward, it is plain she must turn it off, so as to fill the sails before she can advance in her course, which operation is called casting.

Hence
CATCEN

Hence she is said to cast the right way, or the wrong way. See Trim.

CAT, (chatte, Fr.) a ship employed in the coal trade, formed from the Norwegian model. It is distinguished by a narrow stern, projecting quarters, a deep swift, and by having no ornamental figure on the prow.

These vessels are generally built remarkably strong, and carry from four to six hundred tons; or, in the language of their own mariners, from twenty to thirty keels of coals.

CAT, (capon, Fr.) is also a sort of strong tackle, or complication of pulleys, to hook and draw the anchor perpendicularly up to the cat-head. The use of this machine is represented in plate II. fig. 14.

CATAMARAN, (catimaron, Fr.) a sort of raft or float, formed by the fastening a number of poles to each other sideways, and laying boards, planks, &c. on the top, so as to convey goods or passengers to some distant place by water when no boat can be procured. This, however, can only be performed when the surface of the water is not much agitated.

CAT-HARPINS, a purchase of ropes employed to brace in the shrouds of the lower masts behind their yards, for the double purpose of making the shrouds more tight, and of affording room to draw the yards in more obliquely, to trim the sails for a side-wind, when they are said to be close-hauled.

CAT-HEADS, (beffoirs, Fr.) two strong short beams of timber, which project almost horizontally over the ship's bows, on each side of the bowsprit, being like two radii which extend from a center taken in the direction of the bowsprit.

That part of the cat-head which rests upon the fore-castle is securely bolted to the beams: the other part projects like a crane, as above described, and carries in its extremity two or three small wheels, or sheaves, of braids, or strong wood, about which a rope called the cat-fall passes, and communicates with the cat-block, which also contains three sheaves. The machine formed by this combination of pulleys is called the cat, which serves to pull the anchor up to the cat-head without tearing the ship's side with its flukes.

The cat-head also serves to suspend the anchor clear of the bow, when it is necessary to let it go: it is supported by a sort of knee, which is generally ornamented with sculpture.

The cat-block is fitted with a large and strong hook, which catches the ring of the anchor when it is to be drawn up. See a representation of this article, plate II. fig. 14.

CATS-PAW, (echars, Fr.) a light air of wind perceived at a distance in a calm, by the impression made on the surface of the sea, which it sweeps very lightly, and then decays.

CAULKING. See the article Calking.

CEILING, the inside planks of a ship. See Foot-waleing.

CENTER of a Fleet, or Squadron, (corps de bataille, Fr.) the middle of the line, which is always the station of the admiral or commander in chief, and ought to be the strongest proportionally, as it reaches from the van and rear. See Line of Battle.
To CHAFE, (racquer, Fr.) is to rub or fret the surface of a cable, mast, or yard, whilst the ship is agitated by the motion of the sea, or otherwise.

CHAIN-PUMP. See the article Pump.

CHAINS, (cadenes, Fr.) strong links or plates of iron, the lower ends of which are bolted through the ship's side to the timbers.

They are placed at short distances from each other on the ship's out-side, as being used to contain the blocks called dead-eyes, by which the shrouds of the masts are extended. The disposition of the chains, and that of their channels, is represented by the letters I, I, in the plane of Elevation, plate I. as also by fig. 16. plate II.

CHAIN-SHOT, a particular kind of shot formed by fastening two cannon-balls together with a short chain, and designed to mangle and ruin a ship's sails and rigging, or to destroy her masts and yards. See Shot.

Top CHAIN, a chain to fling the sail-yards in the time of battle, in order to prevent them from falling down when the ropes, by which they are hung, happen to be shot away, or rendered incapable of service.

CHAIN-WALE. See Channel.

CHANNEL, (manche, Fr.) in hydrography, the deepest part of a river, harbour, or strait, which is most convenient for the track of shipping.

CHANNELS, or Chain-Wales of a ship, (porte-boissoirs, Fr.) broad and thick planks projecting horizontally from the ship's out-side, a-breadth of, and somewhat behind, the masts. See plate II. fig. 16.

They are formed to extend the shrouds from each other, and from the axis or middle line of the ship, so as to give a greater security and support to the masts, as well as to prevent the shrouds from damaging the gun-wale, or being hurt by rubbing against it. See also Shroud.

Every mast has it's chain-wales, which are either built above or below the second deck-ports in a ship of the line: they are strongly connected to the side by knees, bolts, and standards, besides being confined thereto by the chains, whose upper ends pass through notches on the outer edge of the chain-wales, so as to unite with the shrouds above.

CHAPELING a ship, (faire chapelle, Fr.) the act of turning her round in a light breeze of wind when she is close-hauled, so as that she will lie the same way she did before. This is commonly occasioned by the negligence of the steer-man, or by a sudden change of the wind.

CHARGE of a cannon. See the article Cannon.

CHART, (charta, Lat.) a marine map or draught, upon which are represented the coasts, isles, banks, rocks, and dangers of the sea, together with the rhombs of the wind, and the entrance of bays and rivers, whereby to shape and regulate the various courses of a ship in her voyage.

CHARTER-PARTY, (charte-partie, Fr.) a deed or writing made between merchants and sea-faring men, concerning their merchandise and maritime affairs.

A charter-party of affreightment settles the agreement in relation to the freight and cargo of a ship between the merchant and master, or commander of the vessel. It binds the master to deliver the cargo in good condition at the place where his ship is to be discharged, &c.
In those charter-parties, if the dangers of the sea are excepted, it has been adjudged that such exception extends as well to any danger upon sea from ships of war or pirates, as to common hazards by shipwreck, tempests, &c.

CHACE, a vessel pursued by some other, which she apprehends or knows to be an enemy.

Bow CHACE, a cannon situated in the fore-part of a ship to fire upon any object ahead of her.

Stern CHACE, the cannons which are placed in the after-part of a ship's gun-room, pointing aft, and intended to strike any ship which chases her, or other object in her rear.

CHASING, the act of pursuing a ship or fleet, supposed or known to be hostile. The admiral displayed the signal for a general chace, i.e. gave the alarm to the whole fleet or squadron to pursue some other fleet in sight.

CHEARLY, a phrase which usually implies heartily, cheerfully, or quickly, as row cheerly in the boats! lower away cheerly! i.e. row heartily, lower speedily, &c.

CHEEKS of the mast, (joterexiax. Fr.) the faces or projecting parts on each side of the masts, used to sustain the frame of the top, together with the top-mast, which rests immediately upon them.

CHES-TREES, (taquets d'amour, Fr.) two pieces of wood bolted perpendicularly, one on the starboard, and the other on the larboard side of the ship. They are used to confine the clue, or lower corners of the main-fall; for which purpose there is a hole in the upper part through which the rope passes that usually extends the clue of the sail to windward. See the article TACK.

The ches-trees are commonly placed as far before the main-mast as the length of the main-beam.

Clerk of the CHECK, an officer in the royal dock-yards, who keeps a muster or register of all the men employed aboard his Majesty's ships and vessels, and also of all the artificers and others in the service of the navy at the port where he is settled.

To CHINSE, is to thrust oakum into a seam or chink with the point of a knife or chisel. This is chiefly used as a temporary expedient when caulking cannot be safely or conveniently performed.

CHOCK, a sort of wedge used to confine a cask or other weighty body, in a certain place, and to prevent it from fetching way when the ship is in motion, &c.

CLAMPS, (bauquieres, Fr.) thick planks in a ship's side, used to sustain the ends of the beams. See the article Midship-frame.

The clamps extend from the stem to the fashion-pieces of the stern, including the whole interior range of the side. They are placed close under each deck so as to be securely laced to all the timbers, to which they are fastened by nails driven through the clamp, and penetrating two-thirds of the thickness of the timbers.
The clamps of the lower and second decks ought to be equal in thickness to half the corresponding timbers in that part, and as broad as can be procured. In their disposition it is essentially necessary to avoid their being wounded by the ports, as the strength and firmness of a ship greatly depend on the substance and solidity of those pieces which lie horizontally in her frame.

Clamps are also small crooked plates of iron, fore-locked upon the trunnions of the cannon, to keep them steady in their carriages at sea. These, however, are more properly termed cap-squares. See Cannon.

Clamps of the latter sort are likewise frequently used to fasten the masts or bowsprits of small vessels or boats.

CLAWING, or CLAWING-OFF, (ébicauter, Fr.) in navigation, the act of beating, or turning, to windward from a lee-shore, so as to acquire a sufficient distance from it, to escape the dangers of shipwreck, which often attend so hazardous a situation.

CLEAR, as a naval term, is variously applied to the weather, the sea-coasts, cordage, navigation, &c. The weather is said to be clear (fin, Fr.) when it is fair and open, as opposed to cloudy or foggy.

The sea-coast is called clear (saine, Fr.) when the navigation is not interrupted, or rendered dangerous by rocks, sands, or breakers, &c.

It is expressed of cordage, cables, &c. when they are unembarrassed or disentangled so as to be ready for immediate service. It is usually opposed to foul, in all those senses.

CLEATS, (taquets, Fr.) pieces of wood of different shapes, used occasionally to fasten ropes upon in a ship; some of them have one, and some two arms, fig. 17. a, plate II. others are hollowed in the middle, and have no arms at all, fig. 17. b: these are nailed to the deck or sides to fasten any thing to.

CLINCH, that part of a cable, or other rope, which is fastened to the ring of the anchor.

CLINCHER-WORK, (bordée à quoin, Fr.) the disposition of the planks in the side of any boat or vessel, when the lower edge of every plank overlays the next under it, like the slates on the top of a house.

CLOSE-HAULED, (au plus pres, Fr.) in navigation, the general arrangement, or trim, of a ship's sails, when the endeavours to make a progress in the nearest direction possible towards that point of the compass from which the wind bloweth.

In this manner of failing the keel commonly makes an angle of six points with the line of the wind; but slopes, and some other small vessels, are said to fail almost a point nearer. All vessels, however, are supposed to make nearly a point of lee-way, when close-hauled, even when they have the advantage of a good failing-breeze and smooth water. The angle of lee-way, however, enlarges in proportion to the increase of the wind and sea.

In this disposition of the sails, they are all extended sideways on the ship, so that the wind, as it crosses the ship obliquely towards the stern from forwards, may fill their cavities. But as the current of wind also enters the cavities of the sails, in an oblique direction, the effort of it, to make the
the ship advance, is considerably diminished: she will, therefore, make the least progress when failing in this manner.

The ship is said to be close-hauled, because at this time her tacks, or lower corners of the principal sails, are drawn close down to her side to windward; the sheets hauled close aft; and all the bow-lines drawn to their greatest extension, in order to keep the sails steady.

CLOSE-QUARTERS, certain strong barriers of wood stretching across a merchant-ship in several places. They are used as a place of retreat when a ship is boarded by her adversary, and are therefore fitted with several small loop-holes, through which to fire the small arms, whereby the ship's crew may defend themselves and annoy the enemy. They are likewise furnished with several small caissons, called powder-chests, which are fixed upon the deck, and filled with powder, old nails, &c. and may be fired at any time from the close-quarters, upon the boarders.

We have known an English merchant-ship, of sixteen guns, and properly fitted with close-quarters, defeat the united efforts of three French privateers who boarded her in the late war, after having engaged at some distance nearly a day and a half with very few intervals of rest. Two of the cruisers were equipped with twelve guns each, and the other with eight. The French sailors were, after boarding, so much exposed to the continued fire of musquetry, and coehorns charged with granadoes, that a dreadful scene of carnage ensued, in which the decks were soon covered with the dead bodies of the enemy, several of which the boarders, in their hurry to escape, had left behind.

CLUE of a sail, (point, Fr.) the lower corner; and hence

CLUE-GARNETS, (cargues point, Fr.) are a sort of tackles fastened to the cluts, or lower corners of the mainsail and foresail, to truifs them up to the yard as occasion requires, which is usually termed clueing-up the sails.

CLUE-LINES are for the same purpose as clue-garnets, only that the latter are confined to the courses, whereas the clue-lines are common to all the square-sails. See these ropes, as represented in the article SAIL.

COACH, or COUCH, a sort of chamber or apartment in a large ship of war near the stern. The floor of it is formed by the astmost part of the quarter-deck, and the roof of it by the poop: it is generally the habitation of the captain.

COAMINGS of the latches, certain raised borders about the edge of the hatches of a ship, to prevent the water which may flow in upon the deck at sea, from running down into the lower apartments. They are represented in the Deck, plate III. as enclosing their respective hatchways.

COASTING, (aller terre à terre, Fr.) in navigation, the act of making a progress along the sea-coast of any country. The principal articles relating to this part of navigation are, the observing the time and direction of the tide; knowledge of the reigning winds; of the roads and havens; of the different depths of the water; and qualities of the ground.
COASTING-PILOT, (cotier, Fr.) a pilot, who by long experience has become sufficiently acquainted with the nature of any particular coast, and of the requisites mentioned in the preceding article, to conduct a ship or fleet from one part of it to another.

COAT, (braye, Fr.) a piece of tarred canvas nailed round that part of the masts and bowprit which joins to the deck, or lies over the stem of a ship. It is used to prevent the water from running down into the hold, or between the decks.

Besides those above mentioned, there is a coat for the rudder nailed round the hole where the rudder traverses in the ship's counter. This hole is represented at the upper part of the stern-post, exhibited in plate X.

COAT, (suage, Fr.) also implies the materials or stuff with which the ship's sides or masts are varnished, to preserve them from the sun and weather, as turpentine, tar, &c. In this sense we say, "Give her a good coat of tar."

COBBING, a punishment sometimes inflicted at sea. It is performed by striking the offender a certain number of times on the breech with a flat piece of wood called the cobbing-board. It is chiefly used as a punishment to those who quit their station during the period of the night-watch.

COBBING-BOARD, (baton de justice, Fr.)

COBOOSE, (fogone, Fr. kambuis, Dutch) a sort of box or house to cover the chimney of some merchant-ships. It somewhat resembles a chimney-box, and generally stands against the barricade on the fore part of the quarter-deck.

COCK-PIT of a ship of war, the apartments of the surgeon and his mates, being the place where the wounded men are dressed in the time of battle, or otherwise. It is situated under the lower-deck.

COCKSWAIN, or COXEN, the officer who manages and steers a boat, and has the command of the boat's crew. It is evidently compounded of the words cook and swain, the former of which was anciently used for a yawl or small boat, as appears by several authors*; but it has now become obsolete, and is never used by our mariners.

COD-FISHER, (caplanier, Fr.) name of a vessel employed to cure cod; also the men appointed for that service.

COIL, (cueillir, Fr.) the manner in which all ropes are disposed aboard ships for the convenience of stowage; because

COILING, (rouer, Fr.) implies a sort of serpentine winding of a cable or other rope, that it may occupy a small space in the ship. Each of the windings of this sort is called a false, and one range of fakes upon the same line is called a tier; there are generally from five to seven fakes in a tier; and three or four tiers in the whole length of the cable. This,

* Von tall anchoring bark
Diminish'd to her cock; her cock a buoy, &c.
Shakespeare.
however, depends on the extent of the fakes. The smaller ropes employed about the fails are coiled upon cleats at sea, to prevent their being entangled amongst one another in traversing, contracting, or extending the fails.

COLLAR (collier d'état, Fr.) a name given to the lower part of any of the principal stays of the masts, or the part by which the stay is confined at it's lower end. Thus the collar of the main-stay connects the lower end of the stay to the ship's stem. See the article STAY.

COLLIERS, certain vessels employed to carry coals from one port to another, chiefly from the northern parts of England to the capital, and more southerly parts, as well as to foreign markets. This trade is known to be an excellent nursery for seamen, although they are often found, from the constitution of their climate, to be not so well calculated for southern navigation.

COLOURS, the flags or banners which distinguish the ships of different nations. See the articles ENSIGN, JACK, and PENDENT.

COMING-TO. See the article TRYING.

COMMAND, in the royal navy, implies the rank and power of an officer who has the management of a ship of war, of whatever kind, under twenty guns, as floops of war, armed ships, or bomb-vessels. He is intitled master and commander, (capitaine du petit état, Fr.) and ranks with a major in the King's army.

COMMANDER is also expressed of a large wooden mallet used on sundry occasions in a ship.

COMMISSIONERS of the navy, certain officers appointed to superintend the affairs of the marine, under the direction of the lord-high-admiral, or lords commissioners of the admiralty.

The duty of these officers does not extend to the internal government of ships invested with a military command, either at sea or in the port. It is more immediately concerned in the building, docking, repairing, and cleaning of ships in the dock-yards. In consideration of this, all ships of war are commissioned from a report of their qualities presented to the Admiralty by the Navy-board.

They have also the appointment of some of the inferior sea-officers, as surgeons and masters of ships.

The principal officers and commissioners residing at the board, are,
1. The comptroller. 2. Two surveyors, who are shipwrights. 3. Clerk of the acts. 4. Comptroller of the treasurer's accounts. 5. Comptroller of the victualing accounts. 6. Comptroller of the store-keeper's accounts. 7. An extraordinary commissioner. Besides these, there are three resident commissioners, who manage the affairs of the dock-yards at Chatham, Portsmouth, and Plymouth, under the direction of the board at the Navy-office.

COMMODORE, (chef d'escadre, Fr.) a general officer in the British marine, invested with the command of a detachment of ships of war detined on any particular enterprise; during which time he bears the rank of brigadier-general in the army, and is distinguished from the inferior ships
ships of his squadron by a broad red pendent tapering towards the outer-
end, and sometimes forked. The word is corrupted from the Spanish
comendador.

**Commodore** is also a name given to some select ship in a fleet of mer-
chantmen, who leads the van in time of war, and carries a light in his
top, to conduct the rest and keep them together.

**COMPANION**, a sort of wooden porch placed over the entrance or
stair-case of the master's cabin in a merchant-ship.

**COMPANY**, the whole crew of any ship, including her officers.

**COMPASS**, an instrument employed to determine the ship's course at
sea, and consisting of a card and two boxes. The card, which is calculated
to represent the horizon, is a circle divided into thirty-two equal parts, by
lines drawn from the center to the circumference, called points or rhumbs.
The intervals between the points are also subdivided into equal parts called
degrees, 360 of which complete the circle; and consequently the distance
or angle comprehended between any two rhumbs is equal to 11°, 15'. The
four principal rhumbs are called the **cardinal points**, deriving their names
from the places to which they tend; viz. the two which extend themselves
under the meridian, opposite to each other, pointing to the north and
south, are called the **north** and **south** points. That which is towards the
right hand as we look north is termed **east**, and it's opposite the **west** point.
The names of all the inferior ones are compounded of these, according to
their situation. Along the north and south line is fixed a steel needle,
which being touched by the load-stone acquire a certain virtue that makes
it hang nearly in the plane of the meridian, and consequently determine the
direction of the other points toward the horizon.

The compafs being of the utmost importance to the purposes of na-
vigation, it is reasonable to expect that the greatest attention should
be used in its construction, and every attempt to improve it carefully
examined, and adopted, if proper. Great errors and irregularities,
however, have been found incident to the construction of common com-
passfs, arising from the shape of their needles, by which they have
not only turned from the true direction, but from that of each other*.

* The wires, of which the needle has hitherto been generally composed, were only
hardened at their ends; now if these ends are not equally hard, or if one end be hardened
up higher than the other, when they come to be put together, in fixing them to the card,
that end which is hardest will destroy much of the virtue of the other; by which means the
hardest end will have the greatest power in directing the card, and consequently make it
vary towards its own direction; and, as the wires are disposed in the form of a lozenge,
these cards can have but little force; so that they will often, when drawn aside, stand at
the distance of several degrees on either side the point from whence they are drawn; for all
magnetical bodies receive an additional strength by being placed in the direction of the
earth's magnetism, and act proportionably less vigorously when turned out of it. Therefore
when these kind of needles are drawn aside from their true point, two of the parallel sides
of the lozenge will confpire more directly than before with the earth's magnetism, and the
other two will be left in that direction; by this means the two former sides will very much
impede its return, and the two latter will have that impediment to overcome, as well as
the friction, by their own force alone.
To remedy these inconveniences, the learned Dr. Knight was induced to contrive a new sea-compas, which is now used aboard all our vessels of war*. The needles of the other instruments were generally composed of two pieces of steel wire, bent in the middle, and approaching each other towards the ends, where they meet. Others were made of one piece of steel of a spring temper, and broad towards the ends, but tapering towards the middle; but the needle in Dr. Knight’s compas is quite straight, and square at the ends, and consequently has only two poles, although the curves are a little confused about the hole in the middle. Needles of this construction, after vibrating a long time, will always point exactly in the same direction; and if drawn ever so little on one side will return to it again, without any sensible difference.

In order to illustrate the above description, we have exhibited a view of the several parts of the compas, plate II. where fig. 19. is the card, with the needle N S, and it’s cap fixed upon it.

Fig. 21. is the pedestal that supports the card, containing a fewing needle fixed in two small grooves to receive it, by means of a collet C, in the manner of a port-crayon. D, the stem, is filed into an octagon, that it may the more easily be unscrewed.

A B, fig. 20. is the box in which the compas hangs in the binacle. C D, is the ring that supports the inner box.

E F, is the inner box, which contains the card and needle.

G H, one of it’s axes, by which it is suspended on the ring C D.

I. is a place cut out in the wood, serving as an handle.

The magnet or needle appears passing through the center, together with a small brace of ivory that confines the cap to it’s place.

The card is a single varnished paper, reaching as far as the outer circle of figures, which is a circle of thin brass; the edge whereof is turned down at right angles to the plane of the card, in order to stiffen it.

The compas is retained in the binacle at sea, as exhibited in plate I. fig. 6. For the other parts of the compas represented in the figure, see the article Azimuth.

COMPASSING, (devers, Fr.) a name given by shipwrights to such pieces of timber as are incurvated into the figure of an arch, whether circular, elliptical, or otherwise.

COMPLEMENT, the limited number of men employed in any ship, either for navigation or battle.

COMPTRÓLER of the navy, one of the principal officers of the Navy-board, at which he presides, to direct the inferior and civil department of

* It is necessary to observe here, that the principal, and indeed the only circumstance in which Knight’s compases are superior to those which have hitherto obtained, is, that their needles being tempered much higher than usual, are thereby enabled to contain a much greater quantity of the magnetical stream, which is certainly a real advantage. But, on the other hand, experience sufficiently proves, and truth obliges us to remark, that the methods he has taken to balance the card with more accuracy than had been formerly attempted, have rendered it by far too delicate to encounter the shocks of a tempestuous sea.
CONVOY, (converse, conveyer, Fr.) a fleet of merchant-ships bound on a voyage to some particular part or general rendezvous.

Convoy also implies the ship or ships appointed to conduct and defend them on their passage thither.

CORDAGE, (cordage, Fr.) a general term for the running rigging of a ship, or all that part of her rigging which is employed to extend, contract, or traverse the sails; or which lies in reserve to supply the place of such as may be rendered unserviceable. See the article Rigging.

CORPORAL of a ship of war, an officer under the master at arms, employed to teach the sailors the exercise of small arms, or musketry; to attend at the gangway, or entering-ports, and observe that no spirituous liquors are brought into the ship, unless by particular leave from the officers. He is also to extinguish the fire and candles at eight o’clock in winter, and nine in summer, when the evening gun is fired; and to walk frequently down in the lower decks in his watch, to see that there are no lights but such as are under the charge of proper sentinels.

CORPOSANT, (feu St. Elme, Fr. corpo santo, Ital.) a sort of volatile meteor, or ignis fatuus, often beheld in a dark and tempestuous night about the decks or rigging of a ship, but particularly at the extremities, as the mast-heads, and yard-arms: it is most frequent in heavy rain, accompanied with lightening. “They usually wander with uncertain motion from place to place, sometimes appearing to cleave close to the sails and masts, but they frequently leap up and down with intermission, affording an obscure flame, like that of a candle burning faintly. They are produced by some sulphureous and bituminous matter, which being beat down by the motion of the air above, and gathering together, is kindled by the agitation of the air, as butter is gathered together by the agitation of the cream. And from this appearance we infer that storms come from sulphureous spirits that rarify the air, and put it into a motion.” Varenius.

CORSAILR, (côsfair, Fr.) a name commonly given to the piratical cruisers of Barbary, who frequently plunder the merchant-ships of European nations with whom they are at peace.

COTT, a particular sort of bed-frame, suspended from the beams of a ship, for the officers to sleep in between the decks. This contrivance is much more convenient at sea than either the hammocks or fixed cabins, being a large piece of canvas sewed into the form of a chest, about six feet long, one foot deep, and from two to three feet wide: it is extended by a square wooden frame with a canvas bottom, equal to it’s length and breadth, to retain it in an horizontal position.

COVE, (abrianne, Fr.) a small creek or bay, where boats or little vessels may ride at anchor sheltered from the wind and sea under a weather shore.

COUNTER, (contre arcasse, Fr.) an arch or vault whose upper-part is terminated by the bottom of the stern, and the lower-part by the wing-tranom
transom and buttock, being expressed by the letters K G, in the elevation, plate I. as likewise by the same letters in fig. 1, plate X. and the figure referred to from the article Quarter.

There is also another counter above, parallel to this, but not vaulted; it extends from the upper-part of the lower, or vaulted, counter, to the moulding which terminates the windows of the cabin or ward-room below. This latter is usually called the upper or second counter.

COUNTER-BRACING. See this operation fully explained in the article Tacking.

COURSE, (route, Fr.) in navigation, the angle contained between the nearest meridian and that point of the compass upon which a ship falls in any particular direction.

Oblique Course, (Loxodromie, Fr.) a course which crosses the meridian at equal and oblique angles.

COURSES, (paës, baffes voiles, Fr.) a name by which the principal fails of a ship are usually distinguished, viz. the main-fail, fore-fail, and mizen: the mizen-stay-fail and fore-fail are also sometimes comprehended in this denomination, as are the main-stay-fails of all brigs and schooners. See the article Sail.

CRAB, a fort of wooden pillar, whose lower end, being let down through a ship's decks, rests upon a socket like the capstern; and having in it's upper-end three or four holes, at different heights; thro' the middle of it, above one another, into which long bars are thrust, whose length is nearly equal to the breadth of the deck. It is employed to wind in the cable, or to purchase any other weighty matter which requires a great mechanical power. This differs from a capstern, as not being furnished with a drum-head, and by having the bars to go entirely through it, reaching from one side of the deck to the other; whereas those of the capstern, which are superior in number, reach only about eight inches or a foot into the drum-head, according to the size thereof. This machine is represented in plate II. by fig. 10. and 12. See also Capstern.

CRADLE, (see, Fr.) a frame placed under the bottom of a ship, in order to conduct her smoothly and steadily into the water when she is to be launched; at which time it supports her weight whilst she slides down the descent, or sloping passage called the ways, which are for this purpose daubed with soap and tallow. This frame is exhibited by fig. 23. plate II.

CRAFT, a general name for all sorts of vessels employed to load or discharge merchant-ships, or to carry along-side, or return the stores of men of war: such are lighters, hoys, barges, prames, &c. See those articles.

CRANK, (côté-faible, Fr.) the quality of a ship, which for want of a sufficient quantity of ballast or cargo, is rendered incapable of carrying sail without being exposed to the danger of overfetting. See the articles Ballast and Trim.

CRANK, is also an iron brace which supports the lanthorns on the poop-quarters, &c.
CRAWL, (bouchet, Fr.) a sort of pen, or place of confinement, formed by a barrier of stakes and hurdles on the sea-coast, to contain any sort of fish within it.

CREEPER, an instrument of iron resembling a grappling, having a $\text{b}rank$ and four hooks or claws, fig. 24. plate II. It is used to throw into the bottom of any river or harbour, with a rope fastened to it, to hook and draw up any thing from the bottom which may have been lost.

CREW of a ship, (equipage, Fr.) comprehends the officers, sailors, seamen, marines, ordinary men, servants and boys; but exclusive of the captain and lieutenants, in the French service.

CRINGLE, (ancet, Fr.) a small hole made in the bolt-rope of a sail, by intertwisting one of the divisions of a rope, called a $\text{f}r$and, alternately round itself and through the $\text{f}r$ands of the bolt-rope, till it becomes three-fold, and assumes the shape of a wreath or ring. See plate II. fig. 25. where a, b, represents part of the bolt-rope of a sail; and c, the cringle.

The use of the cringle is generally to contain the end of some rope, which is fastened thereto, for the purpose of drawing up the sail to its yard, or of extending the skirts by the means of bridles to stand upon a fide-wind. The word seems to be derived from *krinckelen*, (Belg.) to run into twirls.

CROSS-JACK, pronounced *crojeck*, a fail extended on the lower yard of the mizen-mast, which is hence called the *cross-jack yard*, (vergue fiche, Fr.) This fail, however, has generally been found of little service, and is therefore very seldom used.

CROSS-PIECE, (restart, Fr.) a rail of timber extended over the wind-lads of a merchant-ship from the knight-heads to the belfry. It is stuck full of wooden pins, which are used to fasten the running-rigging as occasion requires. See the article Windlass.

CROSS-TREES, (barres de borne, Fr.) certain pieces of timber supported by the cheeks and trestle-trees, at the upper-ends of the lower-masts, athwart which they are laid, to sustain the frame of the top.

CROTCHES, (fourcats, Fr. croccia, Ital.) a name given to those crooked timbers that are placed upon the keel in the fore and hind-parts of a ship, upon which the frame of her hull grows narrower below, as it approaches the stem afores, and the stern-post abaft.

Crotches, (cornes, Fr.) are also certain pieces of wood or iron, whose upper-part opens into two horns, or arms, like a half-moon. They are fixed in different places of the ship, according to the uses for which they may be designed, which is usually to support the spare-masts, yards, &c. The iron crotches are exhibited in plate II. fig. 26.

CROW, an iron lever well known in mechanics, and furnished with a sharp point at one end, and two claws at the other, as appears in fig. 27. plate II.

This instrument is used for various purposes, by shipwrights and mariners; as to remove pieces of timber, and other weighty bodies; and to draw spike-nails, &c. as well as to manage the great guns, by moving them into their ports, levelling or pointing them to a particular object.
To CROWD, (forcer de voiles, Fr. crutch, Sax.) to carry an extraordinary force of sail upon a ship, in order to accelerate her course on some important occasion, as in pursuit of, or flight from, an enemy; to escape any immediate danger, &c.

CROW-FOOT, (trellingage, Fr.) a complication of small cords spreading out from a long block, like the smaller parts which extend from the backbone of a herring. See plate II. fig. 28. It is used to suspend the awnings; or to keep the top-fails from striking violently and fretting against the edges of the tops.

CROWNING, the finishing part of a knot made on the end of a rope. It is performed by interweaving the ends of the different strands artfully amongst each other, so as that they may not become loosened or untwisted. The design of these knots is to keep the end of the rope fast in some place assigned for it: they are more particularly useful in all kinds of stoppers.

CRUISE, (campagne creifer, Fr.) a voyage or expedition in quest of vessels or fleets of the enemy, which may be expected to fall through any particular tract of the sea at a certain season of the year. The region in which these cruises are performed is usually termed the rendezvous, or cruising-latitude. When the ships employed for this purpose, which are accordingly called cruisers, have arrived at their destined station, they traverse the sea backward and forward, under an easy sail, and within a limited space, conjectured to be nearly in the track of their expected adversaries.

CUDDY, (coqueron, Fr.) a sort of cabin, or cook-room, in the fore-part, or near the stern, of a lighter or barge of burden.

CUNNING, (faire gouverner, Fr.) the art of directing the steersman to guide the ship in her proper course: the officer who performs this duty is either the pilot or quarter-master.

CURRENT, (courans, Fr. currens, Lat.) in navigation, a certain progressive movement of the water of the sea, by which all bodies floating therein are compelled to alter their course, or velocity, or both, and submit to the laws imposed on them by the current.

In the sea, currents are either natural and general, as arising from the diurnal rotation of the earth about its axis; or accidental and particular, caused by the waters being driven against promontories, or into gulfs and straits; where, wanting room to spread, they are driven back, and thus disturb the ordinary flux of the sea.

"Currents are various, and directed towards different parts of the ocean, of which some are constant, and others periodical. The most extraordinary current of the sea is that by which part of the Atlantic or African ocean moves about Guinea from Cape Verd towards the curvature or bay of Africa, which they call Fernando Poo, viz. from west to east, contrary to the general motion. And such is the force of this current, that when ships approach too near the shore, it carries them violently towards that bay, and deceives the mariners in their reckoning."

N 2 "There
There is a great variety of shifting currents, which do not last, but return at certain periods; and these do, most of them, depend upon, and follow the anniversry winds or monsoons, which by blowing in one place may cause a current in another. *Varenius.*  
In the freights of Gibraltar the currents almost constantly drive to the eastward, and carry ships into the Mediterranean: they are also found to drive the same way into St. George's-channel.  
The setting, or progressive motion of the current, may be either quite down to the bottom, or to a certain determinate depth.  
As the knowledge of the direction and velocity of currents is a very material article in navigation, it is highly necessary to discover both, in order to ascertain the ship's situation and course with as much accuracy as possible. The most successful method which has been hitherto attempted by mariners for this purpose, is as follows. A common iron pot, which may contain four or five gallons, is suspended by a small rope fastened to it's ears or handles, so as to hang directly upright, as when placed upon the fire. This rope, which may be from 70 to 100 fathoms in length, being prepared for the experiment, is coiled in the boat, which is hoisted out of the ship at a proper opportunity, when there is little or no wind to ruffle the surface of the sea. The pot being then thrown over-board into the water, and immediately sinking, the line is slackened till

* * *  
*At Java, in the freights of Sunda, when the monsoons blow from the west, viz., in the month of May, the currents set to the eastward, contrary to the general motion.*  
*Also between the island of Celebes and Madura, when the western monsoons set in, viz., in December, January, and February, or when the winds blow from the N.W. or between the north and west, the currents set to the S.E. or between the south and east.*  
*At Ceylon, from the middle of March to October, the currents set to the southward, and in the other parts of the year to the northward; because at this time the southern monsoons blow, and at the other, the northern.*  
*Between Cochin-China and Malacca, when the western monsoons blow, viz., from April to August, the currents set eastward against the general motion, but the rest of the year set westward; the monsoon conspiring with the general motion. They run so strongly in these seas, that unexperienced sailors mistake them for waves that beat upon the rocks known by the name of breakers.*  
*So for some months after the fifteenth of February the currents set from the Maldives towards India on the east, against the general motion of the sea.*  
*On the shore of China and Cambodia, in the months of October, November, and December, the currents set to the N.W. and from January to the S.W., when they run with such a rapidity of motion about the shoals of Parcel, that it seems swifter than that of an arrow.*  
*At Pulo Condore, upon the coast of Cambodia, though the monsoons are shifting, yet the currents set strongly towards the east, even when they blow to a contrary point.*  
*Along the coasts of the bay of Bengal, as far as the cape Romania, at the extreme point of Malacca, the current runs southward in November and December.*  
*When the monsoons blow from China to Malacca, the sea runs swiftly from Pulo Cambi to Pulo Condore, on the coast of Cambodia.*  
*In the bay of Sans Bras, not far from the Cape of Good Hope, there is a current particularly remarkable, where the sea runs from east to west to the landward; and this more vehemently as it becomes opposed by the winds from a contrary direction. The cause is undoubtedly owing to some adjacent shore, which is higher than this.* *Varenius.*  
The se of currents constantly follow the winds, and set to the same point with the monsoon, or trade-wind, at sea. See Monsoon.

about
about seventy or eighty fathoms run out, after which the line is fastened to the boat's stem, by which she is accordingly restrained, and rides as at anchor. The velocity of the current is then easily tried by the log and half-minute glass, the usual method of discovering the rate of a ship's failing at sea. The course of the stream is next obtained by means of the compass provided for this operation.

Having thus found the setting and drift of the current, it remains to apply this experiment to the purposes of navigation. If the ship sails along the direction of the current, then the motion of the ship is increased by as much as is the drift or velocity of the current.

If a current sets directly against the ship's course, then her motion is retarded in proportion to the strength of the current. Hence it is plain, 1. If the velocity of the current be less than that of the ship, then the ship will advance so much as is the difference of these velocities. 2. If the velocity of the current be more than that of the ship, then will the ship fall as much after as is the difference of these velocities. 3. If the velocity of the current be equal to that of the ship, then will the ship stand still, the one velocity destroying the other.

If the current thwart the course of a ship, it not only diminishes or increases her velocity, but gives her a new direction, compounded of the course she steers, and the letting of the current, as appears by the following

**Lemma.**

If a body at A be impelled by two forces at the same time, the one in the direction A B, carrying it from A to B in a certain space of time, and the other in the direction A D, pushing it from A to D in the same time; complete the parallelogram A B C D, and draw the diagonal A C: then the body at A, (which let us suppose a ship agitated by the wind and current; A B being the line along which she advances as impressed by the wind, and A D the line upon which she is driven by the current) will move along the diagonal A C, and will be in the point C, at the end of the time in which it would have moved along A D or A B, as impelled by either of those forces, (the wind or current) separately.

**Cutter,** (bateau, Fr.) a small vessel commonly navigated in the channel of England; it is furnished with one mast, and rigged as a jigger. Many of these vessels are used on an illicit trade, and others employed by the government to seize them; the latter of which are either under the direction of the Admiralty or Custom-house. See a representation of a cutter of this sort in the plate referred to from the article Vessel.

**Cutter** is also a small boat used by ships of war. See Boat.
CUTTING-DOWN Line, a curved line used by shipwrights in the delineation of ships: it determines the thickness of all the floor-timbers, and likewise the height of the dead-wood, aforesaid and abast. It is limited in the middle of the ship by the thickness of the floor-timber, and abaft by the breadth of the keelson; and must be carried up so high upon the stem, as to leave sufficient substance for the breeches of the rising timbers. Murray's Ship-building.

CUT-WATER, the foremost part of a ship's prow, formed of an assemblage of several pieces of timber, to render it broad at the upper-part, where it projects forward from the stem to open the column of water as the ship sails along, and also to make her keep to windward better, when she is close-hauled. It is otherwise called the knee of the head. See the article Stem; see also the several parts of it represented in plate I. Pieces of the Hull.
DAM, (batardeau, Fr.) a piece of water confined within banks.

DAVIT, (minot, Fr.) a long beam of timber, represented by a, b, plate II. fig. 29. and used as a crane, whereby to hoist the flukes of the anchor to the top of the bow, without injuring the planks of the ship's side as it ascends; an operation which by mariners is called fishing the anchor. The anchors being situated on both the bows, the davit may be occasionally shifted so as to project over either side of the ship, according to the position of that anchor on which it is to be employed. The inner-end of the davit is secured by being thrust into a square ring of iron b, which is bolted to the deck, and fore-locked under the beams. This ring, which is called the span-shackle, exhibited at large by fig. 34. is fixed exactly in the middle of the deck, and close behind the fore-mast. Upon the outer-end of the davit is hung a large block c, through which a strong rope traverses, called the fish-pendent d, to whose foremost end is fitted a large iron hook e, and to it's after end a tackle or complication of pulleys f, the former of which is called the fish-hook, and the latter the fish-tackle.

The davit therefore, according to the sea-phræse, is employed to fish the anchor, which being previously catted, the fish-hook is fastened upon it's flukes; and the effort of the tackle, being transmitted to the hook by means of the fish-pendent, draws up that part of the anchor sufficiently high upon the bow to fasten it, which is done by the Shank-painter. See that article.

There is also a davit of a smaller kind, occasionally fixed in the longboat, and employed to weigh the anchor therein.

DAY'S-WORK, (cinglage, Fr.) the reckoning or account of the ship's course, during twenty-four hours, or between noon and noon, according to the rules of trigonometry. See Dead-Reckoning.

DEAD-EYE, (cap de mouton, Fr.) a sort of round, flattish, wooden block, see fig. 30. plate II. It is usually encircled with the end of a rope, or with an iron band, fig. 31. b, and pierced with three holes through the flat, in order to receive the rope called a laniard c, which, corresponding with three holes in another dead-eye a, creates a purchase employed for various uses, but chiefly to extend the shrouds and stays, otherwise called the standing-rigging.

In order to form this purchase, one of the dead-eyes is fastened in the lower-end of each shroud, and the opposite one in the upper-link of each chain on the ship's side, which is made round to receive and encompass the hollowed outer-edge of the dead-eye. After this the laniard
is passed alternately through the holes in the upper and lower dead-eyes till it becomes six-fold; and is then drawn tight by the application of mechanical powers. The general disposition of the dead-eyes in their channels is represented in the Elevation, plate I. In merchant-ships they are generally fitted with iron plates in the room of chains. These last are exhibited in fig. 16. plate II.

The dead-eyes used for the stays, (mouyes, Fr.) have only one hole, which, however, is large enough to receive ten or twelve turns of the laniard: these are generally termed hearts, and are expressed by fig. 32.

There are also dead-eyes of another form, employed for the crow-feet, (mouyes de trelingage, Fr.) These are long cylindrical blocks, fig. 33. with a number of small holes in them, to receive the legs or lines of which the crow-foot, fig. 28. is composed.

DEAD-LIGHTS, certain wooden ports which are made to fasten into the cabin-windows, to prevent the waves from gushing into a ship in a high sea. As they are made exactly to fit the windows, and are strong enough to resist the waves, they are always fixed in, on the approach of a storm, and the glass frames taken out, which might otherwise be shattered to pieces by the furies, and suffer great quantities of water to enter the vessel.

DEAD-RECKONING, (efime, Fr.) in navigation, the judgment or estimation which is made of the place where a ship is situated, without any observation of the heavenly bodies. It is discovered by keeping an account of the distance she has run by the log, and of her course steered by the compass; and by rectifying these data by the usual allowances for drift, lee-way, &c. according to the ship’s known trim. This reckoning, however, is always to be corrected, as often as any good observation of the sun can be obtained.

DEAD-RISING, or RISING-LINE of the floor, (feurs, Fr.) those parts of a ship’s floor, or bottom, throughout her whole length, where the floor-timber is terminated upon the lower futtock. See the article Naval Architecture.

DEAD-WATER, (remoux, Fr.) the eddy of water which appears like little whirl-pools, cloising in with the ship’s stern as she sails through it.

DEAD-WOOD, (contre-quille, Fr.) a name given by shipwrights to certain blocks of timber laid upon the keel, particularly at the extremities afore and abaft, where these pieces are placed one upon another to a considerable height, because the ship is there so narrow as not to admit of the two half-timbers, which are therefore scored into this dead-wood, where the angle of the floor-timbers gradually diminishes, as approaching the stern and stern-post. See the article Naval Architecture.

In the fore-part of the ship, the dead-wood generally extends from the stem-fon, upon which it is scarfed to the loft-frame; and in the after-end from the stern-post, where it is confined by the knee, to the after-balance-frame. It is connected to the keel by strong spike-nails. Those pieces are represented by e e, Pieces of the Hull, plate I.
The dead-wood afore and abaft is equal in depth to two thirds of the depth of the keel, and as broad as can be procured, so as not to exceed the breadth of the keel.

DEAD-WORK, all that part of a ship which is above water when she is laden. See the article Upper-Work.

DECKS, ponts, Fr. decken, Dan. (to cover) the planked floors of a ship, which connect the sides together, and serve as different platforms to support the artillery, and lodge the men, as also to preserve the cargo from the sea in merchant-vessels.

As all ships are broader at the lower-deck than on the next above it, and as the cannon thereof are always heaviest, it is necessary that the frame of it should be much stronger than that of the others; and, for the same reason, the second or middle-deck ought to be stronger than the upper-deck, or forecastle.

Ships of the first and second rates are furnished with three whole decks, reaching from the stem to the stern, besides a forecastle and a quarter-deck, which extends from the stem to the main-mast, between which and the forecastle, a vacancy is left in the middle, opening to the upper-deck, and forming what is called the waist. There is yet another deck above the hinder or utmost part of the quarter deck, called the poop, which also serves as a roof for the captain's cabin or couch.

The inferior ships of the line of battle are equipped with two decks and a half, and frigates, floops, &c. with one gun-deck and a half, with a spar deck below to lodge the crew.

The decks are formed and sustained by the beams, the clamps, the water-ways, the carlings, the ledges, the knees, and two rows of small pillars, called fanchions, &c. See those articles.

That the figure of a deck, together with its corresponding parts, may be more clearly understood, we have exhibited a plan of the lower-deck of a 74 gun-ship in plate III. And as both sides of the deck are exactly similar, the pieces by which it is supported appear on one side, and on the other side the planks or floor of which it is composed, as laid upon those pieces.

Explanation of the figures represented in the Deck, plate III.

A, the principal, or main hatch-way.
B, the stern-post.
C, the stem.
D, the beams, composed of three pieces, as exhibited by D, in one of which the dotted lines shew the arrangement of one of the beams under the other side of the deck.
E, part of the vertical or hanging knee. See also 1, fig. 16, in the same plate.
F, the horizontal or lodging knees, which fasten the beams to the sides.
G, the carlings, ranging fore and aft, from one beam to another.
H, the gun-ports.
O
I, the
I, the pump-dales, being large wooden tubes which return the water from the pumps into the sea.

K, the spurs of the beams; being curved pieces of timber serving as half-beams to support the decks, where a whole beam cannot be placed on account of the hatch-ways.

L, the wing-tranfom, which is bolted by the middle to the stern-post, and whole ends rest upon the fashion-pieces.

M, the bulk-head or partition, which encloses the manger, and prevents the water which enters at the hawse-holes from running aft between decks.

N N. the fore hatch-way.

O O, the after hatch-way.

P, the drum-head of the gear capftern.

P P, the drum-head of the main capftern.

Q, the wing-tranfom-knee.

R, one of the breast-hooks under the gun-deck.

S, the breast-hook of the gun-deck.

T T, the station of the chain-pumps.

V, the breadth and thickness of the timbers at the height of the gun-deck.

U U, scuttles leading to the gunner's store-room, and bread-room.

W, the station of the fore-maft.

X, the station of the main-maft.

Y, the station of the mizen-maft.

Z, the ring-bolts of the decks, used to retain the cannon whilst charging.

a, a, the ring-bolts of the fides, whereon the tackle are hooked that secure the cannon at sea.

c a a d, the water-ways, through which the scupper-holes are pierced, to carry the water off from the deck into the sea.

b, b, plan of the foremost and aftermost cable-bits, with their cross-pieces g, g, and their standards e, e.

Thus we have represented, on one side, all the pieces which sustain the deck with its cannon; and, on the other side, the deck itself, with a tier of 32 pounders planted in battery thereon. In order also to shew the use of the breeching and train-tackle, one of the guns is drawn in as ready for charging. See the articles Breeching and Cannon.

The number of beams, by which the decks of ships are supported, is often very different, according to the practice of different countries; the strength of the timber of which the beams are framed; and the services for which the ship is calculated.

As the deck which contains the train of a fire-ship is furnished with an equipage peculiar to itself, the whole apparatus is particularly described in the article Fire-ship.

Flush-Deck, or Deck-Flush fore and aft, implies a continued floor laid from stem to stern, upon one line, without any stops or intervals.

Half-Deck, (corps de garde, Fr.) a space under the quarter-deck of a ship of war, contained between the foremost bulk-head of the steerage, and the fore-part of the quarter-deck.
In the colliers of Northumberland the steerage itself is called the half-deck, and is usually the habitation of the ship's crew.

DECOY, a stratagem employed by a small ship of war to betray a vessel of inferior force into an incautious purfuit, till the has drawn her within the range of her cannon, or what is called within gun-shot.

It is usually performed by painting the stern and sides in such a manner as to disguise the ship, and represent her either much smaller, and of inferior force, or as a friend to the hostile vessel, which she endeavours to ensnare, by assuming the emblems and ornaments of the nation to which the stranger is supposed to belong. When she has thus provoked the adversary to chase, in hopes of acquiring a prize, she continues the decoy by spreading a great fail, as endeavouring to escape, at the same time that her course is considerably retarded by an artful alteration of her trim till the enemy approaches.

Decoying is also performed to elude the chase of a ship of superior force in a dark night, by throwing out a lighted cask of pitch into the sea, which will burn for a considerable time, and mislead the enemy. Immediately after the cask is thrown out the ship changes her course, and may easily escape if at any tolerable distance from the foe.

DEEP-WAISTED, (encafillé, Fr.) the distinguishing fabric of a ship's decks, when the quarter-deck and fore-castle are elevated from four to six feet above the level of the upper-deck, so as to leave a vacant space, called the waist, on the middle of the upper-deck. See the article WAIST.

DEMURRAGE, an allowance given to the commander of a trading ship by the merchants, for having detained him longer in port than the time previously appointed for his departure.

DEPARTURE, in navigation, the distance between any two places lying on the same parallel, counted in miles of the equator; or the distance of one place from the meridian of another, counted on the parallel passing over that place. See NAVIGATION.

DEPTH of a sail, (cbute, Fr.) the extent of any square or oblong sail from the head-rope to the foot-rope; or the length of the after-leeche of any boom-sail or stay-sail. See the article SAIL.

DETACHMENT of a fleet or squadron, a certain number of ships chosen by an admiral or commodore from the rest of the fleet, charged to execute some particular service.

DIFFERENCE of latitude, in navigation, the difference between any two places lying on the same meridian; or the distance between the parallels of latitude of any two places, expressed in miles of the equator.

DINNAGE. See the article DUNNAGE.

DISABLED, (defemparé, Fr.) the state of a ship when, by the loss of her masts, sails, yards, or rigging; by springing a leak, or receiving some fracture in her hull, or other dilater; she is rendered incapable of prosecuting her voyage without great difficulty and danger.

To DISCHARGE, (decharge, Fr.) when applied to a ship, signifies to unlade her, or take out her stores, ammunition, artillery, &c. When
expressed of the officers, or crew, it implies to disband them from immediate service.

DISMASTED, (démâté, Fr.) the state of a ship which has lost her masts by boisterous weather, engagement, or other misfortune.

DIVISION, a select number of ships in a fleet or squadron of men of war, distinguished by a particular flag or pendant, and usually commanded by a general officer. A squadron is commonly ranged into three divisions, the commanding officer of which is always stationed in the center.

When a fleet consists of sixty sail of the line, that is, of ships having at least sixty cannon each, the admiral divides it into three squadrons, each of which has its divisions and commanding officers. Each squadron has its proper colours, according to the rank of the admiral who commands it, and every division its proper mast. Thus, the white flag denotes the first squadron of France; the white and blue the second, and the third is characterized by the blue. In England, the first admiral, or the admiral of the fleet, displays the union flag at the main-top-mast-head; next follows the white flag with St. George's-cros; and afterwards the blue. The private ships carry pendents of the same colour with their respective squadron, at the masts of their particular divisions; so that the last ship in the division of the blue squadron carries a blue pendant at her mizen-top-mast-head.

DOCK, (forme, Fr. imagined of òcôrà) a sort of broad and deep trench, formed on the side of a harbour, or on the banks of a river; and commodiously fitted either to build ships, or receive them to be repaired and breamed therein. These sorts of docks have generally strong flood-gates, to prevent the flux of the tide from entering the dock while the ship is under repair.

There are likewise docks of another kind, called wet-docks, where a ship can only be cleaned during the recess of the tide, or in the interval between the time when the tide left her dry a-ground, and the period when it again reaches her by the return of the flood. Docks of the latter kind are not furnished with the usual flood-gates.

DOCKING a ship, the act of drawing her into the dock, in order to give her a proper repair, and cleanse the bottom, and cover it anew with a preparation of stuff, as explained in the article Breaming.

DOCK-YARDS, (arceneaux, Fr.) certain magazines containing all sorts of naval stores, and timber for ship-building. In England, the royal dockyards are at Chatham, Portfinouth, Plymouth, Deptford, Woolwich, and Sheerness. His Majesty's ships and vessels of war are generally moored at these ports, during the time of peace; and such as want repairing are taken into the docks, examined, and refitted for service. See the article Repair.

The principal dock-yards are governed by a commissioner, resident at the port, who superintends all the matters of the officers, artificers, and labourers, employed in the dock-yard, and ordinary. He also controls their payment therein; examines the accounts; contracts, and draws bills on the Navy-office to supply the deficiency of stores; and, finally, regulat
lates whatever belongs to the dock-yard, maintaining due order in the respective offices.

These yards are generally supplied from the northern crowns with hemp, pitch, tar, rosin, canvas, oak plank, and several other species of stores. With regard to the masts, particularly those of the largest size, they are usually imported from New-England.

**DOG**, a sort of iron hook, or bar, with a sharp fang at one end, so formed as to be easily driven into a plank; it is used to drag along the planks of oak when they are let into a hole under the stern of a ship, to be stowed in the hold. For this purpose there is a rope fastened to the end of the dog, upon which several men pull, to draw the plank towards the place where it is to be stowed. It is also used for the same purpose in unlading the ship.

**DOGGER**, (dogge-boat, Dut.) a Dutch fishing- vessel navigated in the German ocean. It is generally employed in the herring-fishery, being equipped with two masts, viz. a main-mast and a mizen-mast, and somewhat resembling a ketch.

**DOLPHIN of the masts**, a peculiar kind of wreath, formed of plaited cordage, to be fastened occasionally round the masts, as a support to the pudding, whose use is to sustain the weight of the fore and main-yards, in case the rigging, or chains, by which those yards are suspended, should be shot away in the time of battle; a circumstance which might render their fails useless at a season when their assistance is extremely necessary. See the article Puddening.

**DOUBLE-BANKED**, the situation of the oars of a boat when two opposite ones are managed by rowers seated on the same bench, or thwarts. The oars are also said to be double-banked when two men row upon every single one.

**DOUBLING**, (doubler, Fr.) in navigation, the act of failing round, or passing beyond a cape or promontory, so as that the cape or point of land separates the ship from her former situation, or lies between her and any distant observer.

**DOUBLING-NAILS**, amongst shipwrights, the nails commonly used to fasten the lining of the gun-ports, &c.

**DOUBLING-UPON**, in a naval engagement, the act of enclosing any part of a hostile fleet between two fires, or of cannonading it on both sides.

It is usually performed by the van or rear of that fleet which is superior in number, taking the advantage of the wind, or of its situation and circumstances, and tacking or veering round the van or rear of the enemy, who will thereby be exposed to great danger, and can scarcely avoid being thrown into a general confusion.

**DOWN**, (dune, Fr.) heights on the sea-coast.

**DOWN-HAUL**, (calebâs, Fr.) a rope passing up along a stay through the rings of the stay-fall, and tied to the upper-corner of the fall, to pull it down, when they are shortening sail.
DOWN-HAUL-TACKLE, a complication of pulleys employed to pull down the main or fore-yard in a tempest, in order to reef the fail. It is used at this time, because the violence of the wind prevents the weight of the yard from having it's natural effect, of descending, when the ropes by which it is suspended are slackened.

To DOWSE, (volir, Fr.) to lower suddenly or slacken: expressed of a fail in a squall of wind, an extended hawser, &c.

DRABLER, an additional part of a fail, sometimes laced to the bottom of the bonnet of a square-fail, in floops and schooners.

DRAG, (drague, Fr.) a machine consisting of a sharp square iron ring encircled with a net, and commonly used to rake the mud off from the platform or bottom of the docks, or to clean rivers. See plate II. fig. 35:

DRAGGING the anchor, the act of trailing it along the bottom, after it is loosed from the ground, by the effort of the wind or current upon the ship, communicated to the cable. See the article Anchor.

DRAUGHT, the depth of a body of water necessary to float a ship; hence a ship is said to draw so many feet of water, when she is borne up by a column of water of that particular depth. Thus, if it requires a body of water, whose depth is equal to twelve feet, to float or buoy up a ship on it's surface, she is said to draw twelve feet water; and that this draught may be more readily known, the feet are marked on the stem and stern-post, regularly from the keel upwards.

DRAWING, the state of a fail when it is inflated by the wind, so as to advance the vessel in her course.

DRESSING, (faire la parade, Fr.) the act of ornamenting a ship with a variety of colours; as ensigns, flags, pendants, &c. displayed from different parts of her masts and rigging on a day of festivity.

DRIFT, (derive, Fr. from drive) in navigation, the angle which the line of a ship's motion makes with the nearest meridian, when she drives with her side to the wind and waves, and is not governed by the power of the helm: it also implies the distance which the ship drives on that line.

A ship's way is only called drift in a storm; and then, when it blows so vehemently, as to prevent her from carrying any fail, or at least restrains her to such a portion of fail as may be necessary to keep her sufficiently inclined to one side, that she may not be dismayed by her violent labouring, produced by the turbulence of the sea.

DRIVER, an oblong fail, occasionally hoisted to the mizen-peak, when the wind is very fair. The lower corners of it are extended by a boom or pole, which is thrust out across the ship, and projects over the lee-quarter.

DRIVING, (abattre, Fr. drifan, Sax.) the state of being carried at random along the surface of the water, as impelled by a storm, or impetuous current: it is generally expressed of a ship when, accidentally, broke loose from her anchors or moorings.

DROP, (etarcur, Fr.) a name sometimes given to the depth of the principal fails; as, her main-top-fail drops seventeen yards.
DUCKING. *(baptême, Fr.)* a sort of marine punishment inflicted by the French on those who have been convicted of defection, blasphemy, or exciting sedition. It is performed as follows: the criminal is placed altride of a short thick batten, fastened to the end of a rope, which passes through a block hanging at one of the yard-arms. Thus fixed, he is hoisted suddenly up to the yard, and the rope being slackened at once, he is plunged into the sea. This chastisement is repeated several times, conformable to the purport of the sentence pronounced against the culprit, who has at that time several cannon-shot fastened to his feet during the punishment, which is rendered public by the firing of a gun, to advertise the other ships of the fleet thereof, that their crews may become spectators. *Aubin.*

Ducking, is also a penalty which veteran sailors pretend to inflict on those, who, for the first time, pass the tropic of Cancer, the Equator, or the streights of Gibraltar, in consequence of their refusal or incapacity to pay the usual fine levied on this occasion, which would redeem them from the said penalty.

DUNNAGE, *(fardage, Fr.)* a quantity of faggots, boughs of trees, or other loose wood, laid in the bottom of a ship, either to raise the heavy goods which might make her too stiff, or to keep the cargo sufficiently above the bottom, that it may sustain no damage from the water, if the ship should prove leaky.
EARINGS, (rabans, Fr.) certain small cords employed to fasten the upper corners of a sail to its respective yard; for which purpose one end of the earing is spliced to the cringle, fixed in that part of the sail; and the other end of it is passed six or seven times round the yard-arm and through the cringle, thereby fastening the latter to the former. Two of the turns are intended to stretch the upper-edge of the sail tight along the yard; and the rest to draw it close up to it. The former are therefore called outer, and the latter inner turns, as being passed without, or within the rigging, on the yard-arms.

EASE the ship! the command given, by the pilot to the steer-man, to put the helm close to the lee-side, or, in the sea-phrase, hard-a-lee, when the ship is expected to pitch or plunge her fore-part deep in the water, while close-hauled. The reason usually given for this practice is, that the sudden movement of the helm prevents the ship's head from falling with so much weight and rapidity into the hollow of the sea, as it would do otherwise: which is presuming that the flow and uncertain effect of the helm is sufficient to retard the certain and violent action of gravity: a position that necessarily infers a very singular theory of mechanics. We shall not endeavour to advance any argument in favour of this practice; only to remark, that it is most religiously observed, both in merchant-ships and his Majesty's navy.

To Ease off, or Ease away, (molir, filer, Fr.) to slacken gradually any single rope, or complication of ropes, formed into a tackle.

EBB, (jussant, Fr.) the reflux of the tide, or the return of it into the sea after the highest of the flood, usually termed full sea, or high-water.

EDDY, (remous, Fr. ed, backward, again, and ea, water, Sax.) the water that, by some interruption in it's course, runs contrary to the direction of any river, or current, and appears like the motion of a whirlpool.

To EDGE away, (abattre, Fr.) in navigation, to decline gradually from the shore, or from the line of the course which the ship formerly steered: it is particularly applied when a ship changes her course, by failing nearer the direction of the wind: or, in the sea-language, by failing larger, or more afore the wind, than she had done before that operation.

ELBOW in the hacefe, a particular twist in the cables by which a ship rides at anchor. In this situation each of the cables, after crossing the other before the stem, is directed outwards on the same bow from which
it issued: that is to say, the starboard cable grows out on the starboard bow, and the larboard cable on the larboard bow, as exhibited in fig. 56, plate II. where a expresses the fore-castle, b the stern, c & c the larboard cable, and d d the starboard one. See the article Hawse.

EMBARGO, (arrêt, Fr. embargo, Span.) in commerce, an arrest laid on ships or merchandise by public authority, or a prohibition of trade, commonly issued on foreign ships, to prevent their putting to sea in time of war, and sometimes to prevent their coming in, and otherwise both to prevent their entrance and departure.

EMBAYED, from bay, (encapé, Fr.) the situation of a ship when she is inclosed between two capes or promontories. It is particularly applied when the wind, by blowing strongly into any bay or gulf, makes it extremely difficult, and perhaps impracticable for the vessel, thus enclosed, to clear off from the shore, so as to weather the capes and gain the offing.

ENGAGEMENT, in a naval sense, implies a particular or general battle at sea, or an action of hostility between single ships, or detachments, or squadrons of ships of war.

In order to have a clearer idea of this article, it will, therefore, be necessary that the reader who is little acquainted with the subject, should previously refer to the explanation of those terms, as also to the articles Cannon, Division, Exercise, Fleet, and Line of Battle.

The sea-fights of the ancients were usually carried on in two different manners. Advanced by the force of their oars, the gallies ran violently, aboard of each other, and by the mutual encounter of their beaks and prows, and sometimes of their sterns, endeavoured to dash in pieces, or sink their enemies.

The prow, for this purpose, was commonly armed with a brazen point or trident, nearly as low as the surface of the sea, in order to pierce the enemy's ships under the water. Some of the gallies were furnished with large turrets, and other projections or building, either for attack or defence. The soldiers also annoyed their enemies with darts and flings, and, on their nearer approach, with swords and javelins; and, in order that their missile weapons might be directed with greater force and certainty, the ships were equipped with several platforms, or elevations above the level of the deck*. The sides of the ship were fortified with a thick fence of hides, which served to repel the darts of their adversaries, and to cover their own soldiers, who thereby annoyed the enemy with greater security.

As the invention of gun-powder has rendered useless many of the machines employed in the naval wars of the ancients, the great distance of time has also confounded many of them to oblivion: some few are, nevertheless, recorded in ancient authors, of which we shall endeavour to present a short description. And first,

The Διαλφω was a large and malleable piece of lead, or iron, cast in the form of a dolphin. This machine being suspended by blocks at their mast head

* Lucan.
or yard-arms, ready for a proper occasion, was let down violently from hence into the adverse ships, and either penetrated through their bottom, and opened a passage for the entering waters, or by its weight immediately sunk the vessel.

The δέξανα was an engine of iron crooked like a sickle, and fixed on the top of a long pole. It was employed to cut asunder the πλήγμα of the sail-yards, and, thereby letting the sails fall down, to disable the vessel from escaping, and incommodate her greatly during the action. Similar to this was another instrument, armed at the head with a broad two-edged blade of iron, wherewith they usually cut away the ropes that fastened the rudder to the vessel.*

Δίσσα ναύμαξα, a sort of spears or maces of an extraordinary length, sometimes exceeding twenty cubits, as appears by the fifteenth Iliad of Homer †, by whom they are also called ναυμαξα.

Κίσαναι were certain machines used to throw large stones into the enemies ships.

Vegetius mentions another engine, which was suspended to the main-mast, and resembled a battering-ram; for it consisted of a long beam, and an head of iron, and was, with great violence, pushed against the sides of the enemies galleys.

They had also a grapping-iron, which was usually thrown into the adverse ship by means of an engine; this instrument facilitated the entrance of the soldiers appointed to board, which was done by means of wooden bridges, that were generally kept ready for this purpose in the fore-part of the vessel ‡.

The arms used by the ancients rendered the disposition of their fleets very different, according to the time, place and circumstances. They generally considered it an advantage to be to windward, and to have the sun shining directly on the front of their enemy. The order of battle chiefly depended on their power of managing the ships, or of drawing them readily into form; and on the schemes which their officers had concerted. The fleet being composed of rowing vessels, they lowered their sails previous to the action; they presented their prows to the enemy, and advanced against each other by the force of their oars †. Before they joined battle, the admirals went from ship to ship, and exhorted their soldiers to behave gallantly. All things being in readiness, the signal was displayed by hanging out of the admiral's galley a gilded shield, or a red garment or banner. During the elevation of this the action continued, and by its depression, or inclination towards the right or left, the rest of the ships were directed how to attack, or retreat from their enemies. To this was added the sound of trumpets, which began in the admiral's galley, and continued round the whole navy. The fight was also begun by the admiral's galley, by grappling, boarding, and

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* Vegetius.
† A ponderous mace, with fiuds of iron crown'd,
   Full twenty cubits long he sving round.  Pope.
‡ See the note on the following page.
§ Potter's Archaeologia Graeca. De Morogues Tartique Navale.

endeavouring
endeavouring to overset, sink, or destroy the adversary, as we have above described*. Sometimes, for want of grappling-irons, they fixed their oars in such a manner as to hinder the enemy from retreating †. If they could not manage their oars and exteriously as their antagonists, or fall along-side

* Ut primum rostris ereuerunt obvia rostra,
   In puppim redirear rates, emissaque tela
   Aera teverunt, vacuurnque cadentia pontum.  

Which we may thus translate:

The beaks encounter with a thundering sound,
Then reeling, from the mutual shock rebound.
The javelins fly! an iron tempest sweeps
The darken'd air, and covers all the deeps!

† Sequent remis, totis fretis aquire bellum.
   Tam non excussis torquentur tela laceris,
   Nec longinqua cadunt jaculata vulnera ferro;
   Miserentique manus, navali plurima bello
   Ensig agit; flat quique fun de robore puppis
   Pronus in adversi sedes.  

Thus translated by Rowe:

— Others by the tangling oars are held.
The feas are hid beneath the closing war,
Nor need they cast their javelins now from far;
With hardy strokes the combatants engage,
And with keen faulchions deal their deadly rage:
Man against man, and board by board, they lie.

"The famous machine called the Corvus, was framed after the following manner: They erected on the prow of their vessels a round piece of timber, of about a foot and a half diameter, and about twelve feet long; on the top whereof they had a block or pulley. Round this piece of timber, they laid a flag or platform of boards, four feet broad, and about eighteen feet long, which was well framed, and fastened with iron. The entrance was long ways, and it moved about the aforefaid upright piece of timber, as on a spindle, and could be hoist up within six feet of the top: about this was a sort of a parapet, knee high, which was defended with upright bars of iron, sharpen'd at the end; towards the top whereof there was a ring: through this ring, fastening a rope, by the help of the pulley, they hoist or lowered the engine at pleasure; and so with it attacked the enemy's vessels, sometimes on their bow, and sometimes on their broad-side, as occasion best served. When they had grappled the enemy with these iron spikes, if they happen'd to swing broad-side to broad-side, then they entered from all parts; but in case they attacked them on the bow, they entered two and two by the help of this machine, the foremost defending the fore-part, and those that followed the flanks, keeping the bots of their bucklers level with the top of the parapet.

"To this purpose Polybius gives us an account of the first warlike preparations which the Romans made by sea. We may add, in short, the order, which they observed in drawing up their fleet for battle, taken from the same author. The two Consuls were in the two admiral galleys, in the front of their two distinct squadrons, each of them just a-head of their own divisions, and abreast of each other; the first division being posted on the right, the second on the left, making two long files or lines of battle. And, whereas it was necessary to give a due space between each galley, to ply their oars, and keep clear one of another, and to have their heads or prows looking somewhat outwards; this manner of drawing up did therefore naturally form an angle, the point whereof was at the two admiral galleys, which were near together; and as their two lines were prolonged, so the distance grew conseqently wider and wider towards the rear. But, because the naval as well as the land army consisted of four legions, and accordingly the ships made four divisions, two of these were yet behind: Of which the third fleet, or the third legion, was drawn up front-
so as to board him, they penetrated his vessel with the brazen prow. The
to as to board him, they penetrated his vessel with the brazen prow. The
vessels approached each other as well as their circumstances would permit,
and the soldiers were obliged to fight hand to hand, till the battle was
decided: nor indeed could they fight otherwise with any certainty, since the
shortest distance rendered their slings and arrows, and almost all their
offensive weapons, ineffectual, if not useless. The squadrons were some-
times ranged in two or three right lines, parallel to each other; being
seldom drawn up in one line, unless when formed into an half moon.
This order indeed appears to be the most convenient for rowing vessels,
that engage by advancing with their prows towards the enemy. At
the battle of Ecmomus, between the Romans and the Carthaginians, the
fleet of the former was ranged into a triangle, or a fort of wedge in
front, and towards the middle of it's depth, of two right parallel lines.
That of the latter was formed into a rectangle, or two sides of a square,
of which one branch extended behind, and, as the opening of the other
prosecuted the attack was ready to fall upon the flank of such of the Ro-
man galleys as should attempt to break their line. Ancient history has
preferred many of these orders, of which some have been followed in later
times. Thus in a battle in A. D. 1340, the English fleet was formed in
two lines, the first of which contained the larger ships, the second consist-
of all the smaller vessels, used as a reserve to support the former whenever
necessary. In 1545 the French fleet under the command of the Marechal
d'Annebault, in an engagement with the English in the Channel, was arran-
ged in the form of a crescent. The whole of it was divided into three bodies,
the center being composed of thirty-six ships, and each of the wings of
thirty. He had also many galleys; but these fell not into the line, being
designed to attack the enemy occasionally. This last disposition was con-
tinued down to the reigns of James I. and Louis XIII.

Meanwhile the invention of gunpowder, in 1330, gradually introduced
the use of fire-arms into naval war, without finally superceding the ancient
method of engagement. The Spaniards were armed with cannon in a sea-
fight against the English and the people of Poitou abreast of Rochelle in
1372; and this battle is the first wherein mention is made of artillery in our
navies. Many years elapsed before the marine armaments were sufficiently
provided with fire arms. So great a revolution in the manner of fighting,
ways in the rear of the first and second, and so stretching along from point to point composed
a triangle, whereof the third line was the base. Their vessels of burden, that carried their
horses and baggage, were in the rear of these; and were, by the help of small boats pro-
vided for that purpose, towed or drawn after them. In the rear of all was the fourth fleet,
called the Triarians, drawn up likewise in rank or front-ways, parallel to the third: but
these made a longer line, by which means the extremities stretched out, and extended beyond
the two angles at the base. The several divisions of the army, being thus disposed, formed
as is said, a triangle; the area within was void, but the base was thick and solid, and the
whole body quick, active, and very difficult to be broken." Kennett Antiq. Rome.

* De Morogues Taet. Navale.
† "The use of powder in battle was not established till the long wars of Francis I. and
Charles V. From it's invention to this period, both the machines in use before that dis-
covery, and those which that discovery introduced, were used in war at the same time;
and even some time after this period, both sorts of machines were continued in use." Le
Bleud's Elements of War.
and which necessarily introduced a total change in the construction of ships, could not be suddenly effected. In short, the squadrons of men of war are no longer formed of rowing-vessels, or composed of galleys and ships of the line, but entirely of the latter, which engage under sail, and discharge the whole force of their artillery from their sides. Accordingly they are now disposed in no other form than that of a right line parallel to the enemy; every ship keeping close-hauled upon a wind on the same tack. Indeed the difference between the force and manner of fighting of ships and galleys rendered their service in the same line incompatible. When we consider therefore the change introduced, both in the construction and working of ships, occasioned by the use of cannon, it necessarily follows, that squadrons of men of war must appear in the order that is now generally adopted. Finally, the ships ought to present their broad sides to the enemy; and to sail close upon a wind in the wake of each other; as well to retain their own uniformity, as to preserve or acquire the advantage which the weather-gage gives them over their adversary.

The machines which owe their rise to the invention of gun-powder have now totally supplanted the others; so that there is scarce any but the sword remaining, of all the weapons used by the ancients. Our naval battles are therefore almost always decided by fire-arms, of which there are several kinds, known by the general name of artillery.

In a ship of war fire-arms are distinguished into cannon mounted on carriages, swivel-cannon, grenades, and musquetry. The first has been already described at large in it's proper place. The second is a small piece of artillery, carrying a shot of half a pound, and fixed in a socket on the top of the ship's side, stern, or bow, and also in her tops. The trunnions of this piece are contained in a sort of iron crotch, whose lower-end terminates in a cylindrical pivot resting in the socket, so as to support the weight of the cannon. The socket is bored in a strong piece of oak, reinforced with iron hoops, in order to enable it to sustain the recoil. By means of this frame, which is called the swivel, and an iron handle on its crotch, the gun may be directed by hand to any object. It is therefore very necessary in the tops, particularly when loaded with musket-balls, to fire down on the upper-decks of the adversary in action.—The Grenade is a kind of little shell of the same diameter as a four-pound bullet; it weighs about two pounds, being charged with four or five ounces of powder.—Grenades are thrown from the tops by the hands of the seamen. They have a touch-hole in the same manner as a shell, and a fuse of the same composition. See Mortar. The sailor fires the fuse with a match, and throws the grenade as he is directed: the powder being inflamed, the shell instantly bursts into splinters, that kill or maim whomsoever they reach on the decks of the enemy. As this machine cannot be thrown by hand above fifteen or sixteen fathoms, the ship must be pretty near, to render it useful in battle.—The musket or firelock is so well known, that it appears unnecessary to describe it in this place.—Besides these machines,

* De Morogues Tac. Navale.
there are several others used in merchant-ships and privateers, as coehorns, carabines, fire-arrows, organs, powder-flasks, flint-pots, &c.*

Since a general engagement of fleets or squadrons of ships of war is nothing else than a variety of particular actions of single ships with each other, in a line of battle; it appears necessary, according to the plan of this work, to begin by describing the latter; and then proceed to represent the usual manner of conducting the former.

The whole economy of a naval engagement may be arranged under the following heads, viz. the preparation; the action; and the repair, or refitting for the purposes of navigation.

The preparation is begun by issuing an order to clear the ship for action, which is repeated by the boatswain and his mates at all the hatchways, or stair-cafes, leading to the different batteries. As the management of the artillery in a vessel of war requires a considerable number of men, it is evident that the officers and sailors must be restrained to a narrow space in their usual habitations in order to preserve the internal regularity of the ship. Hence the hammocs, or hanging-beds, of the latter are crowded together as close as possible between the decks, each of them being limited to the breadth of fourteen inches. They are hung parallel to each other, in rows stretching from one side of the ship to the other, nearly throughout her whole length, so as to admit of no passage but by stooping under them. As the cannon therefore cannot be worked while the hammocs are suspended in this situation, it becomes necessary to remove them as quick as possible.

By this circumstance a double advantage is obtained: the batteries of cannon are immediately cleared of an incumbrance, and the hammocs are converted into a fort of parapet, to prevent the execution of small shot on the quarter-deck, tops, and fore-castle. At the summons of the boatswain, Up all hammocs! every sailor repairs to his own, and, having flowed his bedding properly, he cords it firmly with a lashings, or line, provided for

* "The carabine is a sort of musquetoon, the barrel of which is rifled spirally from the breech, so that when the ball, which is forced into it, is again driven out by the strength of the powder, it is lengthened about the breadth of a finger, and marked with the rifle of the bore. This piece has an iron rammer.

"The barrel of the carabine is three feet long, including the stock. It has a much greater range than the fusil or musket, because the rifle of the barrel impedes the ball, which thereby makes the greater resistance at the first inflammation of the powder, and giving time for the whole charge to take fire before it goes out of the bore, it is at length thrown out with greater force than from the common musket." Le Blond's Elements of War.

The coehorn is a sort of small mortar, fixed on a swivel, and particularly used to discharge grenades, or cast bullets from close quarters in merchant vessels when boarded.

The fire arrow, dard à feu, is a small iron dart furnished with springs and bars, together with a match, impregnated with powder and sulphur, which is wound about its shaft. It is intended to fire the falls of the enemy, and is for this purpose discharged from a musquetoon or swivel gun. The match being kindled by the explosion, communicates the flame to the fail against which it is directed, where the arrow is fastened by means of its bars and springs. As this is peculiar to hot climates, particularly the West Indies, the falls, being extremely dry, are instantly inflamed, and of course convey the fire to the masts and rigging, and finally to the vessel itself.

The Powder-flask and flint-pot are described in the article Boarding; and the organ is no other than a machine consisting of six or seven musket barrels fixed upon one stock, so as to be fired all at once.

that
that purpose. He then carries it to the quarter deck, poop, or forecastle, or wherever it may be necessary. As each side of the quarter-deck and poop is furnished with a double net-work, supported by iron cranes fixed immediately above the gunnel, or top of the ship's side, the hammocks thus corded are firmly fixed by the quarter-master between the two parts of the netting, so as to form an excellent barrier. The tops, waist, and forecastle are then fenced in the same manner.

Whilst these offices are performed below, the boatman and his mates are employed in securing the sail-yards, to prevent them from tumbling down when the ship is cannonaded, as the might thereby be disabled, and rendered incapable of attack, retreat, or pursuit. The yards are now likewise secured by strong chains, or ropes, additional to those by which they are usually suspended. The boatman also provides the necessary materials to repair the rigging, wherever it may be damaged by the shot of the enemy; and to supply whatever parts of it may be entirely destroyed. The carpenter and his crew in the mean-while prepare his shot-plugs and mauls, to close up any dangerous breaches that may be made near the surface of the water; and provide the iron-work necessary to refit the chain-pumps, in case their machinery should be wounded in the engagement. The gunner with his mates and quarter-generals is busied in examining the cannon of the different batteries, to see that their charges are thoroughly dry and fit for execution; to have every thing ready for furnishing the great guns and small arms with powder, as soon as the action begins; and to keep a sufficient number of cartridges continually filled, to supply the place of those expended in battle. The master and his mates are attentive to have the fails properly trimmed, according to the situation of the ship; and to reduce or multiply them, as occasion requires, with all possible expedition. The lieutenants visit the different decks, to see that they are effectually cleared of all incumbrance, so that nothing may retard the execution of the artillery; and to enjoin the other officers to diligence and alertness, in making the necessary dispositions for the expected engagement, so that every thing may be in readiness at a moment's warning.

When the hostile ships have approached each other to a competent distance, the drums beat to arms. The boatman and his mates pipe, *all hands to quarters!* at every hatchway. All the persons appointed to manage the great guns immediately repair to their respective stations. The crows, hand-pecs, rammers, spunges, power-horns, matches and train tackles, are placed in order by the side of every cannon. The hatches are immediately laid, to prevent any one from defenting his post by escaping into the lower apartments. The marines are drawn up in rank and file, on the quarter-deck, poop and forecastle. The lathing of the great guns are call loose, and the tumpions withdrawn. The whole artillery, above and below, is run out at the ports, and levelled to the point-blank range ready for firing.

The necessary preparations being completed, and the officers and crew ready at their respective stations, to obey the order, the commencement of the action is determined by the mutual distance and situation of the adversary ships,
The cannon being levelled in parallel rows, projecting from the ship's side, the most natural order of battle is evidently to range the ships abreast of each other, especially if the engagement is general. The most convenient distance is properly within the point-blank range of a musket, so that all the artillery may do effectual execution.

The combat usually begins by a vigorous cannonade, accompanied with the whole efforts of the swivel-guns and the small-arms. The method of firing in platoons, or volleys of cannon at once, appears inconvenient in the sea-service, and perhaps should never be attempted, unless in the battering of a fortification. The sides and decks of the ship, although sufficiently strong for all the purposes of war, would be too much shaken by so violent an explosion and recoil. The general rule observed on this occasion throughout the ship, is to load, fire, and fire, the guns with all possible expedition, yet without confusion or precipitation. The captain of each gun is particularly enjoined to fire when the piece is properly directed to its object, that the shot may not be fruitlessly expended. The lieutenants, who command the different batteries, traverse the deck to see that the battle is prosecuted with vivacity; and to exhort and animate the men to their duty. The midshipmen second these injunctions, and give the necessary assistance wherever it may be required, at the guns committed to their charge. The gunner should be particularly attentive that all the artillery is sufficiently supplied with powder, and that the cartridges are carefully conveyed along the decks in covered boxes. The havoc produced by a continuation of this mutual assault may be readily conjectured by the reader's imagination: battering, penetrating, and splintering the sides and decks; shattering or dismounting the cannon; mangling and destroying the rigging; cutting asunder, or carrying away the masts and yards; piercing and tearing the sails so as to render them useless; and wounding, disabling, or killing the ship's company! The comparative vigour and resolution of the assailants to effect these pernicious consequences in each other, generally determine their success or defeat: I say generally, because the fate of the combat may sometimes be decided by an unforeseen incident, equally fortunate for the one and fatal to the other. The defeated ship having acknowledged the victory, by striking her colours, is immediately taken possession of by the conqueror, who secures her officers and crew as prisoners in his own ship, and invests his principal officer with the command of the prize until a captain is appointed by the commander in chief.

The engagement being concluded, they begin the repair: the cannon are secured by their breechings and tackles, with all convenient expedition. Whatever fails have been rendered unserviceable are unbent; and the wounded masts and yards struck upon the deck, and fished, or replaced by others. The standing rigging is knotted, and the running rigging spliced wherever necessary. Proper fails are bent in the room of those which have been displaced as useless. The carpenter and his crew are employed in repairing the breaches made in the ship's hull, by shot-plugs, pieces of plank, and sheet lead. The gunner and his assistants are busied in replenishing the

5 allotted
allowed number of charged cartridges, to supply the place of those which have been expended, and in refitting whatever furniture of the cannon may have been damaged by the late action.

Such is the usual process and consequences of an engagement between two ships of war, which may be considered as an epitome of a general battle between fleets or squadrons. The latter, however, involves a greater variety of incidents, and necessarily requires more comprehensive skill and judgment in the commanding officer.

When the admiral, or commander in chief, of a naval armament has discovered an enemy's fleet, his principal concern is usually to approach it, and endeavour to come to action as soon as possible. Every inferior consideration must be sacrificed to this important object; and every rule of action should tend to hasten and prepare for so material an event. The state of the wind, and the situation of his adversary, will, in some measure, dictate the conduct necessary to be pursued with regard to the disposition of his ships on this occasion. To facilitate the execution of the admiral's orders, the whole fleet is ranged into three squadrons, each of which is classed into three divisions, under the command of different officers. Before the action begins, the adverse fleets are commonly drawn up in two lines, parallel to each other, and clothe-hauled. We have endeavoured to explain the propriety and necessity of this disposition in the article LINE.

As soon as the admiral displays the signal for the line of battle, the several divisions separate from the columns, in which they were disposed in the usual order of sailing, and every ship crowds into its station in the wake of the next ahead; and a proper distance from each other, which is generally about fifty fathom, is regularly observed from the van to the rear. The admiral, however, will, occasionally, contract or extend his line, so as to conform to the length of that of his adversary, whose neglect, or inferior skill, on this occasion, he will naturally convert to his own advantage; as well as to prevent his own line from being doubled upon, a circumstance which might throw his van and rear into confusion.

When the adverse fleets approach each other, the courses are commonly hauled up in the brails, and the top-gallant sails and stay sails furled. The movement of each ship is chiefly regulated by the main and fore-top sails, and the jib; the mizen-top sail being referred to hasten or retard the course of the ship, and, in line, by jibbing or backing, hoisting or lowering it, to determine her velocity.

The frigates, tenders, and fire-ships, being also hauled upon a wind, lie at some distance, ready to execute the admiral's orders, or those of his seconds, leaving the line of battle between them and the enemy. If there are any transports and store-ships attendant on the fleet, these are disposed at a still further distance from the scene of action. If the fleet is superior in number to that of the enemy, the admiral usually selects a body of reserve from the different squadrons, which will always be of use to cover the fire-ships, bomb-vessels, &c. and may fall into the line in any case of necessity; these also are stationed at a convenient distance from the line, and should evidently be opposite to the weakest parts thereof.

And
And here it may not be improper to observe, with an ingenious French author *, that order and discipline give additional strength and activity to a fleet. If thus a double advantage is acquired by every fleet, it is certainly more favourable to the inferior, which may thereby change it's disposition with greater facility and dispatch than one more numerous, yet without being separated. When courage is equal to both, good order is then the only resource of the smaller number. Hence we may infer that a smaller squadron of ships of war, whose officers are perfectly disciplined in working their ships, may, by it's superior dexterity, vanquish a more powerful one, even at the commencement of the fight; because the latter being less expert in the order of battle, will, by it's separation, suffer many of the ships to remain useless or not sufficiently near to protect each other †.

The signal for a general engagement is usually displayed when the opposite fleets are sufficiently within the range of point-blank shot, so that they may level the artillery with certainty of execution, which is near enough for a line of battle. The action is begun and carried on throughout the fleet, in the manner we have already described between single ships, at which time the admiral carries little fail, observing, however, to regulate his own motions by those of the enemy. The ships of the line mean while keep close in their stations, none of which should hesitate to advance in their order, although interrupted by the situation of some ships a-head, which has negligently fallen astern of her station.

Such is now the practice of naval war, that the necessary order of battle, and the fabric of our ships, very seldom permit the assault of boarding, unless in single actions. No captain ought therefore to abandon his station in the line, under any pretence whatsoever, unless his ship is too much disabled to continue the combat. The small quantity of fail carried on this occasion will permit the bulk of the fleet, although somewhat impaired, to continue their cannonade a long time without quitting the line.

An ambition to distinguish himself should never seduce any captain to break the line, in order to achieve any distant enterprise, however the prospect may flatter him with success. He ought to wait the signal of the admiral, or his commanding officer; because it is more essential to preserve the regularity of a close line, which constitutes the principal force of the fleet, than to prosecute a particular action, which, although brilliant in itself, has seldom any material consequences, unless it's object is to seize a flag-ship, and even this can only be justified by success ‡.

The various exigencies of the combat call forth the skill and resources of the admiral, to keep his line as complete as possible, when it has been unequally attacked; by ordering ships from those in reserve, to supply the place of others which have suffered greatly by the action; by directing his

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* M. De Morogues.
† The Gauls, says Vegetius, had the advantage of the Romans, in their numbers: the Germans have their stature; the Spaniards their strength and numbers united; the Africans their artifice and opulence; the Greeks their policy and prudence; but the Romans have triumphed over all by their discipline.
‡ M. De Morogues.
fire-ships at a convenient time to fall aboard the enemy; by detaching ships from one part of the line or wing which is stronger, to another which is greatly pressed by superior force, and requires assistance. His vigilance is ever necessary to review the situation of the enemy from van to rear, every motion of whom he should, if possible, anticipate and frustrate: He should seize the favourable moments of occasion, which are rapid in their progress, and never return. Far from being disconcerted by any unforeseen incident, he should endeavour, if possible, to make it subservient to his design. His experience and reflection will naturally furnish him with every method of intelligence to discover the state of his different squadrons and divisions. Signals of enquiry and answers; of request and assent; of command and obedience; will be displayed and repeated on this occasion. Tenders and boats will also continually be detached between the admiral and the commanders of the several squadrons or divisions.

As the danger presses on him, he ought to be fortified by resolution and presence of mind, because the whole fleet is committed to his charge, and the conduct of his officers may, in a great degree, be influenced by his intrepidity and perseverance. In short, his renown or infamy may depend on the fate of the day.

If he conquers in battle, he ought to prosecute his victory as much as possible, by seizing, burning, or otherwise destroying the enemy’s ships. If he is defeated, he should endeavour, by every resource his experience can suggest, to save as many of his fleet as possible; by employing his tenders, &c. to take out the wounded and put fresh men in their places; by towing the disabled ships to a competent distance, and by preventing the execution of the enemy’s fire-ships. In order to retreat with more security, he may judge it expedient to range his fleet into the form of an half-moon, placing himself in the centre. By this disposition the enemy’s ships which attempt to fall upon his rear, will at once expose themselves to the fire of the admiral, and his seconds, in a disadvantageous situation; a circumstance which will serve to facilitate the escape of his own ships, and retard the pursuit of those of his adversary.

If his fleet is too much extended by this arrangement, the wings or quarters are easily closed, and the half-moon rendered more complete; in the midst of which may be placed his store-ships, tenders, &c. In flying, or retreating, the uncertainty of the weather is to be considered: it may become calm, or the wind may shift in his favour. His schemes may be assisted by the approach of night, or the proximity of the land; and he ought rather to run the ships ashore, if practicable, than suffer them to be taken afloat, and thereby transfer additional strength to the enemy. In short, nothing should be neglected that may contribute to the preservation of his fleet, or prevent any part of it from falling into the hands of the conqueror.

By what we have observed, the real force, or superiority, of a fleet consists less in the number of vessels, and the vivacity of the action, than in good order, dexterity in working the ships, presence of mind, and skilful conduct in the commanders.
ENSIGN, (pavillon de poupe, enseigne, Fr.) a large standard, or banner, hoisted on a long pole erected over the poop, and called the ensign-staff.

The ensign is used to distinguish the ships of different nations from each other, as also to characterize the different squadrons of the navy.

The British ensign in ships of war is known by a double cross, viz. that of St. George and St. Andrew, formed into an union, upon a field which is either red, white, or blue.

ENTERING Ropes, (tire-veilles, Fr.) two ropes hanging from the upper-part of a ship's side, on the right and left of the accommodation-ladder, or steps of the gangway. See GANGWAY.

ENTRANCE, a name frequently given to the foremost part of a ship under the surface of the sea.

To EQUIP, (equiper, Fr.) a term borrowed from the French marine, and frequently applied to the business of fitting a ship for sea, or arming her for war. See the article FITTING.

ESCUTCHEON, (écusson, Fr.) a name sometimes given to the compartment for the name, or arms, of the owner, or of the person whose title the vessel assumes: it is usually fixed on the middle of the ship's stern, and is more peculiar to the French and other foreigners, than to English built vessels. See fig. 3, plate X.

EXCHANGE, (bourse, Fr.) a place of resort for merchants, mariners, &c. in a commercial sea port.

EXERCISE is the preparatory practice of managing the artillery and small-arms, in order to make the ship's crew perfectly skilled therein, so as to direct it's execution successfully in the time of battle.

The exercise of the great guns has, till the late war, been very complicated, and abounding with superfluities, in our navy, as well as all others. The following method was then successfully introduced by an officer of distinguished abilities.

**Exerci**

cise of the great guns.

| 1ft. Tone. | 8th. Fire. |
| 2d. Cast loose your guns. | 9th. Spunge your guns. |
| 3d. Level your guns. | 10th. Load with cartridge. |
| 4th. Take out your tompions. | 11th. Shot your guns. |
| 5th. Run out your guns. | 12th. Put in your tompions. |
| 7th. Point your guns. | 14th. Secure your guns. |

"Upon beating to arms* (every person having immediately repaired to his quarters) the midshipman, commanding a number of guns, is to see that they are not without every necessary article, as (at every gun) a spunge, powder-horn, with its priming wires, and a sufficient quantity of powder,

* As a number of technical terms are introduced in these instructions, the land-reader who wishes to understand the subject, should refer to the several articles, all of which are inserted in this work.
powder, shot, crow, handipec, bed, quoin, train-tackle, &c. fending, without delay, for a supply of any thing that may be missing; and, for the greater certainty of not overlooking any deficiency, he is to give strict orders to each captain under him, to make the like examination at his respective gun, and to take care that every requisite is in a serviceable condition, which he is to report accordingly. And (besides the other advantages of this regulation, for the still more certain and speedy account being taken upon these occasions, the midshipman is to give each man his charge at quarters, as expressed in the form of the monthly report) who is to search for his particular implements, and, not finding them, is immediately to acquaint his captain, that, upon his report to the midshipman, they may be replaced.

"The man who takes care of the powder is to place himself on the opposite side of the deck from that where we engage, except when fighting both sides at once, when he is to be amid-ships. He is not to suffer any other man to take a cartridge from him, but he who is appointed to serve the gun with that article, either in time of a real engagement, or at exercise.

"Lanthorns are not to be brought to quarters in the night, until the midshipman gives his orders for so doing to the person he charges with that article. Every thing being in it's place, and not the least lumber in the way of the guns, the exercise begins with,

1st. Silence.

At this word every one is to observe a silent attention to the officers.

2d. Cast loose your guns.

"The muzzle lashing is to be taken off from the guns, and (being coiled up in a small compass) is to be made fast to the eye-bolt above the port. The lashing-tackles at the same time to be cast loose, and the middle of the breeching seized to the thimble of the pomillion. The sponge to be taken down, and, with the crow, handipec, &c. laid upon the deck by the gun.

"N. B. When prepared for engaging an enemy, the seizing within the clinch of the breeching is to be cut, that the gun may come sufficiently within-board for loading, and that the force of the recoil may be more spent before it acts upon the breeching.

3d. Level your guns.

"The breech of your metal is to be raised so as to admit the foot of the bed's being placed upon the axle-tree of the carriage, with the quoin upon the bed, both their ends being even one with the other.

"N. B. When levelled for firing, the bed is to be lashed to the bolt which supports the inner end of it, that it may not be thrown out of it's place
place by the violence of the gun's motion, when hot with frequent discharges. See fig. 17, plate VII.

4th. Take out your tomplions.

"The tomplion is to be taken out of the gun's mouth, and left hanging by it's laniard.

5th. Run out your guns.

"With the tackle's hooked to the upper-bolts of the carriage, the gun is to be bowled out as close as possible, without the assistance of crows or handspecs; taking care at the same time to keep the breeching clear of the trucks, by hawling it through the rings; it is then to be bent so as to run clear when the gun is fired. When the gun is out, the tackle-falls are to be laid along-side the carriages in neat fakes, that when the gun, by recoiling, overhauls them, they may not be subject to get foul, as they would if in a common coil.

6th. Prime.

"If the cartridge is to be pierced with the priming wire, and the vent filled with powder, the pan also is to be filled; and the flat space, having a score through it at the end of the pan, is to be covered, and this part of the priming is to be bruised with the round part of the horn. The apron is to be laid over, and the horn hung up out of danger from the flat of the priming.

7th. Point your guns.

"At this command the gun is, in the first place, to be elevated to the heighth of the object, by means of the side-fights; and then the person pointing is to direct his fire by the upper-fight, having a crow on one side and a handspec on the other, to heave the gun by his direction till he catches the object.

"N.B. The men who heave the gun for pointing are to stand between the ship's side and their crows or handspecs, to escape the injury they might otherwise receive from their being struck against them, or splintered by a shot; and the man who attends the captain with a match is to bring it at the word, "Point your guns," and kneeling upon one knee opposite the train-truck of the carriage, and at such a distance as to be able to touch the priming, is to turn his head from the gun, and keep blowing gently upon the lighted match to keep it clear from ashes. And as the milling of an enemy in action, by neglect or want of coolness, is most inexcusable, it is particularly recommended to have the people thoroughly instructed in pointing well, and taught to know the ill conqequences of not taking proper means to hit their mark; wherefore they shouuld be made to elevate their
their guns to the utmost nicety, and then to point with the same exactness; and having caught the object through the upper-sight, at the word,

8th. Fire.

"The match is instantly to be put to the bruised part of the priming; and when the gun is discharged the vent is to be closed, in order to smother any spark of fire that may remain in the chamber of the gun; and the man who spunges is immediately to place himself by the muzzle of the gun in readiness, when, at the next word,

9th. Spunge your gun.

"The spunge is to be rammed down to the bottom of the chamber, and then twisted round, to extinguish effectually any remains of fire; and when drawn out, to be struck against the out-side of the muzzle, to shake off any sparks or scraps of the cartridge that may have come out with it; and next it's end is to be shifted ready for loading; and while this is doing, the man appointed to provide a cartridge is to go to the box, and by the time the spunge is out of the gun, he is to have it ready; and at the word,

10th. Load with cartridge.

"The cartridge (with the bottom end first, seam-downwards, and a wad after it) is to be put into the gun, and thrust a little way within the mouth, when the rammer is to be entered; the cartridge is then to be forcibly rammed down, and the captain at the same time is to keep his priming-wire in the vent, and, feeling the cartridge, is to give the word home, when the rammer is to be drawn, and not before. While this is doing, the man appointed to provide a shot is to provide one (or two, according to the order at that time) ready at the muzzle, with a wad likewise, and when the rammer is drawn, at the word,

11th. Shot your guns.

"The shot and wad upon it are to be put into the gun, and thrust a little way down, when the rammer is to be entered as before. The shot and wad are to be rammed down to the cartridge, and there have a couple of forcible strokes, when the rammer is to be drawn, and laid out of the way of the guns and tackles, if the exercise or action is continued; but if it is over, the spunge is to be secured in the place it is at all times kept in.

12th. Put in your tomplings.

"The tomplings to be put into the muzzle of the cannon.
13th. House your guns.

"The seizing is to be put on again upon the clinched end of the breeching, leaving it no flacker than to admit of the guns being houfed with ease. The quoin is to be taken from under the breech of the gun, and the bed, still refting upon the bolt, within the carriage, thurf under, till the foot of it falls off the axle-tree, leaving it to reft upon the end which projects out from the foot. The metal is to be let down upon this. The gun is to be placed exactly plquare, and the muzle is to be close to the wood, in it's proper place for pafling the muzle lashings. See Ca-nnon, and fig. 19, plate VII.

14th. Secure your guns.

"The muzle lashings must firft be made secure, and then with one tackle (having all it's parts equally taught with the breeching) the gun is to be lashed. The other tackle is to be bowfed taught, and by ifelf made faft, that it may be ready to caft off for lafhiing a second breeching.

"N. B. Care muft be taken to hook the firft tackle to the upper bolt of the carriage, that it may not otherwise obstruct the reveeing of the second breeching, and to give the greater length to the end part of the fall.

"No pains muft be spared in bowling the lafhiing very taught, that the gun may have the leaft play that is poiffible, as their being loofe may be producive of very dangerous confequences.

"The quoin, crow, and handfpec, are to be put under the gun, the powder-horn hung up in it's place, &c.

"Being engaged at any time when there is a large swell, a rough sea, or in equally weather, &c. as the ship may be liable to be ifddenly much heeled, the port-tackle fall is to be kept clear, and (whenever the working of the gun will admit of it) the man charged with that office is to keep it in his hand; at the fame time the muzle lafhiing is to be kept faft to the ring of the port, and being haufed taught, is to be faftened to the eye-bolt over the port-hole, so as to be out of the gun's way in firing, in order to haul it in at any time of danger.

"This precaution is not to be omitted, when engaging to the windward, any more than when to the leeward, ifhales situations being very subjeft to alter at too fhort a warning.

"A train-tackle is always to be made ufe of with the lee-guns, and the man iftationed to attend it is to be very careful in preventing the gun's running out at an improper time."

Exercise may alfo be applied with propriety to the forming our fleets into orders of failing, lines of battle, &c. an art which the French have termed evolutions, or tactiques. In this fene exercise may be defined, the execution of the movements which the different orders and difpoftions of fleets occasionally require, and which the feveral ships are directed to per- form by means of signals.
YEYEYEYE

EYE of a block-strop. In the article Block it has been mentioned, that a block is commonly bound with a ring, or wreath, formed of a piece of rope, called the strop; the eye of the strop, therefore, is that part by which it is fastened, or suspended, to any particular place upon the sails, yards or rigging, the eye whereof is represented by fig. 37, plate II. The eye is sometimes formed by fastening the two ends of the strop together with a short line, so as to bind round a mast, yard, or boom, as occasion requires. See fig. 38, of the same plate.

EYE of a stay, (oeillet, Fr.) that part of a stay which is formed into a sort of collar to go round a mast-head.

EYE-BOLT, a long bar of iron with an eye in one end of it, represented by fig. 39, plate II. It is formed to be driven into the decks or sides of a ship for divers purposes, as to hook tackles, or fasten ropes to, as occasion requires.

EYE-LET-HOLE. See the article SAILS.

EYES of a ship, (œils, Fr.) a name frequently given to those parts which lie near the hawse-holes, particularly in the lower apartments within the vessel.
FACTORY, in commerce, an agent, or correspondent, residing beyond
the seas, or in some remote part, and commissioned by merchants to
buy or sell goods on their account, or assist them to carry on their trade.
Hence any place where a considerable number of factors reside, to nego-
ciate for their masters, or employers, is called a factory; as the factories
of Lisbon, of Leghorn, of Calcutta, &c.
FAE-END, the end of any rope, or cord, which is become untwisted
and loosened by frequent use. To prevent this effect, the ends of ropes
are generally well fastened by winding a piece of small line, or packthread,
around them, which operation is called whipping.
FAIR, a general term for the disposition of the wind, when it is fa-
vourable to a ship's course, in opposition to that which is contrary, or
foal.
This term, when applied to the wind, is much more comprehensible
than large, since the former seems to include about eighteen points
of the compass, or at least sixteen; whereas large is confined to the beam or
quarter, that is, to a wind which crosses the keel at right angles, or ob-
liquely from the stern, but never to one right a-stern. See the articles
Large and Scant.
FAIR-CURVE, a winding line, used in delineating ships, whose shape
is varied according to the part of the ship it is intended to describe: this
curve is not answerable to any of the figures of conic sections, although
it occasionally partakes of them all.
FAIR-WAY, the path or channel of a narrow bay, river, or haven, in
which ships usually advance in their passage up and down; so that if any
vessels are anchored therein, they are said to lie in the fair way.
FAKE, one of the circles, or windings, of a cable, or hawser, as it lies
disposed in the coil. See the article Coiling. The fakes are greater or
smaller in proportion to the extent of space which a cable is allowed to
occupy where it lies.
FALCONETS, (barces, Fr.) short cannon, formerly used at sea.
FALL, (garant, Fr.) the loose end of a tackle; or that part upon which
the people pull, or hoist, to produce the required effect. See the article
Tackle.
To FALL aboard. See the article Aboard.
To FALL a-stern, (tomber en arrière, Fr.) to be driven backwards; to re-
treat with the stern foremost: expressed of the motion of a ship either under
fail or at anchor.
To Fall calm, (pacifier, Fr.) a phrase expressed of the weather, implying
to fall into a state of rest by a total cessation of the wind.

Cat-Fall. See the article Cat.

To Fall down, (basier, Fr.) in navigation, to fail, or be conducted from
any part of a river, towards some other nearer to it's mouth or opening.

FALLING-OFF, (abatée, Fr.) the movement or direction of the ship's
head to leeward of the point whither it was lately directed, particularly
when she fails near the wind, or lies by.

Falling-off, is also the angle contained between her nearest approach
towards the source of the wind, and her furthest declination from it, when
Trying. See that article.

FASHION-PIECES, (châins, Fr.) the after-most or hind-most timbers
of a ship, which terminate the breadth, and form the shape of the stern.
They are united to the stern-post, and to the extremity of the wing-tran-
som, by a rabbet, and a number of strong nails, or spikes, driven from
without. See their connexion with the stern-post and trantom, in plate X.
fig. 1. as explained in the article Stern.

FATHOM, (bras, Fr.) a measure of six feet, used for a variety of
purposes at sea; as to regulate the length of the rigging, cables, &c. and
to divide the log-lines, and founding-lines.

To Fay, to fit any two pieces of wood so as to join close together. The
plank is said to fay to the timbers, when it bears, or lies, close to all the
timbers. Murray's Ship-building.

FENDERS, (from fendo,) certain pieces of old cable, timber, faggots,
or other materials, hung over the side of a ship or vessel, to prevent it
from striking or rubbing against a wharf, or key: as also to preserve the
smaller vessel from being damaged by the larger ones.

To FETCH WAY, to be shaken or agitated from one side to another.
It is usually applied to a mast, bowsprit, &c. when it is not sufficiently
wedged, being loose in the partners: it is also said of a cask, box, or such
body which moves by the rolling of the ship at sea, as not being well secu-
red and enclosed.

FETCHING the pump, the act of pouring a can of water into the upper-
part of it, to expel the air which is contained between the lower box,
or pitton, and the lower-end of the pump that rests upon the ship's floor;
and accordingly to make the water, poured into the chamber, communicate
with that in the bottom of the pump-well, so as to be thrown out above
by striking with the brake, or handle. See Pump.

FID, (clef de ton, Fr.) a square bar of wood, or iron, with a shoulder at
one end, as represented in plate IV. fig. 1. It is used to support the weight
of the top-mast, when erected at the head of the lower-mast, by passing
through a mortise in the lower-end of the former, and rolling it's ends
on the trellet-trees, which are sustained by the head of the latter. The
fid, therefore, must be withdrawn every time the top-mast is lowered.
The top-gallant-mast is retained at the head of the top-mast in the same
manner. See the article Mast.
FIR

FIR, (fitta, Ital.) is also a large pin of hard wood, tapering to a point, and used for splicing of cables or large cordage.

Sea-FIGHT. See the article Engagement.

To FILL, in navigation, (faire feruir, Fr.) to brace the sails in such a manner, as that the wind, entering their cavities from behind, dilates them so as to advance the ship in her course, after the sails had for some time been flivering, or braced aback. See those articles.

FIRE-ARROW, (dard de feu, Fr.) a steel dart used by privateers and pirates to fire the sails of the enemy in battle: these machines are particularly described in the article Engagement.

FIRE-SHIP, (brulot, Fr.) an old vessel filled with combustible materials, and fitted with grappling-irons to hook, and set fire to, the enemies ships in battle, &c.

As there is nothing particular in the construction of this ship, except the apparatus by which the fire is instantly conveyed from one part to another, and from thence to the enemy, it will be sufficient to describe the fire-room, where these combustibles are inclosed, together with the instruments necessary to grapple the ship intended to be destroyed.

The fire-room is built between decks, and limited on the after-part by a bulk-head, L, behind the main-mast, from which it extends quite forwards, as represented in fig. 2, plate IV. The train inclosed in this apartment is contained in a variety of wooden troughs, D, G, which interlace each other in different parts of the ship's length; being supported at proper distances by cross-pieces and flanchions. On each side of the ship are fix or seven ports, H, about eighteen inches broad, and fifteen inches high, and having their lids to open downward, contrary to the usual method.

Against every port is placed an iron chamber *, which, at the time of firing the ship, blows out the port-lid, and opens a passage for the flame. Immediately under the main and fore shrouds is fixed a wooden funnel, M; whose lower-end communicates with a fire-barrel †, by which

* The iron chambers are ten inches long, and 3.5 in diameter. They are breeched against a piece of wood fixed across the ports, and let into another a little higher. When loaded, they are almost filled with corn-powder, and have a wooden tonsion well driven into their muzzles. They are primed with a small piece of quick match thrust through their vents into the powder, with a part of it hanging out. When the ports are blown open by means of the iron chambers, the port-lids either fall downward, or are carried away by the explosion.

† The fire-barrels ought to be of a cylindrical form, as most suitable to contain the reeds with which they are filled, and more convenient for flowing them between the troughs in the fire-room. Their inside diameters should not be less than twenty-one inches, and thirty inches is sufficient for their length. The bottom parts are first well stored with short double-dipped reeds placed upright; and the remaining vacancy is filled with fire-barrel composition, well mixed and melted, and then poured over them. The composition used for this purpose is a mass of sulphur, pitch, tar, and tallow.

There are five holes of 3/4 inch in diameter and three inches deep, formed in the top of the composition while it is yet warm; one being in the center, and the other four at equal distances round the sides of the barrel. When the composition is cold and hard, the barrel is primed by filling those holes with fuse-composition, which is firmly driven into them, so as to the
the flame passing through the funnel is conducted to the shrouds. Between the funnels, which are likewise called fire-trunks, are two scuttles, or small holes in the upper deck, serving also to let out the flames. Both funnels must be stopped with plugs, and have sail-cloth, or canvas, nailed close over them, to prevent any accident happening from above to the combustibles laid below.

The ports, funnels, and scuttles, not only communicate the flames to the out-side and upper-works of the ship, and her rigging, but likewise open a passage for the inward air, confined in the fire-room, which is thereby expanded so as to force impetuously through those out-lets, and prevent the blowing up of the decks, which must of necessity happen, from such a sudden and violent rarefaction of the air as will then be produced.

On each side of the bulk-head behind is cut a hole L, of sufficient size to admit a trough of the same dimensions as the others. A leading trough, L I, whose foremost-end communicates with another trough within the fire-room, is laid close to this opening, from whence it extends obliquely to a sally-port, I, cut through the ship's side. The decks and troughs are well covered with melted rosin. At the time of firing either of the leading troughs, the flame is immediately conveyed to the opposite side of the ship, whereby both sides burn together.

The spaces N, O, behind the fire-room, represent the cabins of the lieutenant and master, one of which is on the larboard, and the other on the starboard side. The captain's cabin, which is separated from these by a bulk-head, is exhibited also by P.

leave a little vacancy at the top to admit a strand of quick-match twice doubled. The center hole contains two strands at their whole length, and every strand must be driven home with mealed powder. The loose ends of the quick-match being then laid within the barrel, the whole is covered with a dipped curtain, fastened on with a hoop that slips over the head of the barrel, to which it is nailed.

The barrels should be made very strong, not only to support the weight of the composition before firing, when they are moved or carried from place to place, but to keep them together whilst burning: for if the staves are too light and thin, so as to burn very soon, the remaining composition will tumble out and be dissipated, and the intention of the barrels, to carry the flame aloft, will accordingly be frustrated.

The curtain is a piece of coarse canvas, nearly a yard in breadth and length, thickened with melted composition, and covered with sawdust on both sides.
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Proportion of Stores for one Fire-ship.

- Fire barrels, Curtains, Port fires, Long, short, double, firing, chambers, for hand grenades, for ports.
- 8. 30. 200. 24. 140. 75. 10. 75. 3. 60. 1.2

Four
Four of the eight fire-barrels are placed under the four fire-trunks; and the other four between them, two on each side the fire-skullins, where they are securely cleated to the deck. The longest reeds* are put into the fore and aft troughs, and tied down: the shortest reeds are laid in the troughs athwart, and tied down also. The bavins†, dipped at one end, are tied fast to the troughs over the reeds, and the curtains are nailed up to the beams, in equal quantities, on each side of the fire-room.

The remainder of the reeds are placed in a position nearly upright, at all the angles of every square in the fire-room, and there tied down. If any reeds are left, they are to be put round the fire-barrels, and other vacant places, and there tied fast.

Instructions to prime.

Take up all your reeds, one after another, and throw a little composition at the bottom of all the troughs under the reeds, and then tie them gently down again: next throw composition upon the upper-part of the reeds throughout the fire-room, and upon the said composition lay double quick-match ‡ upon all the reeds, in all the troughs: the remainder of the composition throw over all the fire-room, and then lay your bavins loose.

Cast off all the covers of the fire-barrels, and hang the quick-match loose over their sides, and place leaders of quick-match from the reeds into the barrels, and from thence into the vent of the chambers, in such a manner as to be certain of their blowing open the ports, and setting fire to the barrels. Two troughs of communication from each door of the fire-room to the sally-ports, must be laid with a strong leader of quick-match, four or five times double: also a crofs-piece to go from the sally-port, when the ship is fired, to the communication trough.

* The reeds are made up in small bundles of about a foot in circumference, cut even at both ends, and tied together in two places. They are distinguished into two kinds, viz. the long and short; the former of which are four feet, and the latter two feet five inches in length. One part of them are singly dipped, i.e. at one end; the rest are dipped at both ends in a kettle of melted composition. After being immersed about seven or eight inches in this preparation, and then drained, they are sprinkled over with pulverised sulphur upon a tanned hide.

† The bavins are made of birch, heath, or other brush-wood, which is tough and readily kindled. They are usually two or three feet in length, and have all their butt-ends lying one way, the other ends being tied together with small cords. They are dipped in composition at the butt-ends, whole branches are afterwards confined by the hand, to prevent them from breaking off by moving about; and also to make them burn more forcibly. After being dipped, in the same manner as the reeds, they also are sprinkled with sulphur.

‡ Quick-match is formed of three cotton strands drawn into length, and dipped in a boiling composition of white-wine vinegar, salt-petre, and mealed powder. After this immersion it is taken out hot, and laid in a trough where some mealed powder, moistened with spirits of wine, is thoroughly incorporated into the twigs of the cotton, by rolling it about there n. Thus prepared, they are taken out separately, and drawn through mealed powder, then hung upon a line till dried, by which they are fit for immediate service.
laid with leaders of quick-match, that the fire may be communicated to both sides at once.

What quick-match is left, place so that the fire may be communicated to all parts of the room at once, especially about the ports and fire-barrels, and see that the chambers are well and fresh primed.

N. B. The port-fires* used for firing the ship, burn about twelve minutes. Great care must be taken to have no powder on board when the ship is fired.

The sheer-hooks represented by fig. 3, plate IV. are fitted so as to fasten on the yard-arms of the fire-ship, where they hook the enemies rigging. The fire-grapplings, fig. 4, are either fixed on the yard-arms, or thrown by hand, having a chain to confine the ships together, or fasten those instruments wherever necessary.

When the commanding officer of a fleet displays the signal to prepare for action, the fire-ships fix their sheer-hooks, and dispose their grappling in readiness. The battle being begun, they proceed immediately to prime, and prepare their fire-works. When they are ready for grappling, they inform the admiral thereof by a particular signal.

To avoid being disabled by the enemy's cannon during a general engagement, the fire-ships continue sufficiently distant from their line of battle either to windward or to leeward.

They cautiously shun the openings, or intervals, of the line, where they would be directly exposed to the enemy's fire, from which they are covered by lying on the opposite side of their own ships. They are attentively to observe the signals of the admiral, or his seconds, in order to put their designs immediately in execution.

Although no ship of the line should be previously appointed to protect any fire-ship, except a few of the smallest particularly destined to this service, yet the ship before whom the paffes in order to approach the enemy, should escort her thither, and assist her with an armed boat, or whatever succour may be necessary in her situation†.

The captain of the fire-ship should himself be particularly attentive that the above instructions are punctually executed, and that the yards may be so braced, when he falls along-side of the ship intended to be destroyed, that the sheer-hooks and grappling fastened to the yard-arms, &c. may effectually hook the enemy. He is expected to be the last person who quits the vessel, and being furnished with every ne-

* Port-fires are frequently used by the artillery people in preference to matches, to set fire to the powder or compositions. They are distinguished into wet and dry port-fires. The composition of the former is saltpetre four, sulphur one, and mealed powder four. When these materials are thoroughly mixed and sifted, the whole is to be moistened with a little linseed oil, and rubbed between the hands till all the oil is imbibed by the composition. The preparation for dry port-fires is saltpetre four, sulphur one, mealed powder two, and antimony one. These compositions are driven into small paper cases, to be used whenever necessary.

† De Morogues Taet. Navale.
ceffary assistance and support, his reputation will greatly depend on the
success of his enterprise.

FISH, a machine employed to hoist or draw up the flukes of the ship's
anchor towards the top of the bow in order to flow it, after having been
heaved up by the cable. It is composed of four parts, viz. the pendent,
the block, the hook, and the tackle; which, together with their several
uses, are described in the article Davit.

FISH, (jumelle, Fr.) is also a long piece of oak, convex on one side,
and concave on the other. It is used to fasten upon the outside of the
lower masts, either as an additional security, to strengthen them when it
becomes necessary to carry an extraordinary pressure of sail, in pursuit of,
or flight from, an enemy; or to reinforce them after they have received
some damage in battle, tempestuous weather, &c.

The fishes are also employed for the same purpose on any yard, which
happens to be sprung or fractured. Thus their form, application, and util-
ity are exactly like those of the splinters applied to a broken limb in surgery.

FISH-GIG, (soeune, Fr.) an instrument used to strike fish at sea, parti-
cularly dolphins. It consists of a staff, three or four barbed prongs, and a line
fastened to the end, on which the prongs are fixed: to the other end is fitted
a piece of lead, which serves to give additional force to the stroke when the
weapon flies, and to turn the points upward after the fish is penetrated.

FITTING-OUT, (equiper, Fr.) the act of providing a ship with a suffi-
cient number of men, to navigate and arm her for attack or defence; also
to furnish her with proper masts, sails, yards, ammunition, artillery, cor-
dage, anchors, and other naval furniture; together with sufficient pro-
visions for the ship's company.

FLAG, (pavillon, Fr. flag, Dutch) a certain banner or standard, by
which an admiral is distinguished at sea from the inferior ships of his squa-
dron; also the colours by which one nation is distinguished from another.

In the British navy flags are either red, white, or blue, and are display-
ed from the top of the main-mast, fore-mast, or mizen-mast, according to
the rank of the admiral.

The first flag in Great Britain is the royal standard, which is only to be
hoisted when the king or queen are aboard the vessel: the second is that of
the anchor of hope, which characterizes the lord high admiral, or lords
commissioners of the admiralty: and the third is the union flag, in which
the crosses of St. George and St. Andrew are blended. This last is appropri-
ated to the admiral of the fleet, who is the first military officer under
the lord high admiral.

When a flag is displayed from the flag-staff on the main-mast, the officer
distinguished thereby is known to be an admiral; when from the fore-mast,
a vice-admiral; and when from the mizen-mast, a rear admiral.

The next flag after the union is that of the white squadron, at the main-
mast-head; and the last, which characterizes an admiral, is the blue, at
the main-mast-head.

For a vice-admiral, the first flag is the red; the second, the white;
the third, the blue, at the flag-staff on the fore-mast.
The same order proceeds with regard to the rear-admirals, whose flags are hoisted on the top of the mizen-mast: the lowest flag in our navy is accordingly the blue on the mizen-mast.

FLAG-OFFICER, a term synonymous to admiral.

FLAG-SHIP, the ship on which any flag is displayed.

FLAG-STAFF, (baton, Fr.) a pole erected at the head of a top-gallant-mast, or top-mast, whereon to hoist and display the flag or pendant.

FLAKE, (echafaud, Fr.) a sort of scaffold or platform, formed of hurdles and supported by stanchions, and used for drying cod-fish in Newfoundland. These flakes are usually placed near the shores of fishing-harbours. Also a small flag hung over a ship's side, to caulk, or repair any breach.

FLAT, (plain, Fr.) a level ground lying at a small depth under the surface of the sea, and otherwise called a shoal or shallow.

To FLAT-IN, the action of drawing in the utmost lower-corner, or clew, of a sail towards the middle of the ship, to give the sail the greater power of turning the vessel. Thus if the mizen, or after-fails are flatted-in, it is evident that the intention is to carry the stern to leeward, and turn the head nearer to the direction of the wind: and if the head-fails are flatted-in, the intention is accordingly to make the ship fail off, when by design or accident she has come so near the wind as to make the sails flitter. Hence

FLAT-IN FORWARD, (transverse misaine, Fr.) is the order to draw in the fore-sheets, jib-sheets, and fore-flay-sail-sheets, towards the middle of the ship. This operation is seldom performed, except in light breezes of wind, when the helm has not sufficient government of the ship.

FLAW, a sudden breeze, or gale of wind.

FLEET, (vaiffœaux du roi, Fr. flota, Sax.) a general name given to his majesty's navy, or to any part thereof destined on a particular enterprise or expedition: also a convoy or company of merchant ships, flottes, conserve, with or without ships of war to defend them.

The admirals of his majesty's fleet are classed into three squadrons, viz. the red, the white, and the blue. When any of these officers are invested with the command of a squadron or detachment of ships of war, the particular ships are distinguished by the colours of their respective squadron: that is to say, the ships of the red squadron wear an ensign, whose union is displayed on a red field; the ensigns of the white squadron have a white field; and those of the blue squadron, a blue field; the union being common to all three. The ships of war therefore are occasionally annexed to any of the three squadrons, or shifted from one to another.

Of whatsoever number a fleet of ships of war is composed, it is usually divided into three squadrons; and these, if numerous, are again separated into divisions. The admiral, or principal officer, commands the center; the vice-admiral, or second in command, superintends the van-guard; and the operations of the rear are directed by the rear admiral, or the officer next in rank. See the article Division.
FLEET

The disposition of a fleet, while proceeding on a voyage, will in some measure depend on particular circumstances; as the difficulty of the navigation; the necessity of dispatch, according to the urgency or importance of the expedition; or the expectation of an enemy in the passage. The most convenient order is probably to range it into three lines or columns, each of which is parallel to a line close-hauled, according to the tack on which the line of battle is designed to be formed. This arrangement is more used than any, because it contains the advantages of every other form, without their inconveniences. The fleet being thus more enclosed will more readily observe the signals, and with greater facility form itself into the line of battle; a circumstance which should be kept in view in every order of failing.

FLEETING, the act of changing the situation of a tackle, when the blocks are drawn together; or what is called block and block by sailors. The use of fleeting is accordingly to replace the mechanical powers into a state of action; the force by which they operated before being destroyed by the meeting of the blocks or pulleys.

Fleeting therefore is nearly similar to the winding up of a watch or clock. See the article Tackle.

FLOAT, a raft, or quantity of timber fastened together across, to be wafted along a river with the tide or current.

FLOATING, (floter, Fr.) the state of being borne up, or wafted along with the tide on the surface of the water, the theory of which is explained in the article Trim.

FLOOR, the bottom of a ship; or all that part on each side of the keel, which approaches nearer to an horizontal than to a perpendicular situation, and whereon she rests when aground. Thus it is common to say, a sharp floor, a flat floor, a long floor, &c. Whence

Floor-timbers, (varangues, Fr.) are those parts of the ship's timbers which are placed immediately across the keel, and upon which the bottom of the ship is framed; to these the upper parts of the timbers are united, being only a continuation of floor-timbers upwards. See Naval Architecture.

FLOWING, the position of the sheets, or lower corners of the principal sails, when they are loosened to the wind, so as to receive it into their cavities in a direction more nearly perpendicular than when they are close-hauled, although more obliquely than when the vessel is failing before the wind.

A ship is therefore said to have a flowing fleet when the wind crosses the line of her course nearly at right angles: that is to say, a ship steering due north, with the wind at east, or directly on her side, will have a flowing fleet; whereas if the sheets were extended close aft, she would fail two points nearer the wind, viz. N. N. E. See the articles Close-hauled, Large, and Trim.

FLUSH, See the article Deck.

FLY of an ensign, (battant, Fr.) the breadth or extent from the staff to the extremity or edge that flutters loose in the wind.

S 2
FLY-BOAT, or FLIGHT, a large flat-bottomed Dutch vessel, whose burthen is generally from four to six hundred tons. It is distinguished by a stern remarkably high, resembling a Gothic turret, and by a very broad buttock below.

FOG, (brume, Fr.) a mist at sea.

FOOT of a sail, (fond de voile, Fr.) lower edge or bottom.

Foot-rope, the rope to which the foot of a sail is laced. See Bolt-Rope.

Foot-ropes are also the same with horses of the yards. See that article.

FOOT-WALEING, the whole inside planks or lining of a ship, used to prevent any part of the ballast or cargo from falling between the floor-timbers. See Midship-Frame.

FORE, the distinguishing character of all that part of a ship's frame and machinery which lies near the stem.

FORE AND AFT, throughout the ship's whole length, or from end to end.

FORE-BOWLINE, the bowline of the fore-fail. See Bowline.

FORE-castle, (gaillard d'avant, Fr.) a short deck placed in the fore-part of the ship, above the upper deck. It is usually terminated, both before and behind, by a breast-work in vessels of war; the foremost end forming the top of the beak-head, and the hind part reaching to the after-part of the fore-chains.

FORE-cAT-HARPINS, a complication of ropes used to brace-in the upper part of the fore-shrouds. See Cat-Harpins.

FORE-Foot, (brion, Fr.) a piece of timber which terminates the keel at the fore-end. It is connected by a scarf to the extremity of the keel, of which it makes a part: and the other end of it, which is incurved upwards into a sort of knee or crotch, is attached to the lower end of the stem: of which it also makes a part, being also called the gripe.

As the lower arm of the fore-foot lies on the same level with the keel, so the upper one coincides with the middle line of the stem: it's breadth and thickness therefore correspond to the dimensions of those pieces, and the heel of the cut-water is scarfed to it's upper end.

The form of this piece, and it's disposition and connection with the adjacent pieces, appears by the letter i, in plate I. Pieces of the Hull.

FORE-HOOKS, the same with breast-hooks, which see.

FORELAND, a cape or promontory, projecting into the sea; as the North or South Forelands.

FORE-LOCK, (clavette, Fr.) a little flat-pointed wedge of iron, used to drive through a hole in the end of a bolt, to retain it firmly in it's place.

FORE-LEARS.
FORE-MAST.
FORE-SAIL.
FORE-SHROUDS.
FORE-STAY.
FORE-TOP.
FORE-TOP-MAST.
FORE-TOP-GALLANT-MAST.
FORE-TYE.
FORE-YARD, &c.

See Jean's.

N. B.
N. B. By referring to the articles Top-mast and Top-gallant-mast, we mean to comprehend all the apparatus thereto belonging, as their yards, sails, &c.

Fore-reaching upon, the act of advancing before, or gaining ground of, some other ship or ships in company.

FORGING OVER, the act of forcing a ship violently over a shoal, by the exertion of a great quantity of sail.

FORMING the Line. See the article Line.

FORWARD, (avant, Fr.) towards the fore-part of the ship. See AFORE.

FOTHERING, a peculiar method of endeavouring to stop a leak in the bottom of a ship while she is afloat, either under sail or at anchor. It is usually performed in the following manner: a basket is filled with ashes, cinders, and chopped rope-yarns, bonette lardée, Fr. and loosely covered with a piece of canvas; to this is fastened a long pole, by which it is plunged repeatedly in the water, as close as possible to the place where the leak is conjectured to lie. The oaken, or chopped rope-yarns, being thus gradually shaken through the twigs, or over the top of the basket, are frequently sucked into the hole along with the water, so that the leak becomes immediately choked, and the future entrance of the water is thereby prevented.

FOUL, (empechée, Fr.) as a sea term, is generally used in opposition to clear, and implies entangled, embarrassed, or contrary, in the following senses:

A ship ran foul of us in the river, i.e. entangled herself amidst our rigging.

Foul, when expressed of a ship’s bottom, denotes that it is very dirty; as being covered with grafs, sea-weeds, shells, or other filth which gathers to it during the course of a long voyage. When understood of the ground or bottom of a road, bay, sea coast, or harbour, mal fain, Fr. it signifies rocky, or abounding with shallows, or otherwise dangerous.

When spoken of the hawse, it means that the cables are turned round each other, by the winding or turning about of the ship while she rides at anchor. See Elbow and Hawse.

Foul, when applied to the wind, is used to express that it is unfavourable, or contrary to the ship’s course, as opposed to large or fair.

To FOUNDER, (fancir, Fr.) to sink at sea, as being rendered, by the violence and continuation of a storm and the excess of the leaks, unable to keep the ship afloat above the water.

FOX, a sort of frond, formed by twisting several rope-yarns together, and used as a seizing, or to weave a mat or paunch, &c.

FRAME. See Timber.

FRAPING, the act of crossing and drawing together the several parts of a tackle, or other complication of ropes, which had already been straightened to their utmost extent: in this sense it exactly resembles the operation of bracing up a drum, &c. The fraping always increases the tension, and of course adds to the security acquired by the purchase. Hence the Cat-harpins are no other than frapings to the shrouds.

FRAPING
FRAPING a ship, (ceinturer, Fr.) the act of passing three, four, or five turns of a cable round the hull, or frame of a ship, in the middle, to support her in a great storm, when it is apprehended that she is not strong enough to resist the violent efforts of the sea. This expedient however is rarely put in practice, unless in very old ships, which their owners are willing to venture to sea as long as possible, by ensuring them deeply.

FREEING, (affranchir, Fr.) the act of pumping, or otherwise throwing out the water which has leaked into a ship's bottom at sea, &c.

FREEZING, a sort of ornamental painting on the upper part of a ship's quarter, stern, or bows. It consists generally of armour, instruments of war, marine emblems, &c.

FREIGHT, or freight of a ship, (aftraitement, Fr.) the hire, or a part thereof, usually paid for the carriage and conveyance of goods; or the sum agreed upon between the owner and the merchant for the hire and use of a vessel.

FREIGHT also implies the lading or cargo which she has abroad.

FRESH, when applied to the wind, generally signifies strong, but not violent or dangerous: hence when the gale increases, it is said to freshen.

To FRESHEN the hawsle, (refraichtir, Fr.) to relieve that part of the cable which for some time has been exposed to the friction in one of the hawsle-holes, produced by the rolling and pitching of a ship as she rides at anchor in a high sea.

When a ship remains in such a situation, it is always necessary to wrap some old canvas, mat, leather, or such like material, round that part of the cable which rubs against the stern, &c. The matter used for this purpose is called service: but as the violent agitation of the ship, produced by the tempest, or sea, as she rides in an open road, must communicate a great friction to the cable, the service will consequently be soon worn through: it is necessary therefore to have it frequently renewed by a fresh application of the like materials, behind the former, for the preservation of the cable, on which every thing depends; and this renewal of service is called freshening the hawsle, a circumstance which cannot be too vigilantly observed.

FRESHES, (fouerume, Fr.) imply the impetuosity of an ebb-tide, increased by heavy rains and flowing out into the sea, which it often dif colours to a considerable distance from the shore; inasmuch as the line, which divides the two colours, may be perceived distinctly for a great length along the coast.

FRIGATE, (frégate, Fr.) in the navy, a light nimble ship, built for the purposes of sailing swiftly. These vessels mount from twenty to thirty-eight guns, and are esteemed excellent cruisers.

FRIGATE-built, (frégaté, Fr.) implies the disposition of the decks of such merchant-ships as have a descent of four or five steps from the quarter-deck and forecastle into the waist, in contra-distinction to those whose decks are on a continued line for the whole length of the ship, which are called galley-built. See the article Flush.

Formerly the name of frigate was only known in the Mediterranean, and applied to a kind of long vessel, navigated in that sea with sails and oars. The
The English were the first who appeared on the ocean with those ships, and equipped them for war as well as commerce.

FULL AND BY, (pres & plein, Fr.) the situation of a ship with regard to the wind, when she is close-hauled, and failing in such a manner as neither to steer too nigh the direction of the wind, nor to deviate to leeward; both of which movements are unfavourable to her course, as in the former her sails will shiver, and render the effort of the wind precarious and ineffectual; and in the latter she will advance in a direction widely distant from her real course. Hence, keep her full! (dépie du vent! Fr.) is the order from the pilot or other officer to the helmsman, not to incline too much to windward, and thereby shake the sails so as to retard the course.

FURLING, (ferler, Fr.) the operation of wrapping or rolling a sail close up to the yard, stay, or mast to which it belongs, and winding a gasket or cord about it to fasten it thereto. And hence

FURLING-LINE denotes a cord employed in this office: those which are used for the larger sails are generally flat, and are known by the name of gaskets.

FUTTOCKS, the middle division of a ship's timbers; or those parts which are situated between the floor and the top-timbers. See this fully explained in the article Timber.

As the epithet hooked is frequently applied in common language to any thing bent or incurvated; and particularly to several crooked timbers in a ship, as the breast-hooks, fore-hooks, after-hooks, &c. this term is evidently derived from the lowest part or foot of the timber, and from the shape of the piece. Hence

Futtock-Shrouds, or rather Foot-hook Shrouds. See the article Shrouds.
Gaff, a sort of boom or pole, frequently used in small ships, to extend the upper edge of the mizen; and always employed for the same purpose on those sails whose foremost edges are joined to the masts by hoops or lacing, and which are usually extended by a boom below. Such are the main-fails of all sloops, brigs, and schooners.

The foremost, or inner extremity of the gaff, is furnished with two cheeks forming a semicircle, which inclose the after part of the mast so as to confine the gaff close to its respective mast whilst the sail is hoisting or lowering. It is further secured in this situation by a rope passing from one of the cheeks to the other on the fore-side of the mast; and to prevent the friction of this rope upon the mast, by hoisting or lowering, several little wooden balls, called trucks, are hung upon it, in the same manner as the holy beads are hung upon a Catholic's rosary.

Gage. See Weather-Gage.

To gain the wind, in navigation, (gagner au vent, Fr.) to arrive on the weather-side, or to windward of, some other vessel in sight, when both are plying to windward, or failing as near the wind as possible.

Gale of wind, a phrase used by sailors to express a storm or tempest. It is more particularly termed a hard gale, or strong gale.

Galeon, a name formerly given to ships of war, furnished with three or four batteries of cannon. It is now retained only by the Spaniards, and applied to the largest size of their merchant ships, employed on West-Indian voyages, and usually furnished with four decks. They likewise bestowed the same name on those vessels, whether great or small, which proceed annually to La Vera Cruz. The Portuguese also have several ships which they send to India and the Brazils, nearly resembling the galeons, and by them called caragués.

Galled, (raqué, Fr.) the state of a mast, yard, cable, or other rope, when it is deprived of the surface, and chafed by friction. To preserve those articles from being damaged by this effect, it is therefore usual to cover them with skins, mats, canvas, or such materials, in the places where they are most exposed to it by the rolling of the vessel. See the article Service.

Gallery, a balcony projecting from the stern or quarter of a ship of war, or large merchantmen. In the former, the stern-gallerie is usually decorated with a balustrade, extending from one side of the ship to the other; the fore-part is limited by a partition called the break-bulk head, in which are framed the cabin windows; and the roof of it is formed by a sort of vault,
The vault, termed the cove, which is frequently ornamented with sculpture. See Stern.

The quarter gallery of a ship of 74 guns is represented at large, in the plate referred to from the article Quarter.

GALLEY, (galere, Fr.) a kind of low flat-built vessel, furnished with one deck, and navigated with sails and oars, particularly in the Mediterranean.

The largest sort of these vessels, (galea, Fr.) is employed only by the Venetians. They are commonly 162 feet long above, and 133 feet by the keel, 32 feet wide, with 23 feet length of stern-post. They are furnished with three masts, and thirty-two banks of oars; every bank containing two oars, and every oar being managed by six or seven slaves, who are usually chained thereto. In the fore-part they have three little batteries of cannon, of which the lowest is of two 36 pounders, the second of two 24 pounders, and the uppermost of two 2 pounders: three 18 pounders are also planted on each quarter. The complement of men for one of these galleys is generally 1000 or 1200. They are esteemed extremely convenient for bombarding or making a descent upon an enemy's coast, as drawing but little water; and having by their oars frequently the advantage of a ship of war, in light winds or calms, by cannonading the latter near the surface of the water; by scouring her whole length with their shot, and at the same time keeping on her quarter, or bow, so as to be out of the direction of her cannon.

The galleys next in size to these, which are also called half-galleys, are from 120 to 130 feet long, 18 feet broad, and 9 or 10 feet deep. They have two masts, which may be struck at pleasure, and are furnished with two large lateen sails, and five pieces of cannon. They have commonly 25 banks of oars, as described above. A size still less than these are called quarter-galleys, carrying from twelve to sixteen banks of oars. There are very few galleys now besides those in the Mediterranean, which are found by experience to be of little utility, except in fine weather; a circumstance which renders their service extremely precarious. They generally keep close under the shore, but sometimes venture out to sea to perform a summer cruise. See the articles Quarter and Vessel.

GAMMONING, (liiere, Fr.) a rope used to bind the inner quarter of the bowsprit close down to the ship's stem, in order to enable it the better to support the stays of the fore-mast, and carry sail in the fore part of the vessel. Seven or eight turns of this rope, fig. 6, 8, and 9, plate IV. are passed over the bowsprit A, and through a large hole in the stem or knee of the head Y alternately: after all the turns are drawn as firm as possible, the opposite ones are braced together under the bowsprit by a frapping, as exhibited in the same figure.

GANG, a select number of a ship's crew appointed on any particular service, and commanded by an officer suitable to the occasion.

GANG-BOARD, (planche, Fr.) a board or plank with several cleats or steps nailed upon it for the convenience of walking into, or out of, a boat upon the shore, where the water is not deep enough to float the boat close to the landing-place.
GAN

GANGWAY, (passé-avant, Fr.) a narrow platform, or range of planks, laid horizontally along the upper part of a ship's side, from the quarter-deck to the forecastle, for the convenience of walking more expeditiously fore and aft, than by descending into the waist. This platform is therefore peculiar to ships which are deep-swifted. It is fenced on the outside by several small iron pillars, and a rope extended from one to the other; and sometimes by a netting, to prevent any one from falling off into the sea when the ship is in motion. This is frequently called the gang-board in merchant vessels.

GANGWAY, (échelle, Fr.) is also that part of a ship's side, both within and without, by which the passengers enter and depart. It is for this purpose provided with a sufficient number of steps, or cleats, nailed upon the ship's side, nearly as low as the surface of the water; and sometimes furnished with a railed accommodation-ladder, whose lower end projects from the ship's side, being secured in this position by iron braces, so as to render the ascent and descent extremely convenient.

GANGWAY, (accoursie, Fr.) is likewise used to signify a passage left in the hold, when a ship is laden, in order to arrive at any particular place therein, occasionally; as to examine the situation of the provisions or cargo; to discover and stop a leak; or to bring out any article required for service; &c. Finally, a gangway implies a thoroughfare, or narrow passage of any kind.

GARLAND, a sort of net, whose opening is extended by a wooden hoop of sufficient size to admit a bowl or platter within it. It is accordingly used by the sailors as a locker or cupboard to contain their provisions, being hung up to the deck within the birth, where they commonly mefs between decks.

Shot-GARLAND, (épitié, Fr.) a piece of timber nailed horizontally along the ship's side from one gun-port to another, and used to contain the round-shot ready for charging the great guns in battle. For this purpose it is furnished with several semi-globular cavities, corresponding to the size of the cannon-balls which it is employed to contain.

GARNET, (garant, Fr.) a sort of tackle fixed to the main-fall of a merchant ship, and used to hoist in and out the goods of which the cargo is composed.

GARNET is also a small tackle fastened to the clues or lower corners of the main-fall or fore-fall, for the purpose of trussing up those falls, as occasion requires; and hence it is called CLUE-GARNET, which see.

GARBOARD-STREAK, (gabord, Fr.) in ship-building, the first range or spree of planks laid upon a ship's bottom next to the keel, throughout the whole length of the floor. The edge of this plank is let into a groove or channel in the side of the keel, which is called the rabbet of the garboard-streak.

GASKET, (garet, Fr.) a sort of platted cord fastened to the sail-yards of a ship, and used to furl or tie up the sail firmly to the yard. This is performed by wrapping the gasket round the yard and sail fix or seven times, the turns being at a competent distance from each other.

GAUNTLOPE, pronounced gauntlet, a race which a criminal is sentenced to run in a vessel of war, as a punishment for felony, or some other heinous offence.
It is executed in the following manner: the whole ship's crew is disposed in two rows, standing face to face on both sides of the deck, so as to form a lane, whereby to go forward on one side, and return aft on the other; each person being furnished with a small twisted cord, called a knittle, having two or three knots upon it. The delinquent is then stripped naked above the waist, and ordered to pafs forward between the two rows of men, and ait on the other side, a certain number of times, rarely exceeding three; during which every person gives him a stripe as he runs along. In his passage through this painful ordeal he is sometimes tripped up, and very severely handled while incapable of proceeding. This punishment, which is called running the gauntlet, (courir la bouline, Fr.) is seldom inflicted except for such crimes as will naturally excite a general antipathy amongst the seamen; as on some occasions the culprit would pass without receiving a single blow, particularly in cases of mutiny or sedition, to the punishment of which our common sailors seem to have a constitutional aversion.

GEARS. See Jears.

GIMBALS, (balanciers, Fr.) the brass rings by which a sea-compass is suspended in it's box that usually stands in the binacle. See the article Binacle.

GIMBLETING, a term particularly applied to the anchor, to denote the action of turning it round by the stock, so that the motion of the stock appears similar to that of the handle of a gimblet, when it is employed to turn the wire.

GIRT, the situation of a ship which is moored so strait by her cables, extending from the bawse to two distant anchors, as to be prevented from swinging or turning about, according to any change of the wind or tide, to the current of which her head would otherwise be directed.

The cables are extended in this manner, by a strong application of mechanical powers within the ship; so that as she veers, or endeavours to swing about, her side bears upon one of the cables, which catches on her heel, and interrupts her in the act of traversing. In this position the mult ride with her broadside or stern to the wind or current, till one or both of the cables are slackened so as to sink under the keel; after which the ship will readily yield to the effort of the wind or current, and turn her head thither. See the article Riding.

GIRT-LINE, (cartabu, Fr.) a rope passing through a single block, on the head of the lower masts, to hoist up the rigging thereof, as also the persons employed to place the rigging and cross-trees upon the main-heads. The girt-line is therefore the first rope employed to rig a ship, and by means of this all the rest are drawn up and fixed; after which it is removed till the ship is to be unrigged.

GONDOLA, a sort of barge, curiously ornamented, and navigated on the canals of Venice; also a passage-boat of six or eight oars, in other parts of the coast of Italy.

GOOGINGS, (femellés, Fr.) certain clamps of iron bolted on the stern-post of a ship, whereon to hang the rudder, and keep it steady, for which purpose there is a hole in each of them, to receive a correspondent spindle bolted on the back of the rudder, which turns thereby as upon hinges.
There are generally four, five, or six goosings on a ship's stern-post and rudder, according to her size, and upon these the rudder is supported, and traverses from side to side as upon an axis. See Helm.

GOOSE-NECK, a sort of iron hook fitted on the inner end of a boom, and introduced into a clamp of iron, or eye-bolt, which encircles the mast, or is fitted to some other place in the ship, so that it may be unhooked at pleasure. See Boom.

GOOSE-WINGS of a sail, the clues or lower corners of a ship's main-sail, or fore-sail, when the middle part is furled or tied up to the yard.

The goose-wings are only used in a great storm to feud before the wind, when the sail at large, or even diminished by a reef, would be too great a pressure on the ship, in that situation.

GORING, (angue, Fr.) that part of the skirts of a sail, where it gradually widens from the upper part or head, towards the bottom: the goring-cloths are therefore those, which are cut obliquely, and added to the breadth. See Sail.

GRAPPLING, (grapin criphon, Fr.) a sort of small anchor, fitted with four or five flukes or claws, plate IV. fig. 5. and commonly used to ride a boat or other small vessel.

First-Grappling, (grapin d'abordage, Fr.) an instrument nearly resembling the former, but differing in the construction of its flukes, which are furnished with strong barbs on their points, fig. 4. plate IV. These machines are usually fixed on the yard-arms of a ship, in order to grapple any adversary whom she intends to board. They are however more particularly useful in fire-ships, for the purposes described in that article.

GRATINGS, (caillebotis, Fr.) a sort of open covers for the hatches, formed by several small laths or battens of wood, which cross each other at right angles, leaving a square interval between. They are formed to admit the air and light from above into the lower apartments of the ship, particularly when the turbulence of the sea or weather renders it necessary to shut the ports between decks; and also to let the smoke escape from the lower decks in the time of battle.

Ledges of the Gratings, (barrotins de caillebotis, Fr.) ledges of the gratings.

Grating, (égouttoir,) a drain whereon to lay new tarred cordage.

GRAVING, (œuvres de marée, Fr.) the act of cleaning a ship's bottom when she is laid aground during the recefs of the tide. See the article Breasting, where this operation is particularly explained.

GRIPE, the same with Fore-foot. See that article.

Gripes, (balancs de chaloupe, Fr.) a machine formed by an assemblage of ropes, hooks, and dead-eyes, and used to secure the boats upon the deck of a ship at sea, and prevent them from being shaken by the labouring of the vessel. The hooks, which are fastened at their ends, are fixed in ring-bolts in the deck on each side of the boat; whence, passing over her middle and extremities, they are extended by means of the dead-eyes, so as to render the boats as firm and secure as possible.
GRIPING, (ardent, Fr.) the inclination of a ship to run to windward of her course, particularly when she sails with the wind on her beam or quarter. This effect is partly occasioned by the shock of the waves that strike the ship perpetually on the weather-quarter, and force the stern to leeward; but chiefly by the arrangement of the sails, which disposes the ship continually to edge to windward, while in this situation of failing.

GROMMET, (bague, daillat, Fr.) a sort of small wreath, formed of a strand of rope, and used to fasten the upper edge of a stay-fail to it's respective stay, in different places. By means of the grommets, the sail is accordingly hoisted or lowered, i.e. drawn up or down upon it's stay, in the same manner as a curtain is extended or drawn along upon it's rod, by the assistance of rings. See also the article HANK.

GROUNDING, the act of laying a ship ashoore, in order to bream or repair her. It is also applied to running aground accidentally when under sail, or driving in a tempelt.

GROUND-TACKLE, (amarrages, Fr.) a general name given to all sorts of ropes and furniture which belong to the anchors, or which are employed in mooring, or otherwise securing a ship in a road or harbour; as cables, hawlers, tow-lines, warps, and buoy-ropes.

GROWING, implies the direction of the cable from the ship towards the anchors; as, the cable grows on the starboard-bow, i.e. stretches out forwards on the starboard, or right side.

GUARD-BOAT, a boat appointed to row the rounds amongst the ships of war which are laid up in any harbour, &c. to observe that their officers keep a good look-out, calling to the guard-boat as she passeth, and not suffering her crew to come aboard, without having previously communicated the watch-word of the night.

GUARD-IRONS, certain curved or arched bars of iron placed over the ornamental figures, on a ship's head or quarter, to defend them from the imprefion of some other ship when they lie close to, or rub against each other.

GUARD-SHIP, a vessel of war appointed to superintend the marine affairs in a harbour or river, and to see that the ships which are not commissioned have their proper watch kept duly, by sending her guard-boats around them every night: she is also to receive seamen who are impressed in the time of war.

GULF, (golfe, Fr. golfo, Ital.) a broad and capacious bay, comprehended between two promontories, and sometimes taking the name of a sea, when it is very extensive, but particularly when it only communicates with the sea by means of a freight: such are the Euxine, or Black Sea, otherwise called the gulf of Constantinople; the Adriatic Sea, called also the gulf of Venice; the gulf of Sidra near Barbary, and the gulf of Lions near France: all these gulfs are in the Mediterranean: there are besides the gulf of Mexico, the gulf of St. Lawrence, and the gulf of Calliphoria, which are in North America. There are also the gulf of Persia, otherwise called the Red Sea, between Persia and Arabia; the gulf of Bengal.
Bengal in India, and the gulfs of Cochinchina and Kamtschatca, near the countries of the same name.

GUNNEL, or GUN-WALE, (plat-bord, Fr.) the upper edge of a ship's side.

GUNNER of a ship of war, (cannonier de vaisseau, Fr.) an officer appointed to take charge of the artillery and ammunition aboard, to observe that the former are always kept in order, and properly fitted with tackles and other furniture, and to teach the sailors the exercise of the cannon. See Exercise.

GUN-ROOM, an appartment on the after end of the lower, or gun-deck, of a ship of war; generally defined for the use of the gunner in large ships, but in small ones, it is used by the lieutenants as a dining-room, &c.

GUST, (dragon de vent, Fr.) a sudden and violent squall of wind, bursting from the hills upon the sea, so as to endanger the shipping near the shore. These are peculiar to some coasts, as those of South-Barbary and Guinea.

GUTTER-LEDGE, (traverser d'ecoutille, Fr.) a cross bar laid along the middle of a large hatchway in some vessels, to support the covers, and enable them the better to sustain any weighty body which may be moved or laid thereon.

GUY, a rope used to keep steady any weighty body whilst it is hoisting or lowering, particularly when the ship is shaken by a tempestuous sea.

Guy is likewise a large flack rope, extending from the head of the main-mast to the head of the fore-mast, and having two or three large blocks fastened to the middle of it. This is chiefly employed to sustain the tackle used to hoist in and out the cargo of a merchant ship, and is accordingly removed from the mast-heads as soon as the vessel is laden or delivered.

GYBING, the act of shifting any boom-fail from one side of the mast to the other.

In order to understand this operation more clearly, it is necessary to remark, that by a boom-fail is meant any fail whose bottom is extended by a boom, the fore-end of which is hooked to it's respective mast, so as to swing occasionally on either side of the vessel, describing an arch, of which the mast will be the center. As the wind or the course changes, it also becomes frequently necessary to change the position of the boom, together with it's fail, which is accordingly shifted to the other side of the vessel as a door turns upon it's hinges. The boom is pushed out by the effort of the wind upon the fail, and is restrained in a proper situation by a strong tackle communicating with the vessel's stern, and called the fret. It is also confined on the fore-part by another tackle, called the guy. See the preceding article.
HAGS TEETH, or HAKES TREETH, those parts of a matting, point- ing, &c. which are interwoven with the rest, in an erroneous and irregular manner, so as to appear awkward in the general uniformity of the work. See Pointing, &c.

HAILING, the salutation or accosting of a ship at a distance, either at sea or in a harbour. The usual expression is, Hoa, the ship ahoay! To which she answers, Holloa! Whence came ye? Where are ye bound? Good voyage! What cheer? All well! How fare ye? &c.

HALIARDS, (driffe, Fr.) the ropes or tackles usually employed to hoist or lower any sail upon it's respective masts or stay. See also JEARs.

HAMMOC, (branle, Fr.) a piece of canvas, six feet long and three feet wide, gathered or drawn together at the two ends, and hung horizontally under the deck, lengthways, for the sailors to sleep therein. There are usually from fourteen to twenty inches in breadth allowed between decks for every hammoc in a ship of war: this space however must in some measure depend on the number of the crew, &c. in proportion to the room of the vessel.

In the time of battle the hammocs, together with their bedding, are all firmly corded, and fixed in the nettings on the quarter-deck, or wherever the men are too much exposed to the view or fire of the enemy. See the article Engagement.

HANDING the sails, the same operation with furling them, which see.

HAND-OVER-HAND! (main avant! Fr.) the order to the men, who pull upon any rope, to pass their hands alternately one before the other, or one above the other, if they are hoisting, in order to haften the service.

A sailor is said to go aloft, hand-over-hand, when he ascends into the tops, &c. by a single rope, as a shroud or back-stay, without the help of the rattlings, by the dexterity of throwing one hand above the other, and lifting his weight along with it.

HANDSPEC, (en/spec, Fr.) a wooden bar used as a lever to heave about the windlass, in order to draw up the anchor from the bottom, particularly in merchant ships: for this purpose the handle or small end is round and tapering; and the other end is square, in order to conform to the shape of the holes in the windlass. It is also employed as a lever on many other occasions, as flowing the anchors, or provisions, or cargo, in the ship's hold.

Gunner's HANDSPEC, (renard, Fr.) an handpiece shorter and flatter than the above, and armed with two claws, for the purpose of managing the artillery in battle, &c.

HANK
HANK for HANK, a phrase expressed of two ships which tack and make a progress to windward together. The Dolphin and Cerberus turned up the river bank for bank, without being able to get to windward of each other.

HANKS, (caillots, Fr.) certain wooden rings fixed upon the stays of a ship, whereby to confine the stay-falls thereto at different heights. They are used in the place of grommets, being a later invention and much more convenient; because, being framed by the bending of a tough piece of wood into the form of a wreath, and fastened at the two ends by means of notches, they retain their circular figure and elasticity; whereas the grommets, which are formed of rope, are apt to relax in warm weather and adhere to the stays, so as to prevent the falls from being readily hoisted or lowered.

HARBOUR, (baître, Fr.) a general name given to any sea-port or haven; as also to any place convenient for mooring shipping, although at a great distance from the sea. The qualities requisite in a good harbour are, that the bottom be entirely free from rocks or shallows; that the opening be of sufficient extent to admit the entrance or departure of large ships, without difficulty; that it should have good anchoring ground, and be easy of access; that it should be well defended from the violence of the wind and sea; that it should have room and convenience to receive the shipping of different nations, and those which are laden with different merchandizes; that it be furnished with a good light-houe, and have variety of proper rings, posts, moorings, &c. in order to remove or secure the vessels contained therein: and finally, that it have plenty of wood, and other materials for firing, besides hemp, iron, mariners, &c.

HARD-A-LEE, (barre à bord, sous le vent, Fr.) the situation of the helm when it is pushed close to the lee side of the ship, either to tack or keep her head to the wind, when lying by or trying: also the order to put the helm in this position.

HARD-A-WEATHER, (arrivée tout, Fr.) the order to put the helm close to the weather or windward side of the ship, in order to bear away. It is likewise the position of the helm, in consequence of that order; being in both senses opposed to hard-a-lee.

HARPINS, the fore-parts of the wales which encompas the bow of a ship, and are fastened to the stem, being thicker than the after part of the wales, in order to reinforce the ship in this place, where she sustains the greatest shock of resistance in plunging into the sea, or dividing it, under a great pressure of fall.

Cat-Harpins. See Cat-Harpins.

HARPOON, (harpon, Fr.) a spear or javelin used to strike the whales in the Greenland fishery.

The harpoon, which is sometimes called the harpin-iron, is furnished with a long staff, having at one end a broad and flat triangular head sharpened at both edges, so as to penetrate the whale with facility: to the head of this weapon is fastened a long cord, called the whale-line, which lies carefully coiled in the boat, in such a manner, as to run out without being interrupted
interrupted or intangled. As soon as the boat has rowed within a competent distance of the whale, the harpooner launches his instrument; and the fish, being wounded, immediately descends under the ice with amazing rapidity, carrying the harpoon along with him, and a considerable length of the line. Being soon exhausted with the fatigue and loss of blood, he re-ascends in order to breathe, where he presently expires, and floats upon the surface of the water, when they approach the carcass by drawing in the whale-line.

**HATCH**, or **HATCHWAY** (écouille, Fr.) a square or oblong opening in the deck of a ship, of which there are several, forming the passages from one deck to another, and into the hold, or lower apartments. See the Deck, plate III. where A represents the main-hatchway of the lower deck; N N, the fore-hatchway; and O O, the after-hatchway.

There are likewise hatches of a smaller kind, called scuttles. See U U in the same figure, as also the article Scuttle.

Hatches is also, although improperly, a name applied by sailors to the covers or lids of the hatchways.

To **HAUL**, (holer, Fr.) an expression peculiar to seamen, implying to pull a single rope, without the assistance of blocks, or other mechanical powers: when a rope is otherwise pulled, as by the application of tackles, or the connection with blocks, &c. the term is changed into hoisting. See also the articles Bowse, Hoist, and Rowsing.

To **HAUL the wind**, (cevir au vent, Fr.) to direct the ship's course nearer to that point of the compass from which the wind arises. Thus supposing a ship sailing south-west, with the wind northerly, and some particular occasion renders it necessary to haul the wind further to the westward, to perform this operation it is necessary to arrange the falls more obliquely with her keel; to brace the yards more forward, by slackening the larboard and pulling in the larboard braces, and to haul the lower foots further a'ft; and finally, to put the helm a'port, i.e. over to the larboard side of the vessel. As soon as her head is turned directly to the westward, and her falls are trimmed accordingly, she is said to have hauled the wind four points, that is to say, from S. W. to W. She may still go two points nearer to the direction of the wind, by disposing her falls according to their greatest obliquity; or, in the sea-phrase, by trimming all sharp; and in this situation she is said to be close-hauled, as hauling W. N. W. See the articles Close-hauled and Sailing.

**Hawse** is generally understood to imply the situation of the cables before the ship's stem, when she is moored with two anchors out from forward, viz. one on the larboard, and the other on the larboard bow. Hence it is usual to say, She has a clear hawse, or a foul hawse. It also denotes any small distance a-head of a ship, or between her head and the anchors employed to ride her; as, "He has anchored in our hawse; the brig fell athwart our hawse," &c.

A ship is said to ride with a clear hawse, when the cables are directed to their anchors, without lying athwart the stem; or crossing, or being twirled round each other, by the ship's winding about, according to the change of the wind, tide, or current.
A foul hawse, on the contrary, implies that the cables lie across the stem, or bear upon each other, so as to be rubbed and chafed by the motion of the vessel.

The hawse accordingly is foul, by having either a cross, an elbow, or a round turn. If the larboard cable, lying across the stem, points out on the starboard side, while the starboard cable at the same time grows out on the larboard side, there is a cross in the hawse. If, after this, the ship, without returning to her former position, continues to wind about the same way, so as to perform an entire revolution, each of the cables will be twisted round the other, and then directed out from the opposite bow, forming what is called a round turn. An elbow is produced when the ship stops in the middle of that revolution, after having had a cross: or, in other words, if she rides with her head northward with a clear hawse, and afterwards turns quite round so as to direct her head northward again, she will have an elbow. See the articles Elbow and Riding.

Hawse-holes, (œubiers, Fr.) certain cylindrical holes cut through the bows of a ship on each side of the stem, through which the cables pass in order to be drawn into, or let out of the vessel, as occasion requires. They are represented by $dd$ in fig. 10. plate IV. being fortified on each side by the

Hawse-pieces, a name given to the foremost timbers of a ship, whose lower ends rest upon the knuckle-timber, or the foremost of the cant-timbers. They are generally parallel to the stem, having their upper ends sometimes terminated by the lower part of the beak-head; and otherwise, by the top of the bow, particularly in small ships and merchantmen.

Hawser, a large rope which holds the middle degree between the cable and tow-line, in any ship whereto it belongs, being a size smaller than the former, and as much larger than the latter.

Head, an ornamental figure erected on the continuation of a ship's stem, as being expressive of her name, and emblematical of war, navigation, commerce, &c.

The heads which have any affinity to war or navigation, are in general either historical, as referring to some of the deities or heroes of antiquity; or allegorical, as alluding to some of the natural consequences of battle, or the virtues most essential to a life exposed to perpetual danger. Thus, in the former sense, they represent a Neptune, an Alcides; a Mars, an Achilles; a Minerva, or a Japhet; and in the latter they produce a Magnanime, an Intrepid, a Revenge, or a Victory.

The head of a ship however has not always an immediate relation to her name, at least in the British navy. Various instances might be produced to shew, that our artists, as it suits their convenience or judgment, can dispense with this supposed idea of propriety. Hence we sometimes observe the place of a Japhet supplied by a Medea; or a beast of prey made the representative of an illustrious lady. The same liberty of design may therefore, with equal propriety, be allowed to symbolize the successe of our arms, by a group of heterogeneous figures, of sundry shapes and sizes, according to the artist's opinion of their superiority or subordination. Their attitude and situation, as well as their size, must accordingly depend, in a great
measure, on the space into which they are to be crowded; for although
the figures may be of equal importance in themselves, yet as there is not
room for them all, as large as the life, on a ship's head, it becomes expedient
to diminish a few, in order to give place to others. The emblems by which
allegorical figures are usually characterized in painting, poetry, and sculpture,
are not always thought necessary in a work of this kind, nor even
the postures in which these figures are exhibited. And indeed, if we reflect
with how much labour and application the workman has endeavoured to fill
up every vacancy with some little figure of a convenient form and size, we
ought rather to admire his ingenuity than censure him for a violation of
those general rules of art, by which it is supposed necessary, on such occa-
sions, to relieve the eye from a scene of perplexity and confusion.

The heads of many of our ships of war have undoubtedly great beauty
and propriety; and candour must acknowledge that some of the most elegant
and judicious have been borrowed from the French designs, which are never
left to the invention of illiterate mechanics. A multitude of ornaments
appears rather unnecessary in any building calculated for the purposes of
war. If there be any general rule to determine the subjects, and the quantity
of sculpture employed in ship-building, it seems to be connected with
the ideas of dignity and simplicity. These too are the genuine characteris-
tics of the Grecian and Roman orders of architecture, as opposed to that
perplexity, and rage for embellishment, which peculiarly distinguish the
Gothic. It is hardly possible for us to recollect the various disasters to
which a single hero, or goddes, on the head of a ship, is exposed by tem-
pestuous weather, battle, and the unexpected encounter of ships, without
trembling for the havoc and indecency that may happen in an assemblage
of gods and conc-shells, princeses and satyrs, heroes, blunder-buies, sea-
monsters, little children, globes and thunder-bolts, and all the apparatus
necessary to constitute the head of a ship of the first class in our navy.

In plate IV. we have sketched four heads, which are calculated for vessels
of different sizes and constructions. Fig. 6. exhibits an image of Hercules
brandishing his club over the heads of Cerberus, calculated for a ship of
the line. Fig. 7. represents Jupiter riding on his eagle, and armed with his
thunders, being a suitable head for a capital ship. The eagle displayed by
fig. 8. may serve for a frigate; and fig. 9. which expresses an incumbent
dragon, is very proper for any small vessel with a projecting beak or prow.
These figures have been selected from many others, because, being very rarely
used to decorate the head of a ship, it is possible that several of our readers
may never before have observed them. The two first, which are usually call-
ed image-heads, are bold, warlike, and classical. The eagle in the third
is certainly a proper emblem of dignity, force, and velocity: and it is
apprehended neither the representation of the latter, nor any other figure
in that position, are to be met with amongst our shipping.

Head, (avant, Fr.) is also used, in a more enlarged sense, to signify the
whole front or fore-part of the ship, including the bows on each side; the

head
head therefore opens the column of water through which the ship passés
when advancing. Hence we say, head-fails, head-flea, head-way, &c.

Thus fig. 10, plate IV. represents one side of the fore-part, or head of
a seventy-four gun ship, together with part of the bow, keel, and gun-
nel. The names of the several pieces, exhibited therein, are as follow:

A A Fore part of the keel, with a a the two false keels beneath it.
A C the stem.
  a a The cat-head.
  b b The supporter of the cat-head, (feus-barbe, Fr.)
  c c The knight-head, or bollard-timber, of which there is one on each
   side, to secure the inner-end of the bowprit.
  d d The hawse-holes.
  e e The navel-hoods, i. e. thick pieces of plank laid upon the bow to
    strengthen the edges of the hawse-holes.
  f The davit-chock, by which the davit is firmly wedged while employ-
    ed to fish the anchor.
  g The bulk-head, which terminates the forecastle on the fore-side, being
    called the beak-head bulk-head by shipwrights.
  H The gun-ports of the lower deck.
  b The gun-ports of the upper deck and forecastle.
  I, I, The channels, with their dead-eyes and chain-plates.
  i The gripe, or fore-foot, which unites the keel with the stem, form-
    ing a part of either.
  k k These dotted lines represent the thickness and defcent of the different
    decks from the fore-part of the ship towards the middle. The lowest of
    the three dotted lines l expresses the convexity of the beams, or the diffe-
    rence between the height of the deck in the middle of it's breadth, and
    at the ship's side. This is also exhibited more clearly in the midship-
    frame, where the real curve of the beam is delineated.

N. B. These lines must be always parallel to the lines which terminate
the gun-ports above and below.
  m m The timbers of the head, and part of the bowsprit.
  X The rails of the head which lie across the timbers.
  Q Z Fore-part of the main-wale.
  R X Fore-part of the channel-wale.
  U C The load water-line.

See also the continuation of a ship throughout her whole length, upon
a smaller scale, plate I. Elevation.

Fig. 11, represents a head-view of a ship, with the projection of her
principal timbers, and all her planks laid on one side. This figure corres-
ponds to that of the elevation, plate I. and the stern-view, fig. 2. plate X.

It is evident that the fore-part of a ship is called it's head, from the affin-
ity of motion and position it bears to a fish, and in general to the hori-
zontal situation of all animals whilst swimming.

By the Head, the state of a ship, which is laden deeper at the fore-end
than the after-end.

Head-fast,
Head-fast, \(^{\text{amarre d'avant, Fr.}}\) a rope employed to fasten a ship to a wharf, chain, or buoy, or to some other vessel along-side.

Head-land, \(^{\text{acrotère, Fr.}}\) a name frequently given to a cape, or promontory.

Headmost, the situation of any ship or ships which are the most advanced in a fleet, or line of battle.

Head-rope, that part of the bolt-rope which terminates any of the principal fails on the upper-edge, which is accordingly fewed thereto. See the article Bolt-rope.

Head-sails, \(^{\text{voiles de l'avant, Fr.}}\) a general name for all those fails which are extended on the fore-mast and bowsprit, and employed to command the fore-part of the ship: such are the fore-fail, fore-top-fail, fore-top-gallant-fail, jib, fore-stay-fail, and the sprit-fail with it's top-fail. This term is used in opposition to after-fails, which see.

HEAD-TO-WIND, \(^{\text{de bout au vent, Fr.}}\) the situation of a ship or boat, when her head is turned to windward.

Head-way, \(^{\text{filage, Fr.}}\) the motion of advancing at sea. It is generally used when a ship first begins to advance; or in calm weather, when it is doubtful whether she is in a state of rest or motion. It is in both senses opposed to retracting, or moving with the stern foremost. See the article Stern-way.

Heart, \(^{\text{moque, Fr.}}\) a peculiar sort of dead-eye, somewhat resembling the shape of a heart, but differing from the common dead-eyes, inasmuch as it is only furnished with one large hole in the middle, fig. 32. plate II. whereas the common dead-eyes have always three holes. The hearts are principally used to contain the laniards, by which the stays are extended. See Dead-Eye.

Heaver, a name given by seamen to a wooden staff, employed by them as a lever on many occasions; particularly in setting up the top-mast-throats, fraping the top-masts, stroping the larger blocks, seizing the standing rigging, &c. See those articles.

Heaving, \(^{\text{virer, Fr. beosian, Sax.}}\) the act of turning about a cap-stern, windlass, or other machine of the like kind, by means of bars or handspears.

Heaving the lead. See the article Sounding.

Heaving a-bend, is advancing the ship by heaving-in the cable, or other rope, which is fastened to an anchor at some distance before her. To heave a-stern is therefore to draw the ship backwards by the same operation.

Heaving-down. See the article Careening.

Heaving-out, the act of unfurling and throwing loose a sail from the place where it had been rolled and fastened. This phrase is more particularly applied to the stay-fails: thus we say, "Loose the top-fails, and heave out the stay-fails!" which is accordingly done, either to set or lye them.

Heaving-short, is the drawing so much of the cable into the ship, by means of the capstern or windlasses, as that by advancing, she will be almost perpendicularly above the anchor, and in a proper situation to set sail.

Heaving-taught, the act of heaving about the capstern, till the rope applied thereto becomes straight and ready for action.
HEEL, (talon, Fr.) a name usually given to the after-end of a ship's keel; as also to the lower end of the stern-post, to which it is firmly connected.

Heel of a mast, the lower end, which is diminished into the form of a pyramid, so as to sink immoveably into a hole of the same shape, cut in the ship, which is attached to the ship's keel.

Heel of a top-mast, the lower end, which is sustained upon the trellis-trees by means of an iron bar, called the side. See the article Mast.

To Heel, (carguer, Fr.) to stoop or incline to either side. It is usually applied to a ship when she is forced into this position by the wind acting upon her sails, while braced obliquely across her; or by being ballasted so as to lean more to one side than the other. See the articles Crank, Stiff, and Trim.

HELM, (gouvernail, Fr. helma, Sax.) a long and flat piece of timber, or an assemblage of several pieces, suspended along the hind part of a ship's stern-post, where it turns upon hinges to the right or left, serving to direct the course of the vessel, as the tail of a fish guides the body.

The helm is usually composed of three parts, viz. the rudder, the tiller, and the wheel, except in small vessels, where the wheel is unnecessary.

The length and breadth of the rudder are represented in plate VIII. where it is evident that it becomes gradually broader in proportion to its distance from the top, or to its depth under the water. The back, or inner part of it, which joins to the stern-post, is diminished into the form of a wedge throughout its whole length, so as that the rudder may be more easily turned from one side to the other, where it makes an obtuse angle with the keel. The hinges upon which it is supported are also expressed in this figure. Those which are bolted round the stern-post to the after extremity of the ship, are called googings, and are furnished with a large hole on the afterpart of the stern-post. The other parts of the hinges, which are bolted to the back of the rudder, are called pintles, being strong cylindrical pins, which enter into the googings, and rest upon them. The length and thickness of the rudder is nearly equal to that of the stern-post, as represented in fig. 1. plate X.

The rudder is turned upon its hinges by means of a long bar of timber, called the tiller, which is fixed horizontally in its upper end within the vessel. The movements of the tiller to the right and left, accordingly, direct the efforts of the rudder to the government of the ship's course as the advances, which, in the sea-language, is called steering. The operations of the tiller are guided and assisted by a sort of tackle, communicating with the ship's side, called the tiller-rope, which is usually composed of untarred rope-yarns, for the purpose of traversing more readily through the blocks or pulleys.

In order to facilitate the management of the helm, the tiller-rope, in all large vessels, is wound about a wheel, which acts upon it with the powers of a crane or windlass. The rope employed in this service being conveyed from the fore-end of the tiller, to a single block, on each side of the ship, (plate III. Deck) is further communicated to the wheel, by means of two blocks,
blocks, suspended near the mizen-mast, and two holes immediately above, leading up to the wheel, which is fixed upon an axis, on the quarter-deck, almost perpendicularly over the fore end of the tiller. Five turns of the tiller-rope are usually wound about the barrel of the wheel, and, when the helm is amidship, the middle turn is nailed to the top of the barrel, with a mark by which the helmsman readily discovers the situation of the helm, as the wheel turns it from the starboard to the larboard side. The spokes of the wheel generally reach about eight inches beyond the rim or circumference, serving as handles to the person who steers the vessel. As the effect of a lever increases in proportion to the length of its arm, it is evident that the power of the helmsman, to turn the wheel, will be increased according to the length of the spokes, beyond the circumference or the barrel.

When the helm, instead of lying in a right line with the keel, is turned to one side or the other, as in B D, fig. 1. plate V. it receives an immediate shock from the water, which glides along the ship's bottom in running aft from A to B: and this fluid pushes it towards the opposite side, whilst it is retained in this position: so that the stern, to which the rudder is confined, receives the same impression, and accordingly turns from B to b about some point c, whilst the head of the ship passes from A to a. It must be observed, that the current of water falls upon the rudder obliquely, and only strikes it with that part of it's motion which acts according to the sine of incidence, pushing it in the direction N P, with a force which not only depends on the velocity of the ship's course, by which this current of water is produced, but also upon the extent of the sine of incidence. This force is by consequence composed of the square of the velocity with which the ship advances, and the square of the sine of incidence, which will necessarily be greater or smaller according to circumstances; so that if the vessel runs three or four times more swiftly, the absolute shock of the water upon the rudder will be nine or sixteen times stronger under the same incidence: and, if the incidence is increased, it will yet be augmented in a greater proportion, because the square of the sine of incidence is more enlarged. This impression, or, what is the same thing, the power of the helm, is always very feeble, when compared with the weight of the vessel; but as it operates with the force of a long lever, it's efforts to turn the ship are extremely advantageous. For the helm being applied to a great distance from the center of gravity, G, or from the point about which the vessel turns horizontally, if the direction P N of the impression of the water upon the rudder be prolonged, it is evident that it will pass perpendicularly to R, widely distant from the center of gravity G: thus the absolute effort of the water is very powerful. It is not therefore surprizing that this machine impresses the ship with a considerable circular movement, by pushing the stern from B to b, and the head from A to a; and even much further, whilst she sails with rapidity: because the effect of the helm always keeps pace with the velocity with which the vessel advances *.

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* Bourdè, Manœuvrier.
Amongst the several angles that the rudder makes with the keel, there is always one position more favourable than any of the others, as it more readily produces the desired effect of turning the ship, in order to change her course. To ascertain this, it must be considered, that if the obliquity of the rudder with the keel is greater than the obtuse angle $ABD$, so as to diminish that angle, the action of the water upon the rudder will increase, and at the same time oppose the course of the ship in a greater degree; because the angle of incidence will be more open, so as to present a greater surface to the shock of the water, by opposing it's passage more perpendicularly. But at that time the direction $NP$ of the effort of the helm upon the ship will pass, with a smaller distance from the center of gravity $G$ towards $R$, and less approach the perpendicular $NL$, according to which it is absolutely necessary that the power applied should act with a greater effect to turn the vessel. Thus it is evident that if the obtuse angle $ABD$ is too much inclined, the greatest impulsion of the water will not counterbalance the loss sustained by the distance of the direction $NP$ from $NL$; or by the great obliquity, which is given to the same direction $NP$ of the absolute effort of the helm with the keel $AB$. If, on the contrary, the angle $ABD$ is too much opened, the direction $NP$ of the force of action of the helm will become more advantageous to turn the vessel, because it will approach nearer the perpendicular $NL$; so that the line prolonged from $NP$ will increase the line $GR$, by removing $R$ to a greater distance from the center of gravity $G$; but then the helm will receive the impression of the water too obliquely, for the angle of incidence will be more acute; so that it will only present a small portion of it's breadth to the shock of the water, and by consequence will only receive a feeble effort. By this principle it is easy to conceive, that the greatest distance $GR$ from the center of gravity $G$ is not sufficient to repair the diminution of force occasioned by the too great obliquity of the shock of the water, Hence we may conclude, that when the water either strikes the helm too directly, or too obliquely, it loses a great deal of the effect it ought to produce. Between the two extremes there is therefore a mean position, which is the most favourable to it's operations.

The diagonal $NP$ of the rectangle $IL$ represents the absolute direction of the effort of the water upon the helm. $NI$ expresses the portion of this effort which is opposed to the ship's head-way, or which pushes her altern, in a direction parallel to the keel. It is easily perceived that this part $NL$ of the whole power of the helm contributes but little to turn the vessel; for if $IN$ is prolonged, it appears that it's direction approaches to a very small distance $GV$ from the center of gravity $G$, and that the arm of the lever $BN=GV$, to which the force is applied, is not in the whole more than equal to half the breadth of the rudder: but the relative force $NL$, which acts perpendicular to the keel, is extremely different. If the first $NI$ is almost useless, and even pernicious, by retarding the velocity; the second $NL$ is capable of a very great effect, because it operates at a considerable distance from the center of gravity $G$ of the ship, and acts upon the arm of a lever.
a lever $G_E$, which is very long. Thus it appears, that between the effects $N_L$ and $N_I$, which result from the absolute effort $N_P$ there is one which always opposes the ship's course, and contributes little to her motion of turning; whilst the other produces only this movement of rotation, without operating to retard her velocity ⚫.

Geometricians have determined the most advantageous angle made by the helm with the line prolonged from the keel, and fixed it at $54^\circ 44'$ presuming that the ship is as narrow at her floating-line, or at the line described by the surface of the water round her bottom, as at the keel. But as this supposition is absolutely false, inasmuch as all vessels augment their breadth from the keel upward to the extreme breadth, where the floating-line or the highest water-line is terminated; it follows that this angle is too large by a certain number of degrees. For the rudder is impressed by the water, at the height of the floating-line, more directly than at the keel, because the fluid exactly follows the horizontal outlines of the bottom; so that a particular position of the helm might be supposed necessary for each different incidence which it encounters from the keel upwards. But as a middle position may be taken between all these points, it will be sufficient to consider the angle formed by the sides of the ship, and her $\text{axis}$, or the middle-line of her length, at the surface of the water, in order to determine afterwards the mean point, and the mean angle of incidence.

It is evident that the angle $54^\circ 44'$ is too open, and very unfavourable to the ship's head-way, because the water acts upon the rudder there with too great a fine of incidence, as being equal to that of the angle which it makes with the line prolonged from the keel below: but above, the shock of the water is almost perpendicular to the rudder, because of the breadth of the bottom, as we have already remarked. If then the rudder is only opposed to the fluid, by making an angle of $45^\circ$ with the line prolonged from the keel, the impression, by becoming weaker, will be less opposed to the ship's head-way, and the direction $N_P$. fig. 1, plate V. of the absolute effort of the water upon the helm drawing nearer to the lateral perpendicular, will be placed more advantageously, for the reasons above-mentioned ⚫. On the other hand, experience daily testifies, that a ship steers well when the rudder makes the angle $\text{DBE}$ equal to $35^\circ$ only.

It has been already remarked, that the effect of moving the wheel to govern the helm increases in proportion to the length of the spokes; and so great is the power of the wheel, that if the helmsman employs a force upon it's spokes equivalent to thirty pounds, it will produce an effect of 90 or 120 pounds upon the tiller. On the contrary, the action of the water is collected into the middle of the breadth of the rudder, which is very narrow in comparison with the length of the tiller; so the effort of the water is very little removed from the fulcrum $B$ upon which it turns; whereas the tiller forms the arm of a lever ten or fifteen times longer, which also increases

* Bourdè, Manœuvrier.
† Bouguer, Traité de la Manœuvre de Vaifteaux. Bourdè, Manœuvrier.

X
the power of the helmsman in the same proportion that the tiller bears to the lever upon which the impulse of the water is directed. This force then is by consequence ten or fifteen times stronger, and the effort of 30 pounds, which at first gave the helmsman a power equal to 90 or 120 pounds, becomes accumulated to one of 900 or 1800 pounds upon the rudder. This advantage then arises from the shortness of the lever upon which the action of the water is impressed, and the great comparative length of the tiller, or lever, by which the rudder is governed; together with the additional power of the wheel that directs the movements of the tiller, and still further accumulates the power of the helmsman over it. Such a demonstration ought to remove the surprize with which the prodigious effect of the helm is sometimes confidered, from an inattention to it's mechanism: for we need only to observe the pressure of the water, which acts at a great distance from the center of gravity G, about which the ship is supposed to turn, and we shall easily perceive the difference there is between the effort of the water against the helmsman, and the effect of the same impulse against the vessel. With regard to the person who steers, the water acts only with the arm of a very short lever NB, of which B is the fulcrum: on the contrary, with regard to the ship, the force of the water is impressed in the direction NP, which passes to a great distance from G, and acts upon a very long lever EG, which renders the action of the rudder extremely powerful in turning the vessel; so that, in a large ship, the rudder receives a shock from the water of 2700 or 2800 pounds, which is frequently the case, when the sails at the rate of three or four leagues by the hour; and this force being applied in E, perhaps 100 or 110 feet distant from the center of gravity G, will operate upon the ship, to turn her about, with 270000 or 308000 pounds; whilst, in the latter case, the helmsman acts with an effort which exceeds not 30 pounds upon the spokes of the wheel.

After what has been said of the helm it is easy to judge, that the more a ship increases her velocity with regard to the sea, the more powerful will be the effect of the rudder, because it acts against the water with a force which increases as the square of the swiftness of the fluid, whether the ship advances or retreats; or, in other words, whether she has head-way or stern-way; with this distinction, that in these two circumstances the effects will be contrary. For if the vessel retreats, or moves atern, the helm will be impressed from I to N, fig. 1, plate V. and instead of being pushed, according to NP, it will receive the effort of the water from N towards R, so that the stern will be transported according to the same movement, and the head turned in a contrary direction.

When the helm operates by itself, the center of rotation of the ship and her movement are determined by estimating the force of this machine; that is to say, by multiplying the surface of the rudder by the square of the ship's velocity *. See the articles Rudder, Sailing, Steering, Trim, and Working.

* Saverien, Dict. Marine.
HIGH AND DRY, a phrase which implies the situation of a ship, when she has run aground, so as to be seen dry upon the strand.

HIGH WATER, (haute marée, Fr.) the greatest height of the flood-tide. See Flood and Tide.

HITCH, (clin, Fr.) a sort of knot or noose, by which one rope is fastened to another, or to some other object, as a post, ring, timber-head, mast, &c. Hence we say an half-hitch, demi-clin, a clove-hitch, a rolling-hitch, &c. See Bend and Knot.

HOASE, or HOSE, (manche pour l’eau, Fr.) a long flexible tube, formed of leather or tarred canvas, but chiefly of the latter, and employed to conduct the fresh water, which is hoisted aboard a ship, into the casks that are ranged in the hold; and to pass the water, or other liquors, out of one cask into another. For the latter use, one of the ends or openings of the hose is fixed in the empty cask, whilst the other is applied to the pump that extracts the water out of the full one. This exercise is, on some occasions, necessary to alter or preserve the trim of the vessel, without disturbing her stockage.

HOG, (gorre, Fr.) a sort of flat scrubbing-broom, serving to scrape off the filth from a ship’s bottom, under water, particularly in the act of boat-topping, which see.

This instrument is formed by inclosing a multitude of short twigs of birch, or such wood, between two pieces of plank, which are firmly attached to each other, after which the ends of the twigs or branches are cut off even, so as to form a sort of brush of considerable strength. To this machine is fitted a long staff, together with two ropes, the former of which is used to thrust the hog under the ship’s bottom, and the latter to guide, and pull it up again close to the planks thereof, so as to rub off all the filth effectually. This exercise is usually performed in the ship’s boat, which is accordingly confined as close as possible to the vessel’s side during the operation, and shifted from one part of the side to another, till the whole is completed.

HOIST, (guidant, Fr.) the perpendicular height of a flag or ensign, as opposed to the fly, which implies it’s breadth from the staff to the outer edge.

HOISTING, (hisser, Fr.) the operation of drawing up any body by the assistance of one or more tackles, according to the weight intended to be raised. See the article Tackle.

The act of pulling up any body, by the help of a single block only, is never expressed by the term hoisting, if we except the exercise of extending the falls, by drawing them upwards along the masts or stays, to which it is invariably applied. See also Tracing-up and Whipping.

HOLD, (cale, Fr.) the whole interior cavity or belly of a ship, or all that part of her inside, which is comprehended between the floor and the lower-deck, throughout her whole length.

This capacious apartment usually contains the ballast, provisions, and stores of a ship of war, and the principal part of the cargo in a merchantman. The disposition of those articles, with regard to each other, &c. necessarily falls under our consideration in the article Stowage; it suffices in this place...
to say, that the places where the ballast, water, provisions, and liquors are stowed, are known by the general name of the hold. The several store-
rooms are separated from each other by bulk-heads, and are denominated according to the articles which they contain, the sail-room, the bread-room, the fish-room, the spirit-room, &c.

To trim the Hold. See the article Trim.

After-Hold, a general name given to all that part of the hold which lies abaft the main-mast.

Fore-Hold, that part of the hold which is situated in the fore-part of the ship, or before the main hatch-way.

Hold, in navigation, is generally understood to signify a particular situation of a ship with regard to the shore, by which she is enabled to keep within a sufficient distance, to facilitate her course, or answer some other important object. Hence we say, Keep a good hold of the land! or, Keep the shore well aboard! which are synonymous phrases, implying to keep near, or in sight of the land.

Hold-ing-on, the act of pulling back the hind part of any cable, or other rope, which is heaved round, by the capstern or windlass, or drawn in by the purchase of a tackle. See Capstern, &c.

To have a clearer idea of this exercise, it is necessary to premise, that there are seldom or never more than three turns of any rope passed about the barrel of the capstern, when it is employed in heaving; because a great number of turns of a large rope would soon cover the whole barrel, and utterly destroy the effect of this motion, till those turns could be removed; a circumstance which might be attended with very bad consequences. On the contrary, when there are only a few turns, the capstern or windlass is always kept sufficiently clear for action; for it is evident, that every revolution of either will heave in a quantity of the rope, upon which it is employed, equal to the circumference of its barrel. Now as there are only a few turns upon the barrel at once, an equal quantity of the rope will necessarily come off from the capstern at the same time; and this is accordingly pulled back as strongly as possible, to prevent it from surging or jerking round the barrel, by being held too loosely. This is called holding-on, which therefore may be defined, the act of retaining any quantity of rope, acquired by the effort of a capstern, windlass, or tackle; as being employed in hoisting as well as heaving.

Hold-ing-water, the operation of stopping a boat in her course, by holding the oars in the water, and bearing the blade, or flat part, strongly against the current made along-side, by her passing swiftly through the water. See Back-astern, Oar, and Rowing.

Holloa! (commande! Fr.) an exclamation of answer, to any person, who calls to another to ask some question, or to give a particular order. Thus, if the master intends to give any order to the people in the main-
top, he previously calls, Main-top, hooy! To which they answer, Holloa! to shew that they hear him, and are ready. It is also the first answer in hailing a ship at a distance. See Hailing.

HOME,
HOME, in a naval sense, either implies the situation of some object, where it retains it's full force of action; or where it is properly lodged for convenience or security. In the former sense it is applied to the sails; and in the latter, it usually refers to the stowage of the hold, or the anchors.

When it is expressed of the sails, it denotes that their clues, or lower corners, are close to the blocks upon the yard-arm, immediately beneath them; it is therefore understood only of the loftier sails, as the top-sails, top-gallant-sails, and the studding-sails thereto belonging. Hence to haul home the top-sail sheets, is to extend the bottom of the top-sail to the lower-yard, by means of the sheets. See Clue and Sheet.

In the stowage of the hold, &c. a cask, bale, or cafe, is said to be home, when it bears against, or lies close to some other object, without leaving any interval between; and indeed the security, or firmness of the stowage, greatly depends on this circumstance.

Home, when spoken of the anchor, seems to imply the station of the ship, with regard to her anchor; which is accordingly said to come home when it loosens from the ground, by the effort of the cable, and approaches the place where the ship floated, at the length of her moorings. See the article Anchor.

HOMMOC, (tertre, Fr.) a name given by mariners to a hillloc, or small eminence of land resembling the figure of a cone, and appearing on the sea-coast of any country.

HOOD, (tremue, Fr.) a sort of low wooden porch, resembling the companion, and placed over the stair-case or ladder, which leads into the steerage or apartments, where the crew generally reside in a merchant-ship. The use of the hood is to admit the air and light, and at the same time prevent the rain from falling into the steerage.

HOOK, a crooked piece of iron, of which there are several of different shapes and sizes used at sea, as boat-hooks, can-hooks, cat-hooks, fish-hooks, foot-hooks, &c. See the articles Boat-hook, Can-hook, &c.

HORSE, (marche-pied, Fr.) a rope reaching from the middle of a yard to it's extremity, or what is called the yard-arm, and depending about two or three feet under the yard, for the sailors to tread upon, whilst they are loosing, reefing or furling the sails, rigging out the studding-sail booms, &c. In order therefore to keep the horse more parallel to the yard, it is usually suspended thereto, at proper distances, by certain ropes called sirups, which hang about two feet under the yard, having an eye in their lower ends through which the horse passes. See the article Rigging.

Horse is also a thick rope, extended in a perpendicular direction near the fore or after-side of a mast, for the purpose of hoisting or extending some sail thereon. When it is fixed before a mast, it is calculated for the use of a sail called the square-sail, whose yard being attached to the horse, by means of a traveller, or bell's-eye, which slides up and down occasionally, is retained in a steady position, either when the sail is set, or whilst it is hoisting, or lowering. When the horse is placed abaft or behind a mast, it is intended for the try-sail of a snow, and is accordingly very rarely fixed in this;
H O U S I N G, or HOUSE-LINE, a small line, formed of three fine strands, or twists of hemp, smaller than rope-yarn. It is chiefly used to seize blocks into their strops, to bind the corners of the sails, or to fasten the bottom of a sail to its bolt-rope, &c. See BOLT-ROPE.

HOY, a small vessel, chiefly used in toasting, or carrying goods to or from a ship, in a road or bay, where the ordinary lighters cannot be managed with safety or convenience.

It would be very difficult to describe, precisely, the marks of distinction between this vessel and some others of the same size, which are also rigged in the same manner; because what is called a hoy in one place, would assume the name of a sloop or smack in another: and even the people, who navigate these vessels, have, upon examination, very vague ideas of the marks by which they are distinguished from those above mentioned. In Holland, the hoy has two masts; in England it has but one, where the main-sail is sometimes extended by a boom, and sometimes without it. Upon the whole, it may be defined a small vessel, usually rigged as a sloop, and employed for carrying passengers and luggage from one place to another, particularly on the sea-coast.

HULK, an old ship of war, fitted with an apparatus, to fix or take out the masts of his majesty’s ships, as occasion requires.

The mast of this vessel a a fig. 2, plate V. is extremely high, and withal properly strengthened by frouds and stays, in order to secure the sheers, (machine a mater, Fr.) which serve, as the arm of a crane, to hoist out or in the masts of any ship lying alongside. The sheers, b b, are composed of several long masts, whose heels rest upon the side of the hulk, and having their heads declining outward from the perpendicular, so as to hang over the vessel whose masts are to be fixed or displaced. The tackles, c c, which extend from the head of the mast to the sheer-heads, are intended to pull in the latter towards the mast-head, particularly when they are charged with the weight of a mast after it is raised out of any ship, which is performed by strong tackles depending from the sheer-heads. The effort of these tackles is produced by two capsterns, fixed on the deck for this purpose.
Hulk is also a name bestowed on any old vessel laid by, as unfit for further service: it is probably derived from the 
\[\text{κρατέ}ς\], or vessels of burthen of the ancient Grecians.

Hull, (corps d'un vaisseau, Fr.) the frame, or body of a ship, exclusive of her masts, yards, sails, and rigging: it is usually expressed of a ship either before she is furnished with masts, &c. or after she is dismantled and stripped of the aforefaid machinery.

To Hull a ship, is to fire cannon-balls into her hull within the point-blank range.

Hull-to, the situation of a ship when she is trying a-hull, or with all her sails furled; as in trying. See the article Trying.

Hurricane, (ouragan, Fr. huracan, Span.) a violent and prodigious tempest, occasioned by the collection and opposition of several winds, that sometimes blow from one quarter and sometimes from another, producing a dangerous agitation in the sea, where the waves break, and dash against each other with astonishing fury. On the approach of a hurricane, the sea and air become perfectly calm and motionless, without a breath of wind stirring either. Soon after this the sky is darkened, the clouds accumulate, and the light of the day is replaced by terrible flashes of lightening. The hurricanes often last abundantly long, and are usually accompanied with many fatal accidents*. During the continuance of this general calamity, the vessels which were anchored in the roads frequently cut their cables and put to sea, where they drive at the mercy of the winds and waves, after having struck their yards and top-masts.

The hurricanes are more usual between the tropics, particularly in the Atlantic ocean, than to the northward or southward of the torrid zone.

* Aubin. Saverien.
JACK, a sort of flag or colours, displayed from a masts erected on the outer end of a ship's bowspirt. In the British navy the jack is nothing more than a small union flag, composed of the interjection of the red and white crosses; but in merchant-ships this union is bordered with a red field. See the article Union.

JACOB's STAFF, (baton astronomique, Fr.) an instrument formerly used to take altitudes at sea.

JAMMING, the act of inclosing any object between two bodies, so as to render it immovable, whilst they continue in the same position. This expression is usually applied to the situation of some running-rope, when it happens to be squeezed by the compression of the standing-rigging, &c. and by consequence incapable of performing it's office, by traversing in the blocks, till it is released from this confinement. In this sense jamming is opposed to rendering, which see.

A caft, box, &c. is also said to be jammed, when it is in the same manner wedged in between weighty bodies, so as not to be dislodged without great difficulty.

JEARS, or GEERS, (driffe, Fr.) an assemblage of tackles, by which the lower yards of a ship are hoisted up along the mast to their usual station, or lowered from thence as occasion requires; the former of which operations is called swaying, and the latter, striking. See those articles.

In a ship of war, the jears are usually composed of two strong tackles, each of which has two blocks, viz. one fastened to the lower mast head, and the other to the middle of the yard. The two blocks which are lofted to the middle, or slings of the yard, are retained in this situation by means of two cleats, nailed on each side, whose arms enclose the ropes by which the blocks are fastened to the yard. The two ropes, which communicate with these tackles, lead down to the deck on the opposite side of the mast, according to the situation of the upper jear-blocks.

The jears, in merchant-ships, have usually two large single blocks on the opposite side of the mast-head, and another of the same size in the middle of the yard. The rope which communicates with these passes through one of the blocks hanging at the mast-head, then through the block on the yard, and afterwards through the other hanging-block upon the mast. To the two lower ends of this rope, on the opposite sides of the mast, are fixed two tackles, each of which is formed of two double blocks, the lower one being hooked to a ring-bolt in the deck, and the upper one spliced, or seizing, into the lower end of the great rope above, which is called the tye. By this
this contrivance the mechanical power of the tackle below is transmitted to
the tye, which, communicating with blocks on the yard, readily sways-up,
or lowers it, either by the effort of both jears at once, on the opposite sides
of the mast, or by each of them separately, one after the other.

JETTY-HEAD, a name usually given, in the royal dock-yards, to that
part of a wharf which projects beyond the rest; but more particularly the
front of a wharf, whose side forms one of the cheeks of a dry or wet dock.

JEWEL-BLOCKS, a name given to two small blocks, which are sus-
pended at the extremity of the main and fore-top-sail-yards, by means of
an eye-bolt, driven from without into the middle of the yard-arm, parallel
to its axis. The use of these blocks is to retain the upper-part of the top-
maft fludding-fails beyond the skirts of the top-fails, so that each of those
fails may have its full force of action, which would be diminished by the
incrementation of the other over its surface. The haliards, by which those
fludding-fails are hoisted, are accordingly passed through the jewel-blocks;
whence, communicating with a block on the top-mast-head, they lead downward
to the top or decks, where they may be conveniently hoisted. See the
article SAIL.

JIB, (foc, Fr.) the foremost fail of a ship, being a large stay-sail extended
from the outer end of the bowsprit, prolonged by the jib-boom, towards the fore-top-mast-head. See SAIL.

The jib is a fail of great command with any side-wind, but especially
when the ship is close-bailed, or has the wind upon her beam; and it's effort
in casting the ship, or turning her head to leeward is very powerful, and of
great utility, particularly when the ship is working through a narrow chan-
nel. See SAILING.

JIB-BOOM, a boom run out from the extremity of the bowsprit, parallel
to it's length, and serving to extend the bottom of the jib, and the stay of
the fore-top-gallant-mast. This boom, which is nothing more than a contin-
uation of the bowsprit forward, to which it may be considered as a top-mast,
is usually attached to the bowsprit by means of two large boom-irons, (see
the article Irons-Work) or by one boom-iron, and a cap on the outer-end
of the bowsprit; or, finally, by the cap without, and a strong lashing
within, instead of a boom-iron; which is generally the method of securing
it in small merchant-ships. It may therefore be drawn in upon the bowsprit
as occasion requires, which is usually practiced when the ship enters a har-
bour, where it might very soon be broke, or carried away, by the vessels
which are moored therein, or passing by under sail.

JIBING. See GYRING.

JIGGER, a machine, consisting of a piece of rope about five feet long,
with a block at one end and a sheave at the other; and used to hold-on the
cable, when it is heaved into the ship by the revolution of the windlass. See
HOLDING-ON.

The jigger is particularly useful when the cable is either slippery with
mud or ooze, or when it is stiff and unwieldy; in both of which cases it is
very difficult to stretch it back from the windlass by hand, which however is
done
done with facility and expedition, by means of the jigger, as follows: the end of the rope, to which the sheave is fastened by a knot, is passed round the cable close to the windlasses, and the hind part of the rope, coming over the sheave, is stretched aft by means of another rope passing through the jigger-block. As soon as the last rope is extended, the turn of the former about the cable is firmly retained in its position, by the compression of it's hind part under the sheave, acting upon what may be called the neck of the jigger. But as the cable continues to be heaved into the ship, it is evident that the jigger, which is fastened on a particular part thereof, stretching it back, will be removed further aft, by every turn of the windlasses, and the effort of the jigger will be lessened in proportion to it's distance from the windlasses: this circumstance renders it necessary to fleet or replace it, in a proper state of action, as occasion requires. The man who performs this office accordingly calls out, fleet jigger! one of the men, at the windlasses, instantly fixes his handspec between the deck and the cable, so as to jam the latter to the windlasses, and prevent it from running out till the jigger is re-fixed.

**JIGGER-TACKLE,** a light small tackle, consisting of a double and single block, and used on sundry occasions by seamen. See Tackle.

**INSURANCE,** (affurence, Fr.) a certain contract, by which an individual, or company, agrees to indemnify whatever losses or damages may happen to a ship or cargo, during a voyage, provided they are not occasioned by default of the person insured. For this agreement the latter pays a certain sum in advance, called the *premium,* which accordingly falls to the insurer, in case the ship arrives in a safe harbour; but if the ship is lost, the insurer renders the stipulated sum to the merchant.

**JOURNAL,** in navigation, a sort of diary, or daily register of the ship's course, winds, and weather; together with a general account of whatever is material to be remarked in the period of a sea voyage.

In all sea-journals, the day, or what is called the *24 hours,* terminates at noon, because the errors of the dead-reckoning are at that period generally corrected by a solar observation. The daily compact usually contains the state of the weather, the variation, increase, or diminution of the wind; and the suitable shifting, reducing, or enlarging the quantity of sail extended; as also the most material incidents of the voyage, and the condition of the ship and her crew; together with the discovery of other ships or fleets, land, shoals, breakers, soundings, &c.

The form of keeping journals is very different in merchant ships; but one method appears to be invariably pursued in the navy, which nevertheless is certainly capable of improvement, because no form can be properly called perfect, that leaves as great a space for one day's work, the matter of which may be contained in very few lines, as for another that abounds with important incidents, so as to occupy ten times the space. If therefore there be any
any such thing as propriety of method on this occasion, it seems to imply, that the space containing should conform to the matter contained, which will necessarily be greater or less, according to circumstances.

IRON-GARTERS, (bas de feste, Fr.) a cant word for bilboes, or fetters.

IRON-WORK, (ferrure, Fr.) a general name for all the pieces of iron, of whatsoever figure or size, which are used in the construction of a ship: as bolts, boom-irons, nails, spikes, chains and chain-plates, block-strops, cranks, pintles, and googings.

The most material of these articles are explained in their proper places.

ISLAND of ICE, a name given by sailors to a great quantity of ice collected into one huge solid mass, and floating about upon the seas near or within the arctic circle.

Many of these fluctuating islands are met with on the coasts of Spitzbergen, to the great danger of the shipping employed in the Greenland fishery.

JUNK, (bouts de cable, Fr.) a name given to any remnants or pieces of old cable, which is usually cut into small portions for the purpose of making points, mats, gaskets, fennit, &c. See Points, &c.

JURY-MAST, a temporary or occasional mast, erected in a ship to supply the place of one which has been carried away by tempest, battle, or the labours of a ship in a turbulent sea.
KAILING, or KECLING, a name given to any old ropes, which are wound about a cable, with a small interval between the turns, and used to preserve the surface of the cable from being fretted, when it rubs against the ship's bow, or fore-foot. See also Rounding and Service.

KEDGE, (ancre de toue, Fr.) a small anchor used to keep a ship steady whilst she rides in a harbour or river, particularly at the turn of the tide, when she might otherwise drive over her principal anchor, and entangle the fluke or flukes with her flack cable, so as to loosen it from the ground. This is accordingly prevented by a kedge-rope that restrains her from approaching it.

The kedges are also particularly useful in transporting a ship, i. e. removing her from one part of the harbour to another, by means of ropes, which are fastened to these anchors. They are generally furnished with an iron flack, which is easily displaced, for the convenience of stowing them. See the articles Anchor and Warp.

KEEL, the principal piece of timber in a ship, which is usually first laid on the blocks in building.

If we compare the carcass of a ship to the skeleton of the human body, the keel may be considered as the back-bone, and the timbers as the ribs. It therefore supports and unites the whole fabric, since the stem and stern-post, which are elevated on its ends, are, in some measure, a continuation of the keel, and serve to connect and enclose the extremities of the sides by transoms; as the keel forms and unites the bottom by timbers.

The keel is generally composed of several thick pieces, (A, plate I. Pieces of the Hull) placed lengthways, which, after being scarfed together, are bolted, and clinched upon the upper side. When these pieces cannot be procured large enough to afford a sufficient depth to the keel, there is a strong thick piece of timber bolted to the bottom thereof, called the false keel, which is also very useful in preserving the lower-side of the main keel. In our largest ships of war, the false keel is generally composed of two pieces, which are called the upper and the lower false keels. See Mid-ship-Frame.

The lowest plank in a ship's bottom, called the garboard streak, has its inner edge let into a groove, or channel, cut longitudinally on the side of the keel: the depth of this channel is therefore regulated by the thickness of the garboard-streak.
Keel. Keel is also a name given to a low flat-bottomed vessel, used in the river Tyne to bring the coals down from Newcastle, and the adjacent parts, in order to load the colliers for transportation.

Upon an even Keel, the position of a ship when her keel is parallel to the plane of the horizon, so that she is equally deep in the water at both ends.

Keel-hauling, a punishment inflicted for various offences in the Dutch navy. It is performed by plunging the delinquent repeatedly under the ship's bottom on one side, and hoisting him up on the other, after having passed under the keel. The blocks, or pullies, by which he is suspended, are fastened to the opposite extremities of the main-yard, and a weight of lead or iron is hung upon his legs to sink him to a competent depth. By this apparatus he is drawn close up to the yard-arm, and thence let fall suddenly into the sea, where, passing under the ship's bottom, he is hoisted up on the opposite side of the vessel. As this extraordinary sentence is executed with a serenity of temper peculiar to the Dutch, the culprit is allowed sufficient intervals to recover the sense of pain, of which indeed he is frequently deprived during the operation. In truth, a temporary insensibility to his sufferings ought by no means to be construed into a disrespect of his judges, when we consider that this punishment is supposed to have peculiar propriety in the depth of winter, whilst the flakes of ice are floating on the stream, and that it is continued till the culprit is almost suffocated for want of air, benumbed with the cold of the water, or stunned with the blows his head receives by striking the ship's bottom.

To Keep, a term used on several occasions in navigation: as,

To Keep the land aboard, is to keep within sight of land as much as possible. See also Hold.

To Keep the luff, to continue close to the wind, i.e., filling with a course inclined to the direction of the wind, as much as possible, without deviating to leeward. This is also called, keeping the wind. See Close-hauled.

To Keep off, (alarguer, tenir le large, Fr.) to sail off, or keep at a distance from the shore. See also Offing.

Boat-Keeper, one of the rowers, who remains as a sentinel, in his turn, to take care of any boat and her contents, either when she lies by the shore, or along-side of the ship, or when she is towed astern of her.

Kelson, (contre guil, Fr.) a piece of timber, which may be properly defined the interior, or counter-part of the keel, as it is laid upon the middle of the floor-timbers, immediately over the keel, and, like it, composed of several pieces, scarfed together, represented by X, plate I. Pieces of the Keel. In order to fit with more security upon the floor-timbers and crotchets, it is notched about an inch and a half deep, opposite to each of those pieces, and thereby firmly scored down upon them to that depth, where it is secured by spike-nails. The pieces of which it is formed are only half the breadth and thickness of those of the keel.

The kelson serves to bind and unite the floor-timbers to the keel. It is confined to the keel by long bolts, which, being driven from without through several
several of the timbers, are fore-locked or clinched upon rings on the upper side of the kelfon.

KETCH, (bombarde, Fr.) a vessel equipped with two masts, viz. the main-mast and mizen-mast, and usually from 100 to 250 tons burthen.

Ketches are principally used as yachts, or as bomb-vessels, the former of which are employed to convey princes of the blood, ambassadors, or other great personages from one part to another; and the latter are used to bombard citadels, or towns, or other fortresses.

The bomb-ketches are therefore furnished with all the apparatus necessary for a vigorous bombardment. They are built remarkably strong, as being fitted with a greater number of riders than any other vessel of war; see fig. 5, plate VII. and indeed this reinforcement is absolutely necessary to sustain the violent shock produced by the discharge of their mortars, which would otherwise, in a very short time; shatter them to pieces. See Mortar and Shell.

KEVELS, (taquets, Fr.) a frame composed of two pieces of timber, whose lower ends rest in a sort of step or foot, nailed to the ship's side, from whence the upper ends branch outward into arms or horns, serving to belay the great ropes by which the bottoms of the main-fall and fore-fall are extended. These are represented by fig. 3, plate V.

KEY, (quai, Fr.) a long wharf, usually built of stone, by the side of a harbour or river, and having several store-houses for the convenience of lading and discharging merchant-ships. It is accordingly furnished with posts and rings, whereby they are secured; together with cranes, capsterns, and other engines, to lift the goods into, or out of, the vessels which lie along-side.

KEYS, (attalens, Fr.) are also certain sunken rocks, lying near the surface of the water, particularly in the West-Indies.

KINK, a sort of twist or turn in any cable or other rope, occasioned by it's being very fluff or close-laid; or by being drawn too hastily out of the roll or tier, wherein it lay coiled. See the article Coiling.

KNEE, (courbe, Fr.) a crooked piece of timber, having two branches, or arms, and generally used to connect the beams of a ship with her sides or timbers.

The branches of the knees form an angle of greater or smaller extent, according to the mutual situation of the pieces which they are designed to unite. One branch is securely bolted to one of the deck-beams, whilst the other is in the same manner attached to a corresponding timber in the ship's side, as represented by E in the Midship-Frame, plate VII.

Besides the great utility of knees in connecting the beams and timbers into one compact frame, they contribute greatly to the strength and solidity of the ship, in the different parts of her frame to which they are bolted, and thereby enable her, with greater firmness, to resist the effects of a turbulent sea.

In fixing of these pieces, it is occasionally necessary to give an oblique direction to the vertical, or side-branch, in order to avoid the range of an adjacent
KNEE

adjacent gun-port, or, because the knee may be so shaped as to require this disposition; it being sometimes difficult to procure so great a variety of pieces as may be necessary in the construction of a number of ships of war.

In France, the scarcity of these pieces has obliged their shipwrights frequently to form their knees of iron.

Knees are either said to be lodging or hanging. The former are fixed horizontally in the ship's frame, having one arm bolted to the beam, and the other across two or three timbers, as represented by F in the Deck, plate III. The latter are fixed vertically, as we have described above. See also Building, Deck, and Midship-Frame.

Knee of the head, (poulaine, Fr.) a large flat piece of timber, fixed edgewise upon the fore-part of a ship's item, and supporting the ornamental figure or image, placed under the bowsprit. See the article Head.

The knee of the head, which may properly be defined a continuation of the item, as being prolonged from the item forwards, is extremely broad at the upper-part, and accordingly composed of several pieces united into one, YY, plate I. Pieces of the Hull. It is let into the head, and secured to the ship's bows by strong knees fixed horizontally upon both, and called the cheeks of the head, ZZ, plate IV. fig. 10. The heel of it is scarfed to the upper end of the fore-foot, and it is fastened to the item above by a knee, called a standard, expressed by &c, in plate I. Pieces of the Hull.

Besides supporting the figure of the head, this piece is otherwise useful, as serving to secure the boom, or bumkin, by which the fore-tack is extended to windward; and, by its great breadth, preventing the ship from falling to leeward, when close-hauled, so much as the would otherwise do. It also affords a greater security to the bowsprit, by increasing the angle of the bobstay, so as to make it act more perpendicularly on the bowsprit.

The knee of the head is a phrase peculiar to shipwrights; as this piece is always called the cut-water by seamen, if we except a few, who affecting to be wiser than their brethren, have adopted this expression probably on the presumption that the other is a cant phrase, or vulgarism. It appears a material part of the province of this work to call the several articles contained therein by their proper names, and to reject those which are spurious, however sanctified by the authority of official dulness, or seconded by the adoption of dignified ignorance. Accordingly we cannot help observing, that when a term of art has been established from time immemorial, and, besides being highly expressive, produces the testimony of foreign nations to it's propriety, nothing more certainly betrays a superficial understanding, than the attempt to change it, without being able to assign the shadow of a reason for this alteration. For although knee of the head, being invariably used by the artificers, is of course explained in this work as a term of naval architecture, wherein practice has indeed rendered it natural and intelligible; it is nevertheless very rarely used by seamen, especially in common discourse, unless when it is intended to impress the hearer with an idea of the speaker's superior judgment.

* The cut-water is called taille-mer by the French.
KNIGHT-HEAD, or BOLLARD-TIMBER. See the article HEAD.

Knight-Heads, two strong pieces of timber, fixed on the opposite sides of the main-deck, a little behind the fore-mast, in a merchant-ship. They are used to support and inclose the ends of the windlasses, which accordingly is turned therein as upon an axis. As each of the knight-heads is formed of two pieces, they may be occasionally separated in order to take off the turns of the cable from the windlasses, or replace them upon it. They are sometimes called the bits, and in this sense their upper parts only are denominated knight-heads, which being formerly embellished with a figure designed to resemble a human head, gave rise to the name they have ever since retained. See the article WINDLASS.

Knight-heads, (fep de driffe, Fr.) was also a name formerly given to the lower eye-blocks, which were then no other than bits, containing several sheaves, and nearly resembling our present top-sail-sheets bits.

KNITTLLE, (éguillette, Fr. from knit) a small line, which is either plaited or twilled, and used for various purposes at sea; as to fasten the service on the cable, to reef the sails by the bottom, and to hang the hammocks between decks; this name is also given to the loops or buttons of a bonnet.

KNOT, a large knob formed on the extremity of a rope, by untwisting the ends thereof, and interweaving them regularly amongst each other. There are several sorts of knots, which differ in their form and size, according to the uses for which they are designed: the principal of these are the diamond-knot, the rope-knot, the wall-knot, or walnut; some of which are single, and others double.

The knots are generally used to fasten one rope to another, by means of a small cord attached to the neck of the knot, called the laniard, which is firmly tied about both ropes. They are also designed to prevent the end of a rope from sliding through an eye, which the knot is intended to confine in a particular situation. See BECKETS.
TO LABOUR, (travailler, Fr.) as a sea-term, implies to roll or pitch heavily in a turbulent sea; an effect, by which the masts and hull of the ship are greatly endangered, because by the rolling motion the masts strain upon their shrouds with an effort, which increases as the fine of their obliquity: and the continual agitation of the vessel gradually loosens her joints, and often makes her extremely leaky.

LADDER, (echelle, Fr.) a well-known convenience, of which there are a great number in a ship, formed of two pieces of plank joined together by cross-pieces, which serve as steps, whereby to mount or descend from one deck to another.

The ladders derive their names from the several hatchways, or other parts of a ship, wherein they are situated. Besides these, there are, of a particular construction, the accommodation-ladder and the quarter-ladders.

Accommodation-Ladder, is a sort of light stair-case, occasionally fixed on the gangway of the admiral, or commander in chief, of a fleet. It is furnished with rails and entering-ropes, covered with red bays, and the lower-end of it is retained at a competent distance from the ship's side by iron bars, or braces, to render the passage more convenient to those who enter or depart from the ship. See the article Gangway.

Quarter-Ladders, two ladders of rope, depending from the right and left side of a ship's stern, whereby to descend into the boats which are moored astern, in order to bring them up along-side of the ship; or to use them for any other occasion.

LADEN, (chargée, Fr.) the state of a ship when she is charged with a weight or quantity of any sort of merchandizes, or other materials, equal to her tonnage or burthen. If the cargo with which she is laden is extremely heavy, her burthen is determined by the weight of the goods; and if it is light, she carries as much as she can float, to be fit for the purposes of navigation. As a ton in measure is generally estimated at 2000 lb. in weight, a vessel of 200 tons ought accordingly to carry a weight equal to 400,000 lb. when the matter of which the cargo is composed is specifically heavier than the water in which she floats; or, in other words, when the cargo is so heavy that she cannot float high enough, with so great a quantity of it, as her hold will contain.

Laden in bulk, the state of being freighted with a cargo which is neither in casks, boxes, bales, or cases, but lies loose in the hold; being defended from the moisture, or wet of the hold, by a number of mats and a quantity of dunage. Such are usually the cargoes of corn, salt, or such materials.
Laid-up, the situation of a ship when she is either moored in a harbour during the winter-season, or laid by, for want of employment: or when by age and craziness she is rendered incapable of further service.

Lanch, a peculiar sort of long-boat, used by the French, Spanish, and Italian shipping; and in general by those of other European nations, when employed in voyaging in the Mediterranean sea.

A lanch is proportionably longer, lower, and more flat-bottomed than the long-boat; it is by consequence less fit for sailing, but better calculated for rowing and approaching a flat shore. It's principal superiority to the long-boat, however, consists in being, by its construction, much fitter to under-run the cable, which is a very necessary employment in the harbours of the Levant sea, where the cables of different ships are fastened across each other, and frequently render this exercise extremely necessary.

Lanch is also the movement by which a ship or boat descends from the shore, either when she is at first built, or at any time afterwards.

To facilitate the operation of lanching, and prevent any interruption therein, the ship is supported by two strong platforms, laid with a gradual inclination to the water, on the opposite sides of her keel, to which they are parallel. Upon the surface of this declivity are placed two corresponding ranges of planks, which compose the base of a frame called the cradle, whose upper-part envelopes the ship's bottom, whereo it is securely attached. Thus the lower surface of the cradle, conforming exactly to that of the frame below, lies flat upon it, lengthways, under the opposite sides of the ship's bottom; and as the former is intended to slide downwards upon the latter, carrying the ship along with it, the planes or faces of both are well daubed with soap and tallow.

The necessary preparations for the lanch being made, all the blocks and wedges, by which the ship was formerly supported, are driven out from under her keel, till her whole weight gradually subsides upon the platforms above described, which are accordingly called the ways. The shores and stanchions, by which she is retained upon the stocks till the period approaches for lanching, are at length cut away, and the screws applied to move her, if necessary. The motion usually begins on the instant when the shores are cut, and the ship slides downward along the ways, which are generally prolonged under the surface of the water, to a sufficient depth, to float her as soon as she arrives at the furthest end thereof.

When a ship is to be lanch'd, the ensign, jack, and pendent, are always hoisted, the last being displayed from a staff erected in the middle of the ship. Plate V. fig. 4. represents a ship of war ready to be lanch'd from the stocks.

The largest ship that ever was lanch'd in England, is the Britannia, of 100 guns, built at Portsmouth. Ships of the first rate are commonly constructed in dry docks, and afterwards floated out, by throwing open the flood-gates, and suffering the tide to enter, as soon as they are finisht.

Lanch, the order to let go the top-rope; after any top-mast is fised.

Land-fall, (atterrage, Fr.) the first land discovered after a sea-voyage; hence it is common for ships, who accord each other at sea, to
with a good land-fall at parting, by which they imply a discovery of land, at or near the place whither their course is directed, and which they expect to make by their journals.

LAND-LOCKED, (bouclé, Fr.) the situation of a ship which is environed by the land on all sides in a road, bay, or haven; so as to exclude the prospect of the sea, unless over some intervening land. See the French word terre, and the phrases following it.

LANGREL, or LANGRAGE, (mitrailles, Fr.) a particular kind of shot, formed of bolts, nails, bars, or other pieces of iron tied together, and forming a sort of cylinder, which corresponds with the bore of the cannon, from which it is intended to be discharged. This contrivance is particularly designed to wound or carry away the masts, or tear the sails and rigging of the adversary, so as to disable him from flight or pursuit. It is never used in royal ships, but very often by privateers and merchantmen.

LANIARD, (lanier, Fr.) a short piece of cord or line, fastened to several machines in a ship, and serving to secure them in a particular place, or to manage them more conveniently. Such are the laniards of the gun-ports, the laniard of the buoy, the laniard of the cat-hook, &c.

The principal laniards used in a ship, however, are those employed to extend the shrouds and stays of the masts, by their communication with the dead-eyes, so as to form a sort of mechanical power, resembling that of a tackle. See Dead-eyes.

These laniards, (rides, Fr.) are fixed in the dead-eyes as follows: One end of the laniard is thrust through one of the holes in the upper dead-eye, and then knotted, to prevent it from drawing out; the other end is then passed through one of the holes in the lower dead-eye, whence, returning upward, it is inserted through the second hole in the upper dead-eye, and next through the second in the lower dead-eye, and finally through the third holes in both dead-eyes. The end of the laniard, being then directed upwards from the lowest dead-eye, is stretched as still as possible by the application of tackles; and that the several parts of it may slide with more facility through the holes in the dead-eyes, it is well smeared with hog's lard or tallow, so that the strain is immediately communicated to all the turns at once.

LANTHORN, a well-known machine, of which there are many used in a ship, particularly for the purpose of directing the course of other ships in a fleet or convoy; such are the poop and top-lanthorns, &c.

LAP-SIDED, (bordier, Fr.) the state of a ship, which is built in such a manner as to have one side heavier than the other; and, by consequence, to retain a constant beel, or inclination towards the heaviest side; unless when she is brought upright, by placing a greater quantity of the cargo, or ballast, on the other side. See Ballast.

LARBOARD, (bâbord, Fr.) a name given by seamen to the left side of a ship, wherein the right and left are apparently determined by the analogy of a ship's position, on the water, to that of a fish.

Larboard-wathch, (bâbordières, or bâborduës, Fr.) a division of a ship's company on duty, while the other is relieved from it.

LARGE, a phrase applied to the wind, when it crosses the line of a ship's course in a favourable direction, particularly on the beam or quarter. To

under-
understand this more clearly, let us suppose a ship steering west; then the wind, in any point of the compass to the eastward of the leeward or north, may be called large, unless indeed when it is directly east, and then it is said to be right aft.

Sailing LARGE, (aller vent large, Fr.) is therefore advancing with a large wind, so as that the sheets are slackened and flooing, and the bowlines entirely difused. This phrase is generally opposed to failing close-bailed, or with a scant wind, in which situation the sheets and bowlines are extended as much as possible.

LASHING, (ligne d'amarrage, Fr.) a piece of rope employed to fasten or secure any moveable body in a ship, or about her masts, sails, and rigging: also the act of fastening or securing any thing by means of the rope used for this purpose.

LATEEN-SAIL, a long triangular sail extended by a lateen-yard, and frequently used by xebec, polacres, settes, and other vessels navigated in the Mediterranean sea.

LAYING THE LAND, in navigation, the state of motion which increases the distance from the coast, so as to make it appear lower and smaller; a circumstance which evidently arises from the intervening convexity of the surface of the sea. It is used in contradifjtinction to raising the land, which is produced by the opposite motion of approach towards it.

LEAK, a chink or breach in the decks, sides, or bottom of a ship, through which the water passes into her hull. When a leak first commences, the vessel is said to have sprung a leak.

LEAKY, the state of a ship when abounding with leaks.

LEDGES, (barolins, Fr.) certain small pieces of timber placed athwart-ships, under the decks of a ship, in the intervals between the beams, as exhibited in the representation of the deck, plate III.

Ledge is also a long ridge of rocks, near the surface of the sea.

LEE, an epithet used by seamen to distinguish that part of the hemisphere to which the wind is directed, from the other part whence it arises; which latter is accordingly called to windward. This expression is chiefly used when the wind crosses the line of a ship's course, so that all on one side of her is called to-windward, and all on the opposite side, to-leeward: and hence,

* Under the Lee, implies further to the leeward, or further from that part of the horizon from whence the wind blows; as,

* Under the Lee of the shore; i. e. at a short distance from the shore which lies to windward. This phrase is commonly understood to express the situation of a vessel, anchored, or failing under the weather-shore, where there is always smoother water, and lest danger of heavy seas, than at a great distance from it*.

LEE-LARCHES, the sudden and violent rolls which a ship often takes to the leeward in a high sea, particularly when a large wave strikes her on the weather-side.

* Milton alludes to this situation, in his second book of Paradise Lost: where,

"The pilot of some small night-founder'd skiff,
With fixed anchor
Moors by his side, under the lee."
Lee-side, all that part of a ship or boat which lies between the mast, and the side furthest from the direction of the wind; or otherwise, the half of a ship, which is pressed down towards the water by the effort of the sails, as separated from the other half, by a line drawn through the middle of her length. That part of the ship, which lies to windward of this line, is accordingly called the weather-side.

Thus admit a ship to be falling southward, with the wind at easterly, then is her starboard, or right-side, the leeside; and the larboard, or left, the weather-side.

Leeward-ship, a vessel that falls much to leeward of her course, when falling close-hauled, and consequently loses much ground.

To Leeward, towards that part of the horizon which lies under the lee, or whither the wind bloweth. Thus, "We saw a fleet under the lee," and, "We saw a fleet to leeward," are synonymous expressions.

Lee-way, is the lateral movement of a ship to leeward of her course, or the angle which the line of her way makes with the keel when she is close-hauled. See that article.

This movement is produced by the mutual effort of the wind and sea upon her side, forcing her to leeward of the line upon which she appears to fail; and in this situation her course is necessarily a compound of the two motions by which she is impelled, of which the one presses forward, according to the line of her keel, from H to K, fig. 5. plate V. whilst the other, acting in the line B A, pushes her to leeward of the course from B towards A, with a motion which is usually in proportion to the force of the wind, and the rate of her velocity, as appears by the following theory.

When a ship is close-hauled, and the head-falls are in perfect equilibrio with those abaft, the resistance of the water from A to B, fig. 5. plate V. is equal to the impulse of the falls, whether it is impressed upon the center of gravity H of the ship, or any other part of her length before or abaft it. In this situation, the ship will as readily bear away as come nearer to the wind, with regard to the resistance of the water upon her bottom on one side, and the impulsion of the wind upon the falls on the other. But it must be observed, that the united effort of the falls acts upon the ship according to a direction B A, perpendicular to their surfaces, and commencing it's action in some point I, being the mean d between the different effects C G, of the falls aforesaid and abaft, which should exactly correspond with the resistance of the water from A towards B; so that the vessel is pushed to leeward of the course I K, which she steer in the direction B A of the effort of the falls. But the resistance of the water, acting upon the lee-side of her bottom, counterbalances this effort, and becomes stronger, in proportion to the greater facility with which she divides the fluid with her stem; so that she will really advance in the course N R, which lies nearer the line of her keel than B A. Thus the angle K H R of the lee-way is proportional to the greater or less resistance the ship meets with from the fluid upon her lee-side, respectively with her greater or less facility of dividing it with her fore-part; so that the lee-way is very inconsiderable, except when
the ship is close-hauled, and is accordingly disregarded whenever the wind
is large.

This demonstration might be pushed further by a fact founded on daily
experience, which proves that not only the lee-way depends on the form of
the vessel, but also the degree of velocity with which she advances; and per-
haps never, entirely, upon the greater or less obliquity of the sails with the
keel, as some authors have pretended. For when a swift-failing ship is
close-hauled, with all her sails out, in a very light wind, and scarcely having
steering-way, the lee-way is considerable even in smooth water. This is
occasioned by the tardy motion of the vessel, which being feebly pushed
forward cannot impress the water with a forcible effect, and by conquence
feels no resistance from it, but is accordingly carried with facility by her
fails, in the direction of their effort B A: and if we consider the situation
of the ship's side, which presents a great surface of sail above the water, it ap-
ppears that the lee-way will become yet more perpendicular to the keel. But
when the wind makes a forcible impressioin, the velocity of moving forward
is considerably augmented; the ship strikes the fluid with a force, expressed
by the square of two or three leagues of swiftness, from B towards A, in the
space of an hour, whilst the water repels her effort in a contrary direction.
The resistance of the water is then in the ratio of this square to the square
of her first velocity, or head-way; and in this state will not readily yield to
its effort. The lee-way immediately decreases, and will be still further dimi-
nished, if the ship's course is accelerated. If then at the moment when the ship
advances with great rapidity, she bears away 12 or 15 degrees, or even two
points, without altering the general arrangement of her sails, their obliquity
remains the same; the ship therefore ought to have the same lee-way, ac-
cording to the opinion of those who have written on the theory of failing.
The velocity is augmented, because the sails then receive the wind by a
greater line of incidence, and thereby acquire a more powerful effort, whilst
the ship's head is always struck by the water in the same parts, and by the
same line of incidence; so that the lee-way is also diminished, because the
water resists more, in consequence of the accelerated swiftness; and because
the resistance is more exerted on the ship's side than on her head, which is
less opposed to it's impulsion. Hence we may conclude, that the lee-way
of a ship does not entirely depend on the disposition of her sails; that it is
different in different vessels, because they are neither formed alike, nor are
their sails equally trimmed in the same oblique courses; and finally, because
they have always a different velocity, at the same time, and under the same
fail. Thus it is evident, that the lee-way is always composed of the ship's
comparative velocity, of her form, which gives more or less proportional
resistance upon the side than on the fore-part; and of the disposition of her
sails, as forming a greater or smaller obliquity with the keel. See also
Close-hauled, Drift, and Sailing.

Leeches, (bords, Fr.) the borders or edges of a sail, which are either
frowning or perpendicular. See Goring.
LEE LIE

The leeches of all sails, whose tops and bottoms are parallel to the deck, or at right angles with the masts, are denominated from the ship’s side, and the sail to which they belong; as the broad leech of the main-sail, the lee leech of the fore-top-sail, &c. But the sails which are fixed obliquely upon the masts, have their leeches named from their situation with respect to the ship’s length; as the fore-leech of the mizen, the after-leech of the jib, or fore-top-sail, &c.

Leech--lines, (cargues-bouline, Fr.) certain ropes fastened to the middle of the leeches of the main-sail and fore-sail, and communicating with blocks under the opposite sides of the top, whence they pass downwards to the deck, serving to truss up those sails to the yard, as occasion requires. See Brails.

Leech-rope, (ralingue, Fr.) a name given to that part of the bolt-ropes, to which the border, or skirt of a sail is sewed. In all sails, whose opposite leeches are of the same length, it is terminated above by the earing, and below by the clue. See Bolt-ropes, Clue, and Earings.

Lengthening, the operation of cutting a ship down across the middle, and adding a certain portion to her length. It is performed by sawing her planks asunder, in different places of her length, on each side of the mid-ship frame, to prevent her from being weakened too much in one place. The two ends are then drawn apart, to a limited distance, which must be equal to the proposed addition of length. An intermediate piece of timber is next added to the keelson, upon which a sufficient number of timbers are erected, to fill up the vacancy produced by the separation. The two parts of the keelson are afterwards united, by an additional piece which is scored down upon the floor-timbers; and as many beams as may be necessary are fixed across the ship in the new interval. Finally, the planks of the side are prolonged, so as to unite with each other, and those of the ceiling refitted in the same manner; by which the whole process is completed.

To let in, (enclaver, Fr.) amongst shipwrights, is to fix a diminished part of one plank, or piece of timber into a vacancy, formed in another for this purpose. See Rabbit.

Letter of Mart, a commission granted by the lords of the admiralty, or by the vice-admiral of any distant province, to the commander of a merchant-ship, or privateer, to cruise against, and make prizes of, the enemy’s ships and vessels, either at sea, or in their harbours.

To lie along, or lie over. See the article Along.

To lie to. See Lying-to, &c.

Lieutenant of a ship of war, the officer next in rank and power to the captain, in whose absence he is accordingly charged with the command of the ship; as also the execution of whatever orders he may have received from the commander relating to the king’s service.

The lieutenant, who commands the watch at sea, keeps a list of all the officers and men thereto belonging, in order to muster them, when he judges it expedient, and report to the captain the names of those who are absent from their duty. During the night-watch, he occasionally visits the lower decks, or sends thither a careful officer, to see that the proper sentinels are at their
their duty, and that there is no disorder amongst the men; no tobacco
inoked between decks, nor any fire or candles burning there, except the
lights which are in lanterns, under the care of a proper watch, for par-
ticular purpoes. He is expected to be always upon deck in his watch, as
well to give the necessary orders, with regard to trimming the sails and su-
perintending the navigation, as to prevent any noise or confusion; but he
is never to change the ship's course without the captain's directions, unless
to avoid an immediate danger.

The lieutenant, in time of battle, is particularly to see that all the men
are present at their quarters, where they have been previously stationed ac-
cording to the regulations made by the captain. He orders and exhorts
them everywhere to perform their duty, and acquaints the captain at all
other times of the misbehaviour of any persons in the ship, and of whatever
cle concerns the service or discipline.

The youngest lieutenant of the ship, who is also stiled lieutenant at arms,
besides his common duty, is particularly ordered, by his instructions, to
train the seamen to the use of small arms, and frequently to exercise and
discipline them therein. Accordingly his office, in time of battle, is chiefly
to direct and attend them, and at all other times to have a due regard to the
preservation of the small arms, that they be not lost or embezzeled, and that
they are kept clean and in good condition for service.

LIFTS, (balanciers, Fr.) certain ropes, depending from the cap and
mast-head, to the opposite extremities of the yard immediately under, where,
passing through a block or pulley, they become double. They are used
to keep the yard in equilibrio; or to pull one of its extremities higher than
the other as occasion requires; but particularly to support the weight of it,
when a number of seamen are employed thereon, to furl or reef the sail.

The lifts of the top-fail-yards, called the top-fail-lifts, are also used as
sheets to extend the bottom of the top-gallant-sail above.

The yards are laid to be squared by the lifts, when they hang at right
angles with the mast; that is to say, parallel to the horizon, when the vessel
is upright upon the water.

Topping-Lift. See Topping-Lift.

LIGHT, (lege, Fr.) in the sea-language is used in contradistinction to
laden. A ship is accordingly called light, either when she has no cargo,
or when she is not sufficiently ballasted.

LIGHTER, (allege, Fr.) a large, open, flat-bottomed vessel, generally
managed with oars, and employed to carry goods to or from a ship when
she is to be laden or delivered. See the article Vessel.

There are also some lighters furnished with a deck throughout their whole
length, in order to contain those merchandizes, which would be damaged
by rainy weather: these are usually called clofe-lighters.

LIGHT-HOUSE, (phare, tour à feu, Fr.) a fort of tower erected upon
a cape or promontory on the sea-coast, or upon some rock in the sea, and
having a great fire, or light formed by candles, upon its top, in the night
time, which is constantly attended by some careful person, so as to be seen
at
at a great distance from the land. It is used to direct the shipping on the
cost, as they might otherwise run ashore, or flee an improper course, when
the darkness of the night, and the uncertainty of currents, &c. might ren-
der their situation, with regard to the shore, extremely doubtful.
LIGHT-ROOM, (fane de foute, Fr.) a small apartment, inclosed with
glafs windows, near the magazine of a ship of war. It is used to contain
the lights by which the gunner, and his assistants, are enabled to fill the
cartridges with powder, to be ready for action.
LIMBERS, or LIMBER-HOLES, (parcelfes, Fr.) certain square
holes cut through the lower parts of a ship's floor-timbers, very near the
keel. Being disposed in a line, parallel to the keel, they form a channel,
which communicates with the pumps throughout the whole length of the
floor, so that the water which enters by a leak, and would otherwise be in-
tercepted by the timbers, is easily conveyed to the well-room, where the
pumps are fixed. Every floor-timber has two limber-holes cut through it,
viz. one on each side of the kelion.
LIMBER-BOARDS, short pieces of plank, which form a part of the ceil-
ing, or lining of a ship's floor, close to the kelion, and immediately above
the limbers. They are occasionally removed, when it becomes neceffary,
to examine, or clear the limber-holes of any filth, sand, chips, or gravel,
by which they may be clogged, fo as to interrupt the passage of the water,
in the ship's floor, to the pump-well.
LIMBER-ROPE, a long rope, frequently retained in the limber-holes of a
ship, and communicating from one to another, in order to clear them by
pulling the rope backwards and forwards, fo as to loosen the sand or dirt
by which they may occasionally be choaked.
LINE, (ligne, Fr.) a general name given to the arrangement or order in
which a fleet of ships of war are disposed to engage an enemy.
This disposition, which is the best calculated for the operations of naval
war, is formed by drawing up the ships in a long file, or right line, pro-
longed from the keel of the hindmost to that of the foremost, and pulling
longitudinally through the keels of all the others, from the van to the rear;
fo that they are, according to the sea-phrase, in the wake of each other.
In the line, or order of battle, all the ships of which it is composed are
clofe hauled, upon the starboard or larboard-tack, about 5o fathoms distant
from each other. See plate V. fig. 6. where a b represents the elevation, and
A B the plan of this order, upon the starboard-tack; the direction of the
wind in both being expressed by the arrow in the latter.
A fleet is more particularly drawn up in the line when in presence of an
enemy. It ought to be formed in such a manner as that the ships should
mutually sustain and reinforce each other, and yet preserve a sufficient space
in their stations, to work or direct their movements with facility during
the action. Thus they will be enabled effectually to cannonade the enemy,
without incommoding the ships of their own squadron.
The line clofe-hauled is peculiarly chosen as the order of battle, because
if the fleet, which is to windward, were arranged in any other line, the enemy
might
might soon gain the **weather-gage** of it; and even if he thinks it expedient to decline that advantage, it will yet be in his power to determine the distance between the adverse fleets, in an engagement, and to compel the other to action. The fleet to leeward, being in a line close-hauled, parallel to the enemy, can more readily avail itself of a change of the wind, or of the neglect of it's adversary, by which it may, by a dextrous management, get to windward of him: or, should it fail in this attempt, it will nevertheless be enabled, by the favourable state of the wind, to avoid coming to action, if the enemy is greatly superior; or to prevent him from escaping, if he should attempt it.

Besides these advantages, this order of battle is singularly convenient and proper in other respects. The fails of each ship are disposed in such a manner as to counter-act each other, so that the ships in general neither advance nor retreat during the action. By this circumstance they are enabled to retain their stations with greater stability, and to prosecute the battle with vigour and resolution, yet without perplexity and disorder. The uniformity of the line will be preferred, so that the admiral's orders may be readily communicated by signals from the van to the rear. The difficulties of any particular ship, that is disabled and rendered incapable to continue the action, will be more readily discovered, and her place accordingly supplied by one of the ships in reserve. The circumstances and situation of the enemy's line will be ever open to the view of the commander in chief, so that he may be enabled to convert any disaster that may happen therein to his own advantage.

It may be alleged, indeed, that the same reason hold good with regard to the enemy, to whom this arrangement will be equally beneficial. It may also be observed, that particular occasions have rendered it necessary to break the order of the line; and that sometimes this expedient has been practised with equal judgment and success. To the first of these allegations it may be answered, that in war as well as politics, there are certain general rules absolutely necessary to be observed by the hostile powers: rules which are founded on mutual convenience, and authorised by the invariable example of all ages! Whatever tends to facilitate the designs of the adverse parties on each other, or whatever operates to shorten the period of war, and render it less destructive and fatal, are objects which ought never to be disregarded. Disorder has not only a tendency to protract the war, but to make it more bloody and ruinous, and to aggravate all the calamities with which it is inseparably attended. Perhaps this observation is particularly applicable to our present purpose, unless the consequences of disorder in a sea-fight, as related below, should rather be considered as the creation of fancy, than a recital of facts, naturally resulting from known causes. Although peculiar circumstances have sometimes, by their success, justified the measure of engaging an enemy's fleet, without forming the line; or after the line has been separated; there is nevertheless very few operations in war that require greater delicacy and vigilance, if the hostile fleets are very near to each other. Perhaps no military enterprize can be attended with greater hazard, or with fewer hopes of success. The incessant fire of so large an assembly of ships in a very short time covers the scene of action with a cloud of smoke,
smoke, which is constantly accumulating. The winds that enabled the two
sleets to approach each other are soon become extremely feeble, or perhaps
perfectly lull'd, by the explosions of a vigorous cannonade; they are of course
incapable any longer to dissipate the smoke, which then darkens the air, and is
almost impenetrable to the eye. If in this situation the hostile ships are
promiscuously scattered amongst each other, it is easy to foretel the mis-
chief, perplexity, and distraction, to which the whole will be inevitably ex-
posed. Not only is the most comprehensive skill of the commander in chief
rendered useless; the smaller ships, abandoned to their ill fortune, may be
torn to pieces by superior force, without relief or succour: and, what is in-
finitely worse than all, the ships of the same fleet may cannonade each other,
with all the resolution and spirit which they exert against their enemies!
If the design of war is conquest, and not massacre, it is thus totally per-
verted! The battle, instead of being brought to a speedy issue, and decided
by a victory and defeat, is unhappily protract'd into a scene of slaughter
and ruin, equally fatal and undecided to both parties.

If then disorder and confusion are fraught with such dangerous conse-
quences in a naval armament, it is no les certain that the principal sinews of
it's strength are discipline, regularity, vigilance, and activity. It has been
already remarked, that the ships of the line should be sufficiently close, to
sustain each other; for if they are further apart than those of the enemy's line,
many single ships will suffer the fire of two at once. Hence the fleet is
rendered inferior to that of the enemy, at the onsef of battle; a circum-
fstance which evinces the superiority of larger ships, accompanied with
weightier metal! the enemy is defeated by the efforts of a more numerous
and more powerful artillery.

Besides these advantages, the larger ships are in other respects highly pre-
ferrable in a line of battle. They overlook those of an inferior rate, which
are accordingly laid open to the fire of their musquetry. In a high sea
they can more safely employ the artillery of their lower deck than a smaller
ship; and if both are obliged to fluit their lower deck ports, the advantage
of the three-decked ships, with regard to their cannon, will yet be con-
iderable: they have three tier against two, and two against one. The fame
superiority subsists, in case they are dismasted, when the upper-deck is en-
cumbered with the ruins.

The large ships, being higher between-decks, are less incommoded with
the smoke; and their cannon is managed with greater facility.

The large ships, having greater solidity of frame, are better calculated to
resist the effects of battle and tempest. In general also, they sail better than
the small ones, except in fine weather; for in a fresh wind, when the sea
becomes agitated, they have always the superiority.

The fire-ships do not succeed so well against large ships as the smaller ones:
the artillery will sink them, or oblige them sooner to relinquish their de-
sign; and they are easily tossed away by the great long-boats.

The line of a fleet, which has abundance of capital ships, need not be
so much inclosed as that of an enemy who has fewer. The former may be
also less numerous, without being weaker.

A a 2

An
An open line will, on many occasions, work more easily than one which is more inclosed; and if it is less numerous, the movements thereof are more expeditious; the signals better attended to; the general order more exactly preserved; and the ships less liable to be separated. Hence it will be less embarrassed by a change of wind, and the order will be sooner re-established.

A less numerous line will more readily approach or escape from an enemy, or a hostile shore; and, finally, when cruising in a smaller space, it will not be so much contracted.

From the preceding reflections it results, that the line, which contains more capital ships, will be stronger than one more numerous, if composed of smaller ships. This reflection however does not exclude a certain number of the third and fourth ratios, which are necessary in all naval armaments.

As the hostile fleets are drawn up in two opposite lines, with their sides to the wind, it is evident that one must be to the leeward of the other, as appears in fig. 8, plate V. Both situations however have their defects as well as advantages.

The advantages of a weather-line are generally, that it may approach the enemy so as to determine the time and distance of action. If it is more numerous than the lee-line, it may easily appoint a detachment to fall upon the van and rear of the latter, and inclose it between two fires. It is little incommoded by the fire or smoke of the cannon, and may dispatch the fire-ships, under cover of the smoke, upon the disabled ships of the lee-line; or wherefoever they may occasion perplexity and disorder, by obliging the enemy to break the line and bear away.

The weather-line has nevertheless its defects, which sometimes counter-balance the advantages above recited. If the sea is rough, and the wind boisterous, it cannot readily fight with the lower-deck battery. It cannot decline the action, without the dangerous expedient of forcing through the enemy's line; and if it keeps the wind, the lee-line may inclose, and totally destroy it, especially if it is inferior in number to the latter; or if the ships thereof are in bad condition; for it then can find no other resource but in the dexterity of its manoeuvres, unless it is favoured by the wind, or any overflight of the enemy. The disabled ships of the weather-line must tack, to avoid falling into the enemy's fleet; and if they are much shattered, they may be altogether separated from their own fleet, particularly if they are in the rear of the line.

The line to leeward has also it's advantages, which have occasionally been preferred to those of the weather-line. The ships of the former may use the guns of their lower decks, without the hazard of taking in much water at the ports in stormy weather; whereas the line to windward dare not open them, without the greatest danger. If the lee-line, although more numerous, cannot so easily double upon the van and rear of the enemy, and inclose them between two fires, it may nevertheless have opportunities of tacking, and cutting off a part of the enemy's rear, by obliging them to bear away, or

* De Morogues, Tactique Navale, separate
separate from the rest. The disabled ships to leeward are much more readily removed from the line than those to windward, without being obliged to tack and continue exposed to the enemy's fire: they bear away, and remain at a competent distance from the fleet in a state of safety. Finally, the lee-line can with more facility avoid the action than it's adversary; a circumstance which is extremely favourable to an inferior squadron.

The defects of the lee-line, on the contrary, are, that it cannot decide the time and distance of the battle, which may commence before it is sufficiently formed, and it will perhaps be attacked by an enemy, who bears away upon it in regular order. The fire and smoke of the weather-line are a great inconvenience to it; and it cannot easily break the enemy's line with it's fire-ships, which are very slowly and with great difficulty conveyed to windward.

It must be remarked, that the admiral's ship attentively preserves her station in the center of the line; for if the commander in chief should give way to the caprice or inattention of any of those under his direction, it would introduce an endless disorder into the squadron.

To illustrate this article, and enable the reader to form a clearer idea of the line, we have, in plate V. represented several distinct views, according to the different situations which it occasionally assumes.

Fig. 7. exhibits a perspective view of the line of battle on the starboard-tack, A B being the plan thereof.

Fig. 8. a, represents the profile of the same line on the starboard-tack, as brought to action by the opposite line b. The plan of these squadrons, A B, appears immediately below.

It is necessary to remark here, that a fleet frequently retains the order of the same tack, occasionally, when the whole fleet goes about at once, as expressed by a, fig. 9. of which A is the plan. Or it goes about gradually; the headmost ship having tacked first, and the next tacked as soon as she arrived in her wake; the rest following the same example. See c, fig. 7. and C in the plan of the same figure.

It also frequently preserves the order of the line close-hauled, although fleeing with a large wind, either in pursuit of a flying enemy, or proceeding in a particular course. Thus the fleet b, fig. 10. although ranged so as to be in a line upon the larboard-tack, if close to the wind, is chasing the fleet a to leeward, which is either parallel to the former and preserving the same order, or fails on a line abreast, as expressed by the plan C. See also the article ABREAST.

Fig. 11 exhibits a fleet formed into a line, on the starboard-tack, bearing away upon the continuation of the same line after. Thus supposing them to be formed on the starboard-tack, and sailing due north, in a line ahead; it is evident that every ship, at one and the same time, bears away and steers south, the whole fleet will again be upon a line ahead, with the wind upon the larboard-quarter, as expressed in this figure, and in the plan under it.

Fig. 12 represents a fleet bearing away, and having half of it's ships ranged on the starboard-tack, and the other half on the larboard-tack, so as to form the
the two sides of the angle $bca$, of which the commander in chief $a$ makes the central point. This disposition is sometimes used to force through a passage which is guarded by an enemy. See also the plan thereof, ABC below, where it is evident that the admiral is the foremost ship, whilst bearing away, although she would be the last in both lines, if they were close-hauled.

Fig. 13 expresses the order of retreat, which is frequently practiced by the French, and is directly the reverse of this; because the angular point is furthest to leeward in the former, whereas it is to windward of both lines in the latter; being also the headmost of both, when close-hauled, although the sternmost ship while they are bearing away.

In an engagement, the ships are generally brought to, with the main topsails laid aback, and their fore-top-sails full, for the purpose of bearing away more readily, when occasion requires. This disposition of the sails is represented in fig. 13, plate III. See also Lying-to.

The line is said to be formed abreast, when the ships' sides are all parallel to each other, on a line which crosses their keels at right angles. This is more frequently used in pursuing or retreating, with the wind right aft, so that the line forms a perpendicular with the direction of the wind, as exhibited by the ships C, in the plan annexed to fig. 10.

**Line** is also a name given to several small cords, of different sizes, and used for various purposes at sea; as house-line, marline, rattling-line, &c. See those articles.

**Lintstock**, (baton à meche, or boutte-feu, Fr.) a staff about three feet long, having a sharp point at one end, and a sort of fork or crotch on the other; the latter of which serves to contain a lighted match, and by the former the lintstock is occasionally flung in the deck, in an upright position. It is frequently used in small vessels, in an engagement, where there is commonly one fixed between every two guns, by which the match is always kept dry and ready for firing.

**Loading.** See the articles Cargo and Lading.

**Shot-locker.** See Garland.

**Log,** a machine used to measure the ship's head-way, or the rate of her velocity as she advances through the sea. It is composed of a reel and line, to which is fixed a small piece of wood, forming the quadrant of a circle. The term log however is more particularly applied to the latter.

The log, fig. 14, plate V. is generally about a quarter of an inch thick, and five or six inches from the angular point $a$ to the circumference $b$. It is balanced by a thin plate of lead, nailed upon the arch, so as to swim perpendicularly in the water, with about $\frac{1}{4}$ impressed under the surface. The line is fastened to the log by means of two legs $a$ and $b$, fig. 15, one of which passes thro' a hole $a$ at the corner, and is knotted on the opposite side; whilst the other leg is attached to the arch by a pin $b$, fixed in another hole, so as to draw out occasionally. By these legs the log is hung in equilibrio, and the line, which is united to it, is divided into certain spaces, which are in proportion to an equal
equal number of geographical miles, as a half minute or quarter minute is
to an hour of time.

This instrument is employed to measure the ship's course in the following
manner: The reel, fig. 16, about which the log-line is wound, being held
by one man, and the half-minute glafs by another, the mate of the watch
at the same time fixes the pin, and throw the log over the stern, which,
swimming perpendicularly in the sea, feels an immediate resistance as the
ship advances. To prevent the pin from being drawn by the effort of this
resistance, the person who heaves the log continually slackens the line over
the stern, or quarter, so that it becomes almost freight on the water, and
the log continues nearly in the same place where it first alighted, and is con-
sidered as fixed therein. The knots are measured from a mark fastened at
the distance of 12 or 15 fathoms from the log; the glafs is therefore turned
at the instant when this mark passes over the stern, and as soon as the glafs
runs out, the line is accordingly flopped; when the water, acting forcibly
on the surface of the log, immediately dislodges the pin, so that the log,
no longer reslying the effort of the water, is easily drawn aboard. The
degree of the ship's velocity is then readily determined, by examining the
number of knots nearest to that part of the line, where it was stopped at
the expiration of the glafs, as the knots increase in their natural order from the
mark above-mentioned. The space comprehended between that mark and
the log is used to let the latter be far enough astern, to be out of the eddy
of the ship's wake when the glafs is turned.

If the glafs runs thirty seconds, the distance between the knots should
be fifty feet. When it runs more or less, it should therefore be corrected
by the following analogy: As 30 is to 50, so is the number of seconds of
the glafs to the distance between the knots upon the line. As the heat or
moisture of the weather has often a considerable effect on the glafs, so as
to make it run slower or faster, it should be frequently tried by the vibra-
tions of a pendulum. The line, being also liable to relax or shrink from
the same cause, ought likewise to be measured, as occasion requires.

It is usual to heave the log once every hour in ships of war and East-
Indiamen; and in all other vessels, once in two hours; and if at any time
of the watch, the wind has increased or abated in the intervals, so as to affect
the ship's velocity, the officer generally makes a suitable allowance for it,
at the close of the watch.

LOG-BOARD, a sort of table, divided into several columns, containing
the hours of the day and night, the direction of the winds, the course of the
ship, and all the material occurrences that happen during the twenty-four
hours, or from noon to noon; together with the latitude by observation.
From this table the different officers of the ship are furnished with mate-
rials to compile their journals, wherein they likewise insert whatever may
have been omitted; or reject what may appear superfluous in the log-
board. See the article JOURNAL.

Log-book, a book into which the contents of the log-board is daily
copied at noon, together with every circumstance deserving notice, that may
happen
happen to the ship, or within her cognizance, either at sea or in a harbour, &c. The intermediate divisions or watches of the log-book, containing four hours each, are usually signed by the commanding officer thereof, in ships of war or East-Indiamen.

**LONG-BOAT**, (double-chaloupe, or barque longue, Fr.) the largest and strongest boat belonging to any ship. It is principally employed to carry great burthens, as anchors, cables, ballast, &c. See the article Boat.

**LOOK**, the after-part of a ship's bow; or that part of her side forward where the planks begin to be incurred into an arch, as they approach the stem.

**LOOK-OUT, découverte, Fr.** a watchful attention to some important object, or event, which is expected to arise from the present situation of a ship, &c. It is principally used in navigation, when there is a probability of danger from the real or supposed proximity of land, rocks, enemies, and, in short, whatever peril she may encounter, through inattention, which might otherwise have been avoided by a prudent and necessary vigilance.

There is always a look-out kept on a ship's forecastle at sea, to watch for any dangerous objects lying near her track; and to which she makes a gradual approach as she advances; the mate of the watch accordingly calls often from the quarter-deck, "Look out afore there!" to the persons appointed to this service.

**LOOMING**, an indistinct appearance of any distant object, as the sea-coast, ships, mountains, &c. as, "she looms large afore the wind; the looming of the land is high above the water," &c.

**LOOP-HOLES**, (meurtrières, Fr.) certain small apertures, formed in the bulk-heads and other parts of a merchant-ship, through which the small arms are fired on an enemy who boards her.

**To LOOSE, (désérer, Fr.)** to unfurl or cast loose any sail, in order to be set, or dried, after rainy weather.

**LOST, (pâsé, Fr.)** the state of being foundered or cast away; expressed of a ship when she has either sunk at sea, or struck upon a rock, shelf, or lee-shore, where she has beat to pieces by the violence of the sea.

**LOW-WATER, that state of the tide, in which the reflux has fallen to its greatest depression from the sea-coasts, or rivers of any country.** See the article Tide.

**To LOWER, (amener, Fr.)** to ease down gradually, expressed of some weighty body, which is suspended by tackles, or other ropes, which, being slackened, suffer the said body to descend as slowly or expeditiously as the occasion requires. Hence

**Lower bandsonely! and lower cheerily!** are opposed to each other, the former being the order to lower gradually, and the latter to lower expeditiously.

**LUFF, (lof, Fr.)** the order from the pilot to the steerer to put the helm towards the lee-side of the ship, in order to make the ship sail nearer the direction of the wind. Hence, luff round, or luff allee, (envoie lôf tout;
LUFF

(LUFE) the excess of this movement, by which it is intended to throw the ship’s head up in the wind, in order to tack her, &c.

A ship is accordingly said to spring her luff, (faire une olesée, Fr.) when she yields to the effort of the helm, by falling nearer to the line of the wind than she had done before. See also Hauling the wind, and Steering.

Luff-Tackle, a name given by sailors to any large tackle that is not destined for a particular place, but may be variously employed as occasion requires. It is generally somewhat larger than the jigger-tackle, although smaller than those which serve to hoist the heavier materials into and out of the vessel: which latter are the main and fore-tackles, the stay and quarter-tackles, &c.

LUG-SAIL, (treou, Fr.) a square sail, hoisted occasionally on the mast of a boat, or small vessel, upon a yard which hangs nearly at right angles with the mast. These are more particularly used in the barca longas, navigated by the Spaniards in the Mediterranean.

LYING-TO, or LYING-BY, (en panne, Fr.) the situation of a ship when she is retarded in her course, by arranging the sails in such a manner as to counteract each other with nearly an equal effort, and render the ship almost immoveable, with respect to her progressive motion, or head-way. A ship is usually brought-to by the main and fore-top-sails, one of which is laid a back, whilst the other is full; so that the latter pushes the ship forward, whilst the former resists this impulse, by forcing her after. This is particularly practised in a general engagement, when the hostile fleets are drawn up in two lines of battle opposite each other. It is also used to wait for some other ship, either approaching or expected; or to avoid pursuing a dangerous course, especially in dark or foggy weather, &c.

LYING-TO in a storm. See the article TRYING.
MAGAZINE, (soute au pondres, Fr.) a close room or store-house, built in the fore, or after-part of a ship's hold, to contain the gun-powder used in battle, &c. This apartment is strongly secured against fire, and no person is suffered to enter it with a lamp or candle: it is therefore lighted, as occasion requires, by means of the candles or lamps which are fixed in the light-room contiguous to it. See that article.

MAGNET. See the article COMPASS.

MAIN, an epithet usually applied by sailors to whatever is principal, as opposed to what is inferior or secondary. Thus the main land is used in contradistinction to an island or peninsula; and the main-mast, the main-wale, the main-keel, and the main-hatchway, are in like manner distinguished from the fore and mizen-masts, the channel-wales, the false-keel, and the fore and after-hatchways, &c.

As the sails, yards, and rigging of the main-mast, are all described in their proper places, namely, under those particular articles, to which the reader is referred, it will be unnecessary to say anything further of them here.

To MAKE, is variously applied, in the sea-language, to the land, to the sails, to the ship's course, &c.

To Make a good board. See the article BOARD.

To Make the land, (decouvrir, Fr.) is to discover it from a distant situation, in consequence of approaching it after a sea-voyage: as, "In your passage to cape Tiburon, it will be necessary to make Turk's Island."

To Make sail, (faire plus de voiles, Fr.) is to increase the quantity of sail already extended, either by letting out the reefs, and by hoisting an additional number of small sails, or by performing either of those exercises separately.

To Make sternway, (aller en arriere, Fr.) is to retreat or move with the stern foremost.

To Make water, (faire eau, Fr.) usually signifies to leak, unless when the epithet foul is added thereto. A ship is laid to make foul water, when running in shallow water, her keel disturbs and loosens the mud or ooze, lying at the bottom thereof.

MALLET, a sort of wooden hammer, of which there are several sorts, used for different purposes on ship-board, as the

Caulking-Mallet, an implement chiefly employed to drive the oakum into the seams of a ship, where the edges of the planks are joined to each other in the sides, decks, or bottom.
The head of this mallet is long and cylindrical, being hooped with iron to prevent it from splitting in the exercise of caulking.

Serving-Mallet, a mallet used in serving the rigging, by binding the spun-yarn more firmly about it, than could possibly be done by hand; which is performed in the following manner: two or three turns of the spun-yarn, which has been previously rolled up in a large ball, or clue, are passed about the rope and about the body of the mallet, which for this purpose is furnished with a round channel in it's surface, that conforms to the convexity of the rope intended to be served. The turns of the spun-yarn being strained round the mallet so as to confine it firmly to the rope, which is extended above the deck, one man passes the ball continually about the rope, whilst the other, at the same time, winds on the spun-yarn by means of the mallet, whose handle, acting as a lever, strains every turn about the rope as firm as possible.

Manger, (gatte, Fr.) a small apartment, extending athwart the lower-deck of a ship of war, immediately within the hawse-holes, and fenced on the after-part by a partition, which separates it from the other part of the deck behind it.

This partition serves as a fence to interrupt the passage of the water, which occasionally gushes in at the hawse-holes, or falls from the wet cable whilst it is heaved in by the capltern. The water, thus prevented from running aft, is immediately returned into the sea, by several small channels, called scuppers, cut through the ship's side within the manger.

The manger is therefore particularly useful in giving a contrary direction to the water that enters at the hawse-holes, which would otherwise run aft in great streams upon the lower deck, and render it extremely wet and uncomfortable, particularly in tempestuous weather, to the men who mess and sleep in different parts thereof.

Marine, a general name for the navy of a kingdom or state; as also the whole economy of naval affairs; or whatever respects the building, rigging, arming, equipping, navigating, and fighting ships. It comprehends also the government of naval armaments, and the state of all the persons employed therein, whether civil or military.

Marine, or Marine-Forces, a body of troops employed in the sea-service, under the direction of the lords of the admiralty.

Marline, (merlin, Fr.) a small line, somewhat less than house-line, and used for the same purposes. See House-Line.

Marling, the act of winding any small-line, as marline, spun-yarn, packthread, &c. about a rope, so that every turn is secured by a sort of knot, so as to remain fixed in case all the rest should be cut through by friction, &c. This expedient is much preferable to the winding a line spirally about a rope for the same purpose, because as the turns are at some distance from each other, the same quantity of line will serve for the one method as the other; with this difference, that if one of the spiral turns are cut through, the whole will be rendered useless, whereas by marling, this is entirely prevented.
Marling is commonly used to fasten slips of canvas, called *parling*, upon the surface of a rope, to prevent it from being galled by another rope that rubs against it, to attach the foot of a sail to its bolt-rope, &c.

**Marling-Spike,** (*épissir*, Fr.) an iron pin, tapering to a point, and furnished with a large round head. It is principally used to penetrate the twills, or strands of a rope, in order to introduce the ends of some other through the intervals, in the act of *knotting* or *splicing*.

It is also used as a lever, on many other occasions, about the rigging, particularly in fixing the seizings upon the *bronds*, *block-strops*, *clues* of the *fails*, &c.

To **Maroon**, (*déferter*, Fr.) to put one or more sailors ashore upon a desolate island, under pretence of their having committed some great crime. This detestable expedient has been repeatedly practised by some inhuman commanders of merchant-ships, particularly in the West-Indies.

**Mast,** (*mât*, Fr.) a long round piece of timber, elevated perpendicularly upon the keel of a ship, to which are attached the yards, the *sails*, and the rigging.

A mast, with regard to its length, is either formed of one single piece, which is called a *pole-mast*, or composed of several pieces joined together, each of which retains the name of mast separately. The lowest of these is accordingly named the *lower-mast*, *a*, fig. 1, plate VI. the next in height is the *top-mast*, *b*, which is erected at the head of the former; and the highest is the *top-gallant-mast*, *c*, which is prolonged from the upper end of the *top-mast*. Thus the two last are no other than a continuation of the first upwards.

The lower mast is fixed in the ship by an apparatus, described in the articles *bulk* and *shers*: the foot, or *heel* of it, rests in a block of timber called the *step*, which is fixed upon the *kelson*; and the *top-mast* is attached to the head of it by the *cap* and the *trefle-trees*. The latter of these are two strong bars of timber, supported by two prominences, which are as shoulders on the opposite sides of the mast, a little under its upper end; athwart these bars are fixed the *crosstrees*, upon which the frame of the top is supported. Between the lower mast-head, and the foremost of the crosstrees, a square space remains vacant, the sides of which are bounded by the two crosstrees. Perpendicularly above this is the foremost hole in the *cap*, whose *after-hole* is solidly fixed on the head of the *lower-mast*. The *top-mast* is erected by a tackle, whose effort is communicated from the head of the lower-mast to the foot of the *top-mast*; and the upper end of the latter is accordingly guided into, and conveyed up through, the holes between the crosstrees and the cap, as above mentioned. The machinery by which it is elevated, or, according to the sea-phrase, *fawed-up*, is fixed in the following manner: the *top-rope* *d*, fig. 2. passing through a block *e*, which is hooked on one side of the cap, and afterwards through a hole, furnished with a *sheave* or *pulley* *f*, on the lower end of the *top-mast*, is again brought upwards on the other side of the mast, where it is at length fastened to an eye-bolt in the *cap* *g*, which is always on the side opposite to the *top-block* *e*. To the lower end
of the top-rope fixed the top-tackle, the effort of which being transmitted to the top-rope, and thence to the heel of the top-mast, necessarily lifts the latter upwards, parallel to the lower-mast. When the top-mast is raised to its proper height, fig. 3. the lower end of it becomes firmly wedged in the square hole, above described, between the trestle-trees. A bar of wood, or iron, called the \( fi_d \), is then thrust through a hole \( i \) in the heel of it, across the trestle-trees, by which the whole weight of the top-mast is supported.

In the same manner as the top-mast is retained at the head of the lower-mast, the top-gallant-mast is erected, and fixed at the head of the top-mast.

Besides the parts already mentioned in the construction of masts, with respect to their length, the lower-masts of the largest ships are composed of several pieces united into one body. As these are generally the most substantial parts of various trees, a mast, formed by this assemblage, is justly esteemed much stronger than one consisting of any single trunk, whose internal solidity may be very uncertain. The several pieces are formed and joined together, as represented in the section of a lower-mast of this sort, fig. 4. plate VI. where \( a \) is the shaft, or principal piece into which the rest are fixed, with their sides or faces close to each other. The whole is secured by several strong hoops of iron, driven on the outside of the mast, \( a \), fig. 1. where they remain at proper distances.

The principal articles to be considered in equipping a ship with masts are, 1st, the number; 2d, their situation in the vessel; and 3d, their height above the water.

The masts being used to extend the sails by means of their yards, it is evident that if their number were multiplied beyond what is necessary, the yards must be extremely short, that they may not entangle each other in working the ship, and by consequence their sails will be very narrow, and receive a small portion of wind. If, on the contrary, there is not a sufficient number of masts in the vessel, the yards will be too large and heavy, so as not to be managed without difficulty. There is a mean between these extremes, which experience and the general practice of the sea have determined; by which it appears, that in large ships, every advantage of sailing is retained by three masts and a bowspirit.

The most advantageous position of the masts is undoubtedly that from whence there results an equilibrium between the resistance of the water, on the body of the ship, on one part, and of the direction of their effort on the other. By every other position this equilibrium is destroyed, and the greatest effort of the masts will operate to turn the ship horizontally about its direction; a circumstance which retards her velocity. It is counterbalanced indeed by the helm; but the same inconvenience still continues, for the force of the wind, having the resistance of the helm to overcome, is not entirely employed to push the vessel forward. The axis of the resistance of the water should then be previously determined, to difcover the place of the main-mast, in order to suspend the efforts of the water equally, and place the other masts so as that their particular direction will coincide with that of the main-mast. The whole of this would be capable of a solution if the figure of the vessel were regular,
regular, because the point, about which the resistance of the water would be in equilibrium, might be discovered by calculation.

But when the real figure of the ship is considered, these flattering ideas will instantly vanish. This observation induced M. Saverien to employ a mechanical method to discover the axis of resistance of the water, which he apprehended might be used with success in the manner following.

When the vessel is launched, before the places of the masts are determined, extend a rope A B, fig. 5, plate VI. from the head to the stern. To the extremities A and B attach two other ropes AD, BC, and apply to the other ends of these ropes two mechanical powers, to draw the ship according to the direction BC, parallel to itself. The whole being thus disposed, let a moveable tube Z, fixed upon the rope A B, have another rope Z R attached to it, whose other end communicates with a mechanical power R, equal to the two powers D and C. This last being applied to the same vessel, in such manner as to take off the effects of the two others by sliding upon the rope A B, so as to discover some point Z, by the parallelism of the ropes A D BC feebly extended with the rope Z R; the line Z R will be the axis of the equilibrium of the water's resistance, and by consequence the main-mast should be planted in the point Z.

The figures E, E, E, are three windlasses on the shore, by which this experiment is applied.

With regard to the situation of the other masts, it is necessary, in the same manner, to discover two points; so that the direction of the two mechanical powers operating, will be parallel to the axis of resistance R Z already found.

The exact height of the masts, in proportion to the form and size of the ship, remains yet a problem to be determined. The more the masts are elevated above the center of gravity, the greater will be the surface of sail, which they are enabled to present to the wind; so far an additional height seems to be advantageous. But this advantage is diminished by the circular movement of the mast, which operates to make the vessel stoop to its effort; and this inclination is increased, in proportion to the additional height of the mast, an inconvenience which it is necessary to guard against. Thus what is gained upon one hand is lost upon the other. To reconcile these differences, it is certain, that the height of the mast ought to be determined by the inclination of the vessel, and that the point of her greatest inclination should be the term of this height, above the center of gravity. See the article Trim.

With regard to the general practice of determining the height of the masts, according to the different rates of the ships in the royal navy, the reader is referred to the article Sail.

In order to secure the masts, and counterbalance the strain they receive from the effort of the sails impressed by the wind, and the agitation of the ship at sea, they are sustained by several strong ropes, extended from their upper-ends to the outside of the vessel, called brouds, see fig. 5, plate VI. They are further supported by other ropes, stretched from their heads towards the fore-part of the vessel. See Rigging.
The main-mast, or fore-mast, are the masts by which the sails are set.

The mast, which is placed at the middle of the ship's length, is called the main-mast, (grand-mât, Fr.) that which is placed in the fore-part, the fore-mast, (mât de misaine, Fr.) and that which is towards the stern is termed the mizen-mast, (mât d'artimon, Fr.)

Mizen is applied to this last mast by all the nations of Europe, except the French, who alone call the fore-mast misaine.

MASTER of a ship of war, (maître, Fr.) an officer appointed by the commissioners of the navy to assist in fitting, and to take charge of the navigating and conducting a ship from port to port, under the direction of the captain, or other his superior officer. The management and disposition of the sails, the working of the ship into her station in the order of battle, and the direction of her movements in the time of action, and in the other circumstances of danger, are also more particularly under his inspection. He is to be careful that the rigging, sails, and stores, be duly preferred: to see that the log and log-book be regularly and correctly kept: accurately to observe the appearances of coasts, rocks, and shoals, with their depths of water and bearings, noting them in his journal. He is to keep the hawser clear when the ship is at anchor, and to provide himself with proper instruments, maps, and books of navigation. It is likewise his duty to examine the provisions, and accordingly to admit none into the ship but such as are found, sweet, and wholesome. He is moreover charged with the floatage, or disposition of these materials in the ship's hold. And when the ship shall be laid-up, he is to deposit a copy of the log-book and journal with the commissioners of the navy. And to enable him the better to perform these services, he is allowed several assistants, who are properly termed mates and quarter-masters. See those articles.

MASTER of a merchant-ship, the commanding officer, who is appointed by the merchants to manage the navigation and every thing relating to her cargo, voyage, sailors, &c.

MASTER at arms, an officer appointed by warrant from the board of admiralty, to teach the officers and crew of a ship of war the exercise of small arms; to confine and plant centinels over the prisoners, and superintend whatever relates to them during their confinement. He is also, as soon as the evening gun shall be fired, to see all the fires and lights extinguished, except such as shall be permitted by proper authority, or under the inspection of centinels. It is likewise his duty to attend the gangway, when any boats arrive aboard, and search them carefully, together with their rowers, that no spirituous liquors may be conveyed into the ship, unless by permission of the commanding officer. He is to see that the small arms be kept in proper order. He is to visit all vessels coming to or going from the ship, and prevent the crew from going from the ship without leave. He is also to acquaint the officer of the watch with all irregularities in the ship which shall come to his knowledge. In these several duties he is assisted with proper attendants, called his corporals, who also relieve the centinels, and one another, at certain periods.

MASTER-attendant, an officer in the royal dock-yards, appointed to hasten, and assist at, the fitting-out or dismantling, removing or securing vessels of
war, &c. at the port where he resides. He is particularly to observe, that his majesty's ships are securely moored; and for this purpose he is expected frequently to review the moorings which are sunk in the harbour, and observe that they are kept in proper repair to be always ready when occasion requires. It is also his duty to visit all the ships in ordinary, and see that they are frequently cleaned and kept in order; and to attend at the general musters in the dock-yards, taking care that all the officers, artificers, and labourers, registered in the navy-books, are present at their duty.

MAT, (cousin, Fr.) a sort of thick web or texture, formed of spun-yarn, or of a variety of strands, or separate parts of a small rope; or of a number of rope-yarns twisted into foxes. The foxes are therefore larger or smaller, as containing a greater or lesser number of rope-yarns, in proportion to the thickness of the mat intended to be woven. Mats are commonly used to fasten upon the outside of such parts of the standing rigging as are exposed to the friction of other ropes, in extending, shifting, or trussing up the sails, particularly the lower ones. The largest and strongest sort of these mats are called panokes.

MATE of a ship of war, an officer under the direction of the master, by whose choice he is generally appointed, to assist him in the several branches of his duty. Accordingly he is to be particularly attentive to the navigation in his watch, &c. to keep the log regularly, and examine the line and glasses by which the ship's course is measured, and to adjust the sails to the wind in the fore-part of the ship. He is also to have a diligent attention to the cables, seeing that they are well coiled and kept clean when laid in the tier, and sufficiently served when employed to ride the ship. Finally, he is to superintend and assist at the stowage of the hold, taking especial care that all the ballast and provisions are properly stowed therein.

MATE of a merchant-ship, the officer who commands in the absence of the master thereof, and shares the duty with him at sea; being charged with every thing that regards the internal management of the ship, the directing her course, and the government of her crew.

The number of mates allowed to ships of war and merchantmen is always in proportion to the size of the vessel. Thus a first-rate man of war has five mates, and an East-Indiaman the same number; a frigate of 20 guns, and a small merchant-ship, have only one mate in each; and the intermediate ships have a greater or smaller number, according to their several sizes, or to the services on which they are employed.

METEOR. See Corposant, and Water-spout.

MESS, a particular company of the officers or crew of a ship, who eat, drink, and associate together.

MESS-MATE, a companion or associate of the above division. See the article BIRTH.

MIDSHIP, (maître, Fr.) a term of distinction, applied by shipwrights to several pieces of timber which lie in the broadest part of a vessel; as,

MIDSHIP-BEAM, (maître-beau, Fr.) the beam upon which the extreme breadth of a ship is formed, and which is situated in the midship-frame, nearly
in the middle of her length, serving as a standard from whence the dimensions and proportions of the masts and yards are to be taken.

Midship-frame, (maître-couple, Fr.) a name given to that timber, or combination of pieces, formed into one timber, which determines the extreme breadth of the ship, as well as the figure and dimension of all the inferior timbers.

In the 8th page, from the beginning of the article Naval Architecture, the reader will find a full explanation of what is meant by a frame of timbers. He will also perceive the out-lines of all the principal frames, with their gradual dimensions, from the midship-frame delineated in the plane of projection annexed to that article. As the parts, of which the several frames are composed, have the same relation to each other throughout the vessel; and as all the corresponding pieces, without and within those frames, are also nearly alike, and fixed in the same manner, it will be sufficient for our purpose to represent the principal, or midship-frame, together with its corresponding parts, which are as follow:

Explanation of the Midship-frame, plate VII. which exhibits a transverse section of a 74 gun ship, at the broadest part, answering to the same scale by which are delineated the head, quarter, and stern of a ship, of the same size, in plates IV. VIII. and X. to which the reader is referred.

A the keel, with a the false keel beneath it.
B the chocks fixed upon the kelson, to retain the opposite pieces of the riders firmly together.
C one of the beams of the orlop.
D one of the lower-deck beams; with d the beams of the upper-deck.
E the hanging-knees, by which the beams are attached to the timbers.
F the standards, which are fixed above the decks to which they belong.
G the clamps, which sustain the extremities of the beams.
H the gun-ports of the lower-deck; with b the ports of the upper-deck.
I, K, L different pieces of thick-fluff, placed opposite to the several scarfs, or joinings, in the frame of timbers.
M the planks of the deck.
N the water-ways.
O the planks of the ceiling, between the several ranges of thick-fluff.
P the fpirketing.
Q the main-wale, to fortify the ship's side opposite to the lower-deck.
R the channel-wale, opposite to the upper-deck.
S the waist-rail.
T the string, with the moulding under the gun-wale.
U the floor-timbers, which are laid across the keel, and bolted to it.
V the several futtocks; and W the top-timbers, which are all united into one frame.
X the kelson.

Midshipman, a sort of naval cadet, appointed by the captain of a ship of war, to second the orders of the superior officers, and assist in the necessary business of the vessel, either aboard or ashore.
The number of midshipmen, like that of several other officers, is always in proportion to the size of the ship to which they belong. Thus a first-rate man of war has twenty-four, and the inferior rates a suitable number in proportion. No person can be appointed lieutenant, without having previously served two years in the royal navy in this capacity, or in that of mate, besides having been at least four years in actual service at sea, either in merchant-ships, or in the royal navy.

Midshipman is accordingly the station in which a young volunteer is trained in the several exercises, necessary to attain a sufficient knowledge of the machinery, discipline, movements, and military operations of a ship, to qualify him for a sea-officer.

As the chief object of our attention has been to facilitate the acquisition of this intelligence, we have endeavoured to treat those subjects at large, in the different parts of this work, according to their importance. We have also sketched the general outlines of the respective charges of all the superior officers, which, in conformity to the plan of this work, become previous to this article. Thus the duties of the admiral, the captain, the lieutenant, and the master, are already explained in their proper places; and whatever intelligence appears necessary to discharge those offices, is also, in a high degree, essential to the midshipman. Those officers indeed, as well as many others, are furnished with suitable instructions to regulate their conduct; but the midshipman, being invested with no particular charge from the government, is by consequence omitted in those official regulations. In a work of this kind, however, the importance of the subject is not always determined by the superiority of rank or station. If our province is to communicate instruction, those who are the least informed are certainly the principal objects thereof, and to them our attention is more peculiarly directed. Hence the extent of our design comprehends many circumstances which would be immaterial in general orders and regulations; and hence abundance of particular directions to respective officers, inserted in those general regulations, are rejected here as foreign to our purpose. Averse as we are, on other occasions, to offend the rigid nicety of a critic, by introducing moral reflections, in a performance dedicated to scientific description, we must for once be indulged with a short deviation from the plan hitherto invariably followed. Happy! if our efforts may in any degree operate to produce the effects for which they were calculated.

On his first entrance in a ship of war, every midshipman has several disadvantageous circumstances to encounter. These are partly occasioned by the nature of the sea-service, and partly by the mistaken prejudices of people in general, respecting naval discipline, and the genius of sailors and their officers. No character, in their opinion, is more excellent than that of the common sailor, whom they generally suppose to be treated with great severity by his officers, drawing a comparison between them not very advantageous to the latter. The midshipman usually comes aboard tinctured with these prejudices, especially if his education has been amongst the higher rank of people; and if the officers happen to answer his opinion, he conceives an early disgust to the service, from a very partial and incompetent
petent view of its operations. Blinded by these prepossessions, he is thrown off his guard, and very soon surprized to find, amongst those honest sailors, a crew of abandoned miscreants, ripe for any mischief or villainy. Perhaps, after a little observation, many of them will appear to him equally destitute of gratitude, shame, or justice, and only deterred from the commission of any crimes by the terror of severe punishment. He will discover, that the pernicious example of a few of the vilest in a ship of war is too often apt to poison the principles of the greatest number, especially if the reins of discipline are too much relaxed, so as to foster that idleness and dissipation, which engender sloth, diseases, and an utter profligacy of manners. If the midshipman, on many occasions, is obliged to mix with these, particularly in the exercises of extending or reducing the sails in the tops, he ought resolutely to guard against this contagion, with which the morals of his inferiors may be infected. He should however avail himself of their knowledge, and acquire their expertness in managing and fixing the sails and rigging, and never suffer himself to be excelled by an inferior. He will probably find a virtue in almost every private sailor, which is entirely unknown to many of his officers: that virtue is emulation, which is not indeed mentioned amongst their qualities by the gentlemen of terra firma, by whom their characters are often copiously described with very little judgment. There is hardly a common tar who is not envious of superior skill in his fellows, and jealous on all occasions to be out-done in what he considers as a branch of his duty! Nor is he more afraid of the dreadful consequences of whistling in a storm, than of being stigmatized with the opprobrious epithet of lubber. Fortified against this scandal, by a thorough knowledge of his business, the sailor will sometimes fear in private, at the execution of orders, which to him appear awkward, improper, or unlike a seaman. Nay, he will perhaps be malicious enough to suppress his own judgment, and by a punctual obedience to command, execute whatever is to be performed, in a manner which he knows to be improper, in order to expose the person commanding to disgrace and ridicule. Little skilled in the method of the schools, he considers the officer who cons his lesson by rote as very ill qualified for his station, because particular situations might render it necessary for the said officer to assist at putting his own orders in practice. An ignorance in this, practical knowledge will therefore necessarily be thought an unpardonable deficiency by those who are to follow his directions. Hence the midshipman, who associates with these sailors in the tops, till he has acquired a competent skill in the service of extending or reducing the sails, &c. will be often entertained with a number of furturul joys, at the expence of his superiors. Hence also he will learn, that a timely application to those exercises can only prevent him from appearing in the same delpicable point of view, which must certainly be a cruel mortification to a man of the mildest sensibility.

If the midshipman is not employed in these services, which are undoubtedly necessary to give him a clearer idea of the different parts of his occupation, a variety of other objects present themselves to his attention. Without presuming to dictate the studies which are most essential to his im-
provement, we could wish to recommend such as are most suitable to the bent of his inclination. Astronomy, geometry, and mechanics, which are in the first rank of science, are the materials which form the skilful pilot, and the superior mariner. The theory of navigation is entirely derived from the two former, and all the machinery and movements of a ship are founded upon the latter. The action of the wind upon the sails, and the resistance of the water at the stern, naturally dictate an enquiry into the property of solids and fluids: and the state of the ship, floating on the water, seems to direct his application to the study of hydrostatics and the effects of gravity. A proficiency in these branches of science will equally enlarge his views, with regard to the operations of naval war, as directed by the efforts of powder, and the knowledge of projectiles. The most effectual method to excite his application to those studies is, perhaps, by looking round the navy, to observe the characters of individuals. By this enquiry he will probably discover, that the officer, who is eminently skilled in the sciences, will command universal respect and approbation; and that whoever is satisfied with the desplicable ambition of shining the hero of an assembly, will be the object of universal contempt. The attention of the former will be engaged in those studies, which are highly useful to himself in particular, and to the service in general. The employment of the latter is to acquire those superficial accomplishments, that unbend the mind from every useful science, emasculate the judgment, and render the hero infinitely more dextrous at falling into his station in the dance, than in the line of battle.

Unless the midshipman has an unconquerable aversion to the acquisition of those qualifications, which are so essential to his improvement, he will very rarely want opportunities of making a progress therein. Every step he advances in those meritorious employments will facilitate his accession to the next in order. If the dunces, who are his officers or mates, are rattling the dice, roaring bad verses, hissing on the flute, or scraping discord from the fiddle, his attention to more noble studies will sweeten the hours of relaxation. He should recollect that no example from fools ought to influence his conduct, or seduce him from that laudable ambition which his honour and advantage are equally concerned to pursue.

MIZEN, (artimon, Fr. mizana, Ital.) the aftermost or hindmost of the fixed sails of a ship, extended sometimes by a gaff, and sometimes by a yard which crosses the mast obliquely; the fore-end reaching almost down to the deck, and the after-end being peeked up as high above the middle of the yard, where it is attached to the mast. The figure of the mizen is accordingly a trapezia, or a parallelogram, one of whose corners is cut off by a diagonal, extended from one of its sides to the opposite corner, which becomes the peek of the mizen. See the article Sail.

MIZEN-MAST, the mast upon which the mizen and its top-sail and stay sails are supported, besides other sails, which are set occasionally, as the driver, ring tail, &c. See the article Mast.
The shrouds, stays, and back-stays of this mast, as well as all the running rigging, together with it's several yards and sails, being described under the articles Shroud, Stay, Yard, &c. the reader is referred thither for the explanations thereof, which are in general applicable also to the same furniture of both the other masts.

MOLE, a name given in the Mediterranean to a long pier, or artificial bulwark of masonry, extending obliquely across the entrance of a harbour, in order to break the force of the sea from the vessels which are anchored within.

Mole is also, although improperly, applied to the harbour or haven, which is formed by the bulwark above described, which is then denominated the mole-head.

MONSOON, a name given to the periodical or trade-winds, which blow regularly in certain latitudes of the Indian ocean. They continue five or six months invariably in one direction, and then alter their course, and blow, during an equal space of time, from a different point of the compass with the same uniformity.

MOORING, (amarrage, Fr.) the act of confining and securing a ship in a particular station, by chains or cables, which are either fastened to the adjacent shore, or to anchors in the bottom.

A ship may be either moored by the head, (affoureber, Fr.) or by the head and stern; that is to say, she may be secured by anchors before her, without any behind: or she may have anchors out, both before and behind her; or her cables may be attached to posts, rings, or moorings, which answer the same purpose.

When a ship is moored by the head with her own anchors, they are disposed according to the circumstances of the place where she lies, and the time she is to continue therein. Thus wherever a tide ebbs and flows, it is usual to carry one anchor out towards the flood, and another towards the ebb, particularly where there is little room to range about; and the anchors are laid in the same manner, if the vessel is moored head and stern in the same place. The situation of the anchors, in a road or bay, is usually opposed to the reigning winds, or those which are most dangerous; so that the ship rides therein with the effort of both her cables. Thus if she rides in a bay, or road, which is exposed to a northerly wind and heavy sea from the same quarter, the anchors passing from the opposite bays ought to be cast and east from each other: hence both the cables will retain the ship in her station with equal effort against the action of the wind and sea.

Moorings are usually an assemblage of anchors, chains, and bridles, laid athwart the bottom of the river, or haven, to ride the shipping contained therein.

The anchors, employed on this occasion, have rarely more than one fluke, which is sunk in the river near low-water mark. Two anchors, being fixed in this manner, on the opposite sides of the river, are furnished with a chain, extending across from one to the other. In the middle of the chain is a large square link, whose lower end terminates in a swivel, which turna.
turns round in the chain as about an axis, whenever the ship veers about
with the change of the tide. To this swivel-link are attached the bridles,
which are short pieces of cable, well served, whose upper ends are drawn
into the ship, at the mooring-ports, and afterwards fastened to the masts,
or cable-bits.

A great number of moorings, of this sort, are fixed in the royal ports,
or the harbours adjacent to the king's dock-yards, as Deptford, Chatham, Portsmouth, Plymouth, &c.

MORTAR, a piece of artillery, shorter and wider than the cannon,
and having a chamber different from the size of it's bore.

Mortars are used in the attack of a fortified place, by sea, to discharge
shells or carcasses amongst the buildings. The shell is a great hollow ball,
filled with powder, which, falling into the works of a fortification, &c.
destroy the most substantial buildings by it's weight; and, bursting abun-
der, creates the greatest disorder and mischief by it's splinters.

The chambers of mortars are extremely different in their figures, and
each of those figures is defended by better or worse arguments. Thus they
are spherical, cylindrical, conical, bottlenecked, or concave. In reality, nothing
appears to be less determined upon true principles or experiments than the
proportions of the several parts of a mortar*

As the sea-mortars, or those which are fixed in the bomb-vessels, are
generally fixed at a much greater distance from the object than is ever re-
quired ashore, they are made somewhat longer, and much heavier, than
the land-mortars.

Plate VI. fig. 7. represents a sea-mortar, the principal parts of which are,
A, the chace; B, the reinforce; C, the breech; and D, the trunnions.
The interior part, comprehended between the dotted lines, is called the
bore, wherein the bomb is lodged; and the inner part of the bore, which
is diminished towards the breech, and contains the powder, is termed the
chamber.

Mr. Muller, in his Treatise of Artillery, very justly observes, that the
breech of our 13 inch sea-mortars is loaded with an unnecessary weight of
metal. The chamber thereof contains 32 pounds of powder, and at the same
time they are never charged with more than 12 or 15 pounds, by the most
expert officers, because the bomb-vessel is unable to bear the violent shock
of their full charge. Thus the action of the powder is diminished by the vac-
cancy left in the chamber, which is never above half filled. As a charge
of 12 or 15 pounds of powder at most is therefore sufficient, it is evident-
ly proved, by the theory of powder, that this will produce the greatest
effect when discharged from a mortar with a cylindrical chamber, represent-
ed by fig. 8. He also proves, by a variety of experiments made by Captain
Defaguliers and himself, that the conical chamber, now used, is consider-
ably inferior to the cylindrical one with the last charge of powder.

To facilitate the use of the mortar, it is placed in a solid carriage of tim-

* Muller's Artillery.
ber, called the bed, whose different parts are strongly bolted together. By 
means of this it is firmly secured in its situation, so that the explosion of 
the powder may not alter its direction. In the middle of the upper side 
of this carriage, plate VI. fig. 9. are two semi-circular notches, to receive 
the trunnions; over these are fixed two very strong bands of iron, called 
the cap-squares, \( a \), the middle of which is bent into a semi-circle, to em-
brace the trunnions, and keep them fast in the mortar-bed. The cap-
squares are confined to the timber-work by strong pins of iron, called the 
eye-bolts, \( b \), into whose upper ends are driven the keys, chained beneath 
them. On the fore-part of the bed a piece of timber is placed transversely, 
upon which rests the belly of the mortar, or that part which contains the 
chamber. The elevation of this piece, which is called the bed-bolster, 
is represented by fig. 13. and the plan by fig. 12. it is used to elevate and 
support the mortar whilst firing.

These beds are placed upon very strong frames of timber, which are 
fixed in the bomb-ketch, and represented in fig. 5 and 10. plate VII. the 
former of which exhibits the transverse section of a bomb-vessel, with the 
mortar fixed in its place, at an elevation of forty-five degrees. See Range. 
They are securely attached to the frames, by means of a strong bolt of iron, 
fig. 15. plate VI. called the pintle, passing perpendicularly through both, 
and afterwards through one of the beams of the vessel. Thus the pintle, 
which passes through the hole in the center of the plan, fig. 10. serves as 
an axis to the bed; so that the mortar may be turned about horizontally 
as occasion requires.

Plate VI. fig. 9. represents the elevation of the bed of a 10 inch sea-
mortar; fig. 10. is the plan, and 11. the front view thereof; fig. 12. ex-
hibits the plan, and fig. 13. the elevation of the bed-bolster.

We have already observed, that the shell is a great hollow ball, charged 
with powder. Fig. 16. is a perspective view of it, and fig. 17. a section 
of it, whereby the thickness is exhibited. The parts \( a \) and \( b \) of the shell 
are its handles, by which it is lifted up or removed; and \( c \) is the fuse-
hole, or aperture, through which the powder is poured in to charge it.

It appears, by fig. 17. that the lower part of the shell is thickest, by 
which it becomes heavier on that side, and accordingly falls thereon, and 
never on the fuse. It is also the better enabled thereby to resist the im-
pression of the powder, by which it is dischrged from the mortar. Both 
of these reasons, however, Mr. Muller conceives to be immaterial, be-
because nothing but an absolute stoppage of the air can exhaust the fuses, as 
their composition enables them to burn in water, as well as air or earth; 
and the explosion of the mortar would not, in his opinion, be able to 
break them, if they are equally thick every where. The most proper 
quantity of powder to charge a shell is probably two thirds of the weight 
which would fill the cavity.

The fuse of it is represented by \( cd \), fig. 17. This is generally a coni-
cal tube, formed of beech, willow, or some dry wood, and filled with a 
composition of sulphur, salt-petre, and mealed-powder. The shell being 
charged,
charged, this fuse is inserted in the cavity through the fuse-hole; and, when fired, communicates the fire to the powder in the shell.

The fuses are charged with great care, that nothing may prevent them from communicating the fire to the powder in the center of the bomb. They are driven into it so as that only about an inch and a half comes out beyond the fuse hole; and then the shell is said to be fixed.

These fuses are also charged long before there is occasion to use them; and that the composition with which they are filled may not fall out, or be damaged by growing damp, the two ends are covered with a composition of tallow, mixed either with pitch or bees wax. When the fuse is to be put into the shell, the little end is opened or cut off; but the great end is never opened till the mortar is to be fired*.

When the proper quantity of powder, necessary to charge the mortar, is put into the chamber, it is covered with a wad, well beat down with the rammer. After this the fixed shell is placed upon the wad, as near the middle of the mortar as possible, with the fuse-hole uppermost, and another wad pressed down close upon it, so as to keep the shell firm in its position. The officer than points the mortar, or gives it the inclination necessary to throw the shell to the place designed. When the mortar is thus fixed, the fuse is opened; the priming-iron is also thrust into the touch-hole of the mortar to clear it, after which it is primed with the finest powder. This done, two of the matroffes, or sailors, taking each one of the matches, the first lights the fuse, and the other fires the mortar. The shell thrown out by the explosion of the powder, is thrown to the place intended; and the fuse, which ought to be exhausted at the instant of the shell's falling, inflames the powder contained therein, and bursts it into splinters; which, flying off circularly, occasion incredible mischief wherever they reach.

**Necessary orders before a bombardment by sea.**

When any fixed shells are issued from the tenders, the artillery people on board are immediately to fix others in their room, and are always to keep in their tenders the name number they had at first.

*Le Blond's Elements of War.

*Extract of a letter from the commanding-officer of the artillery at Gibraltar, May 10, 1756.*

"Happening to mention, before the governor and commodore Edgcumbe, that, in case of Gibraltar being attacked by sea, howitzers would be of great service, as I did not imagine any ship's side proof against a 10 inch shell, fired point-blank, or at a small elevation, with a full charge of powder; which being thought impossible by most present, it was agreed to try the experiment: accordingly a target, of about 6 feet square, of an equal strength and resistence with the strongest part of our largest men of war's sides, was made, and was just 3 feet thick of solid fir timber; we fired at it out of a sea-service 10 inch howitzer, at 150 yards distance, and with 10 lb. of powder.

The first shell just touched the top of the object, and lodged in the bank of sand behind it; the second grazed short three yards, and went through the lower corner of the object; but the third shell gave full satisfaction, going through the very center of the object, and entering 5 feet into a solid bank of sand behind it."
The shells are to be fixed in the boat appointed to carry them, provided the weather permits; otherwise, in the safest place on deck, and to be kited, or lowered down into a spare rack, which must be in each boat for that purpose. While the shells are fixing, the powder-room is to be shut, the hatches laid and well secured against fire, and the place where they are fixed is to be well watered.

The shells being carefully examined in order that no spike is left therein, by which the fuse may be split, the fuses are to be cut the full length, and to be set home into the shell very strongly.

No shells, fixed during the service, are to be kited; but if any should be left, when the service is over, they are immediately to be kited.

The powder in the bomb-veffels is to be used first; and none to be opened or measured out, except in the captain's cabin, the door of which is to be kept shut during the whole time, and covered with tanned hides, to make it as secure as possible.

The fixed shells in the boats are to be likewise covered from fire or wet with hair-cloth and tanned hides with the utmost care.

If the service is carried on at night, all the powder is to be ready measured out in cartridges, which may be kept in the powder-magazine and captain's cabin, in the empty powder-barrels and powder-bags; and all the shells requisite are to be ready. The tin tubes, one powder-horn, and the port-fires, also the punches and bits for the vents, are to be kept in the captain's cabin.

No fire or light, except match and port-fires, to be on board either bomb-veffel or tender during the service.

The captain's cabin and the passage to it, also the way to the magazine and decks, are to be constantly watered.

The fplunges for the mortars are to be all examined and tried, and if too large, they are to be cut so as to enter easily.

The vents of the mortars are to be examined, and the punches and tubes tried in them.

A laboratory-kefth is to be on board each bomb-veffel, in the captain's cabin, in which all the small stores are to be kept.

Two tubs of water are to be on deck, for the lightest port-fires and match, which must be constantly held in them till ordered to fire.

Two careful men are also to be appointed for this service, who are to do nothing else on any account.

Two careful men of the artillery are to be left on board each tender, for the filling and fixing of the shells.

Application must be made to the admiral for two men of war's boats to attend on each bomb-ketch and tender, for carrying shells and stores. One of these is to be loaded with fixed shells, which, when sent to the bomb-veffel, must remain with her until they are all taken out, which should be only as they are wanted for loading the mortars; it is then to return to the tender. The other boat, mean while, will be receiving more fixed shells, and on the signal given from the bomb-ketch for more shells, must immediately repair to her with them.
A gang of warrant-officers, and eight seamen, are to be at each mortar, to give whatever assistance may be required.

A gang from the navy, with a careful warrant-officer, and a non-commissioned officer of the artillery, are to have the charge between decks on board each bomb-veffel and tender, to get up the fixed shells that are in the rack; and a careful person is to remain constantly at the powder-room door, which must be kept shut as much as possible.

When any powder is wanted from the tender for loading the mortar, it should be measured out in the tender, and the proper charge put into paper cartridges, upon which should be written the quantity, and the mortar for which it is allotted.

If the service of mortars should render it necessary to use pound-shots, 200 of them, with a wooden bottom, are to be put into the 13 inch mortar, and a quantity of powder, not exceeding five pounds; and 100 of the above shot, with 2½ lb. of powder, for the 10 inch mortar, or 3 lb. at most.

One inch of fuse burns 4 seconds and 48 parts.

Weight of the sea-mortars and shells, as also of their full charges.

<table>
<thead>
<tr>
<th>Nature of the mortar.</th>
<th>Powder contained in the chamber when full.</th>
<th>Weight of the mortar.</th>
<th>Weight of the shell when fixed.</th>
<th>Weight of powder contained in the shell.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 inch howitzer</td>
<td>12 o 0 o</td>
<td>Cwt. qu. lb.</td>
<td>lb.</td>
<td>lb. oz.</td>
</tr>
<tr>
<td>13 inch mortar</td>
<td>30 o 0 o</td>
<td>31 2 26</td>
<td>198</td>
<td>7 0</td>
</tr>
<tr>
<td>10 inch mortar</td>
<td>12 o 0 o</td>
<td>34 2 11</td>
<td>93</td>
<td></td>
</tr>
</tbody>
</table>

The howitzer, fig. 18. is a sort of mortar, which is to be fixed horizontally like a cannon; and has, like the cannon, a wheel-carriage. These pieces, however, are very rarely used in the sea-service.

For an account of the elevation of the mortar, and flight of shells according to the different charges of powder, the reader is referred to the article Range.

MOULD, (dovers, Fr.) a thin flexible piece of timber, used by shipwrights, as a pattern whereby to form the different curves of the timbers, and other compassing pieces, in a ship's frame. There are two sorts of these, namely, the bend-mould and hollow-mould: the former of these determines the convexity of the timbers, and the latter, their concavity on the outside, where they approach the keel, particularly towards the extremities of the vessel. The figure, given to the timbers by this pattern, is called their beveling. See that article.

MOUNTED, (monté, Fr.) the state of being armed or equipped with a certain number of cannon; expressed of a vessel of war.

MOUSE, (visée, Fr.) a sort of knob, usually in the shape of a pear, wrought on the outside of a rope, by means of spun-yarn, parceling, &c. as described in the article puddening. It is used to confine some other securely to the former, and prevent it from sliding along its surface.

These
MOUSING

These mouses are particularly used on the stays of the lower-mast, to prevent the eye from slipping up to the mast; a circumstance which would render it extremely difficult to remove the stay from the mast-head, when necessary.

MOUSING a hook, the operation of fastening a small cord or line, across the upper-part, from the point to the back thereof, in order to prevent it from unhooking by the motion of the vessel, or otherwise.

MUSTERING, (moufteren, Dutch) the act of calling over a lift of the whole ship's company, or any particular detachment thereof, who are accordingly summoned to answer by their names on the occasion.
NAVAL, of or belonging to a ship, or to the royal navy. Hence we say, naval-stores, naval-officers, &c.

NAVE-LINE, a sort of small tackle, depending from the head of the main-mast and fore-mast, and fastened to the middle of the parrel immediately behind the mast, and communicating with the jibs. It is used to keep the parrel directly opposite to the yard, and particularly whilst hoisting or lowering, as it would otherwise hang under the yard, and prevent it from being sufficiently braced.

NAVIGATION, (navigation, Fr.) the art of directing the movements of a ship by the action of the wind upon the sails. See the article Sailing.

Navigation is then applied, with equal propriety, to the arrangement of the sails, according to the state of the wind; and to the directing and measuring a ship's course by the laws of geometry; or it may comprehend both, being then considered as the theory and practice thereof.

Since every sea-officer is presumed to be furnished with books of navigation, in which that science is copiously described, it would be superfluous to enter into a particular detail of it in this place. As it would also be a fruitless task to those who are entirely ignorant of the rules of trigonometry, and those who are versed in that science generally understand the principles of navigation already, it appears not to come within the limits of our design. It suffices to say, that the course of a ship, and the distance she has run thereon, are measured by the angles and sides of a right-angled plain triangle, in which the hypotenuse is converted into the distance; the perpendicular, into the difference of latitude; the base, into the departure from the meridian; the angle, formed by the perpendicular and hypotenuse, into the course; and the opposite angle, contained between the hypotenuse and base, into it's complement of the course.

The course of the ship is determined by the compass; and the log-line, or a solar observation, ascertains the distance. Hence the hypotenuse and angles are given, to find the base and perpendicular: a problem well known in trigonometry.

That part of navigation, which regards the piloting or conducting a ship along the sea-coast, can only be acquired by a thorough knowledge of that particular coast, after repeated voyages. The most necessary articles thereof are already described in the article Coasting: it is sufficient to observe, that the bearings and distances from various parts of the shore are generally ascertained.
NAVY (from navis, Lat.) implies, in general, any fleet or assembly of ships. It is, however, more particularly understood to be the fleet of vessels of war, that belong to a kingdom or state, to be employed either in assaulting and destroying its enemies, or protecting its commerce, and defending its coasts against hostilities or invasion.

The navy of Great-Britain, together with its civil and military departments, is governed by the lord high-admiral, or the lords commissioners for executing this office. It is divided into several classes, or orders, in proportion to the size of the ships, &c. See the article Rate.

If the only objects to be considered in the distribution of the navy, into different rates, were to improve ship-building, and facilitate the operations of the marine, it might appear expedient to multiply the rates, much beyond their present number, which would oblige the shipwrights to study the principles of their art with more diligence and application. But the simplicity of the service in our dock-yards, and the views of economy, which ought never to be neglected when they regard important objects, has rendered it convenient to arrange the masts, the yards, the sails, the rigging, and artillery, into fixed rates; which, besides that of floods of war, answers all the purposes of the navy. See Dock-Yards.

NAVY is also the collective body of officers employed in his majesty's service.

NEAPED, (from nepfod, Sax.) the situation of a ship which is left aground on the height of a spring-tide, so that she cannot be floated off till the return of the next spring. See Tide.

NEEDLE. See the article Compass.

NETTING, a sort of fence, formed of an assemblage of ropes, fastened across each other, so as to leave uniform intervals between. These are usually stretched along the upper-part of a ship's quarter, and secured in this position by rails and fanchions. See Quarter.

NIFFERS, (garrettes de tournevire, Fr.) certain pieces of flat braided cordage, used to fasten the cable to the royal in a ship of war, when the former is drawn into the ship by mechanical powers applied to the latter.

These nippers are usually six or eight feet in length, according to the size of the cable; and five or six of them are commonly fastened about the cable and royal at once, in order to be heaved in by the capstern. Those which are furthest aft are always taken off, as the cable approaches the main hatchway; and others are at the same time fastened on, in the fore-part of the ship, to supply their places. The persons employed to bind the nippers about the cable and royal, are called nipper-men: they are assisted in this office by the boys of the ship, who always supply them with nippers, and
and receive the ends of those which are fastened, to walk aft with them, and take them off at the proper place, in order to return them to the nipper-men.

NITTLES. See Knittles.

NO NEARER! (arrive! Fr.) the command given by the pilot or quarter-master, to the helmsman, to steer the ship no higher to the direction of the wind than the sails will operate to advance the ship in her course. It is often abbreviated into no near, and sometimes into near; and is generally applied when the sails shake in the wind. See Shivering.

NO MAN'S LAND, (St. Aubinet, Fr.) a space between the after-part of the belfrey and the fore-part of a ship's boat, when the said boat is towed upon the booms, as in a deep-waisted vessel. These booms are laid from the forecastle nearly to the quarter-deck, where their after-ends are usually sustained by a frame called the gallows, which consists of two strong posts, about six feet high, with a cross piece, reaching from one to the other, athwart-ships, and serving to support the ends of these booms, masts, and yards, which lie in reserve to supply the place of others carried away, &c. The space called No man's land is used to contain any blocks, ropes, tackles, &c. which may be necessary on the forecastle. It probably derives this name from its situation, as being neither on the starboard nor larboard side of the ship, nor on the waist or forecastle; but, being situated in the middle, partakes equally of all those places.

NORMAN, a name given to a short wooden bar, thrust into one of the holes of the windlass in a merchant-ship, whereon to fasten the cable. It is only used when there is very little strain on the cable, as in a commodious harbour, when the ship is well sheltered from the wind and tide.

NUTS of the anchor, two little prominences, appearing like short square bars of iron, fixed across the upper part of the anchor-shank, to secure the stock thereof in its place; for which purpose there is a corresponding notch, or channel, cut in the opposite parts of the stock, of the same dimensions with the nuts. See the article Anchor.
OAKHAM, or OAKUM, the substance into which old ropes are reduced, when they are untwisted, loosened, and drawn asunder. It is principally used to drive into the seams, or intervals, between the planks of a ship, to prevent the water from entering. See the article Caulking.

White Oakum, is that which is formed of untarred ropes.

OAR, (rame, Fr. are, Sax.) a long piece of timber, flat at one end, and round or square at the other, and which being applied to the side of a floating-vehicle, serves to make it advance upon the water.

That part of the oar which is out of the vessel, and which enters into the water, is called the blade, or wash, plat; and that which is within-board, is termed the loom, whose extremity, manke, being small enough to be grasped by the rowers, or persons managing the oars, is called the handle.

To pull the boat or vessel forwards, by means of this instrument, the rowers turn their backs forward, and, dipping the blade of the oar in the water, pull the handle forward so that the blade at the same time may move aft in the water: But since the blade cannot be so moved, without striking the water, this impulsion is the same, as if the water were to strike the blade from the stern towards the head: the vessel is therefore necessarily moved according to this direction. Hence it follows, that she will advance with the greater rapidity, by as much as the oar strikes the water more forcibly. Thus it is evident, that an oar acts upon the side of a boat or vessel like a lever of the second class, whose fulcrum is the station, upon which the oar rests on the boat’s gunwale. In large vessels, this station is usually called the row-port; but in lighters and boats it is always termed the row-lock.

To ship the Oars, (armer les aviron, Fr.) is to fix them in the row-locks ready for rowing.

Observation, the art of measuring the altitude of the sun or a star, in order to determine the latitude, or the sun’s azimuth, &c.

Off, an expression applied to the movement of a ship, when she fails out from the shore towards the distant sea. When a ship is beating to windward, so that by one board she approaches towards the shore, and by the other fails out to sea-ward, she is said to stand off and on shore, alternately. Hence,

Offing, (largo, dehors, Fr.) implies out at sea; or at a competent distance from the shore, and generally out of anchor-ground.

Offward, the situation of a ship which lies aground, and leans off from the shore.

OKER,
OKER, a sort of red chalk used by shipwrights to mark timber, in hewing and forming it.

OLERON, a name given to a code of general rules relating to naval affairs, and formed by Richard I. when he was at the island of Oleron. These have been frequently esteemed the most excellent sea laws in the world; and are still preferred in the black book of the admiralty.

OPEN, (débouché, Fr.) the situation of a place which is exposed to the wind and sea, with little or no shelter for shipping to anchor therein.

Open, (ouvert, Fr.) is also expressed of any distant object, to which the sight or passage is not intercepted by something lying, or coming between. Thus, to be open with any place, is to be opposite to it; as the entry of a port, road, or haven.

OPENING, a passage, or freight, between two adjacent coasts or islands.

ORDINARY, (gardien, Fr.) the establishment of the persons employed by the government to take charge of the ships of war, which are laid-up in the several harbours adjacent to the royal dock-yards. These are principally composed of the warrant-officers of the said ships, as the gunner, boatswain, carpenter, deputy-purser and cook, and their servants. There is besides a crew of labourers enrolled in the lift of the ordinary, who pass from ship to ship occasionally to pump, moor, remove, or clean them, whenever it is necessary.

The term ordinary is also applied, sometimes, to the ships themselves; it is likewise used to distinguish the inferior sailors from the most expert and diligent. Thus the latter are rated able on the navy-books, and have 1l. 4s. per month; whereas those who are rated ordinary, have only 19s. per month.

ORLOP, (over-loop, Dutch, faux-pont, Fr.) a platform of planks laid over the beams, in the hold of a ship of war, wherein the cables are usually coiled, and the several officers store-rooms contained.

OVER-BOARD, the state of being thrown out of a ship or boat, into the water wherein she swims: also the act of falling from such a vessel into the sea, &c. as, the ship sprung a leak, and obliged us to throw the guns over-board; a heavy sea broke over the deck, and carried two of our men over-board.

OVER-CAST-STAFF, (trebuchet, Fr.) a scale, or measure, employed by shipwrights to determine the difference between the curves of those timbers which are placed near the greatest breadth, and those which are situated near the extremities of the keel, where the floor rises and grows narrower.

OVER-HAULING, (parcourir, Fr.) the act of opening and extending the several parts of a tackle, or other assemblage of ropes, communicating with blocks or dead-eyes. It is used to remove those blocks to a sufficient distance from each other, that they may be again placed in a state of action, so as to produce the effect required. See the article Tackle.

OVER-HAULING, is also vulgarly expressed of an examination or inspection into the condition of a person or thing.

OVER-MASTED, the state of a ship, whose masts are too high, or too heavy, for the weight of her hull to counter-balance.
OVER-SETTING, (chavirier, Fr.) the act of turning any thing upside-down; also the movement of a ship when she over-turns, faire-capot, so that the keel becomes above the water, and the masts under the surface.

OUT, (dehors, Fr.) an expression frequently used at sea, implying the situation of the fails when they are set, or extended, to assist the ship's course; as opposed to in; which is also applied, in the contrary sense, to signify that such fails are furled.

OUT-FIT, is generally used to signify the expences of equipping a ship for a sea-voyage; or of arming her for war, or both together. See Fitting-out.

OUT OF TRIM, (endormi, Fr.) the state of a ship when she is not properly balanced for the purposes of navigation; which is either occasioned by the size, or position of her masts and fails; or by the comparative quantity, or arrangement of her cargo and ballast in the hold.

OUT-RIGGER, a strong beam of timber, of which there are several fixed on the side of a ship, and projecting from it, in order to secure the masts in the act of careening. See that article.

The outer ends of these beams are firmly lashed to a bolt in the ship's side beneath, by which they are enabled to support the mast, by counteracting the strain it suffers from the effort of the careening tackles; which being applied in the mast-head draws it downwards, so as to act upon the vessel with the power of a lever, whose fulcrum is in her center of gravity.

Out-rigger is also a small boom, occasionally used in the tops to thrust out the breast-back-flays to windward, in order to increase their tension, and thereby give additional security to the top-mast.

This boom is usually furnished with a tackle at its inner-end, communicating with one of the top-mast-shrouds; and has a notch on the outer end to contain the back-flay, and keep it steady therein. As soon as the back-flay is drawn tight, by means of it's tackle in the chains, the out-rigger is applied aloft, which forces it out to windward, beyond the circle of the top, so as to increase the angle which the mast makes with the back-flay, and accordingly enable the latter the better to support the former.

This machine is sometimes applied without any tackle; it is then thrust out to it's usual distance beyond the top-rim, where it is securely fastened; after which the back-flay is placed in the notch, and extended below.

OWNER, the proprietor of a ship, by whom she is freighted to the merchant for a sea-voyage.
PACKET, or PACKET-BOAT, (paquet, Fr.) a vessel appointed by the government to carry the mail of letters, packets, and expresss from one kingdom to another by sea, in the most expeditious manner. Thus the packet-boats, under the direction of the post-master-general of Great Britain, carry the mails from Dover to Calais, from Falmouth to Lisbon, from Harwich to Helvoetfluys, and from Parkgate to Dublin.

PADDLE, (pagais, Fr. pattal, Welsh) a sort of oar used by the savages of Africa and America to navigate their canoes. It is much shorter and broader in the blade than the oars of a boat, and is equally employed in rowing and steering. See the article CANOE.

PAINTER, ciable, Fr. (probably from bindar, Sax. to bind) a rope employed to fasten a boat either along-side of the ship to which she belongs, or to some wharf, key, &c. as occasion requires.

PALM, (paume, Fr.) an implement used instead of a thimble in the exercise of making and mending sails. It is formed of a piece of leather or canvas, on the middle of which is fixed a round plate of iron, of an inch in diameter, whose surface is pierced with a number of small holes, to catch the head of the sail-needle. The leather is formed so as to encircle the hand, and button on the back thereof, while the iron remains in the palm; so that the whole strength of the hand may be exerted to thrust the needle through the canvas, when it is stiff and difficult to be penetrated in sewin.

PANCH, a sort of thick and strong mat, or texture, formed by interweaving twists of rope-yarn as close as possible. It is chiefly used to fasten on the outside of the yards, or rigging, to prevent their surfaces from being rubbed by the friction of some other contiguous object, particularly when the vessel is rocked by a tempestuous sea. See also MAT.

PARBUCKLE, a contrivance used by sailors to lower a cask or bale from any heighth, as the top of a wharf or key, into a boat or lighter, which lies along-side, being chiefly employed where there is no crane or tackle.

It is formed by fastening the height of a rope to a post, or ring, upon the wharf, and thence passing the two parts of the rope under the two quarters of the cask, and bringing them back again over it; so that when the two lower parts remain firmly attached to the post, the two upper parts are gradually slackened together, and the barrel, or bale, suffered to roll easily downward to that place where it is received below. This method is also frequently used
used by masons, in lifting up or letting down large stones, when they are employed in building; and from them it has probably been adopted by seamen.

PARCELING, certain long narrow slips of canvas, daubed with tar, and frequently bound about a rope, in the same manner as bandages are applied to a broken limb in surgery.

This is chiefly practised when the said rope is intended to be served, at which time the parceling is laid in spiral turns, as smoothly upon the surface as possible, that the rope may not become uneven and full of ridges. It is also employed to raise the menfes, which are formed on the stays and on the vojal, being firmly fastened by marling it from one end to the other.

Parceling a seam, is laying a shred of canvas upon it, and daubing it over with melted pitch, both above and below the canvas.

PARLIAMENT-HEEL, the situation of a ship, when she is made to stoop a little to one side, so as to clean the upper part of her bottom on the other side, and cover it with a new composition; and afterwards to perform the same office on that part of the bottom which was first immerled. The application of a new composition, or coat of stuff, on this occasion, is called boot-topping. See that article.

PARREL, (racage, Fr. probably from parallel) a machine used to fasten the sail-yards of a ship to the masts, in such a manner as that they may be easily hoisted and lowered thereon, as occasion requires.

There are four different sorts of parrels, one of which is formed of a single rope; another, of a rope communicating with an assemblage of ribs and trucks; a third, of a rope passing through several trucks, without any ribs; and the fourth, of a truss, by which the yard may be at any time slackened from the mast, or confined thereto as close as possible.

The first of these, which is also the simplest, is formed of a piece of rope, well covered with leather, or spun-yarn, and furnished with an eye at each end. The middle of it being passed round the middle of the yard, both parts of it are fastened together on the after-side of the yard, and the two ends, which are equally long, are passed round the after-part of the mast, and one of them being brought under, and the other over the yard, the two eyes are lashed together with a piece of spun-yarn on the fore-side thereof, whilst another lashing is employed to bind them together, behind the mast, according to the manner described in the article Marling.

The second and most complicated is composed of ribs and trucks, the former of which are long flat pieces of wood, having two holes near their ends, bigotis, as represented by fig. a. plate VIII. the latter, pommes, are small globular pieces, b, with a hole through the middle, of the same size with those of the ribs. Between every two ribs are placed two trucks, of which one is opposite to the upper hole, and the other to the lower holes of both ribs; so that the parrel-robe, bitard, which passes through the whole, unites them together like a string of beads.
In order to fasten this machine more conveniently about the mast and yard, so as to attach the latter to the former, the parrel-rope is formed of two pieces, each of which are furnished with an eye at one end, and both eyes lie on one side of the mast; that is to say, one piece of the rope passes through the lower part of the parrel, and thence under the yard, whilst the other comes through the upper part of the parrel and over the yard, till both eyes meet on the fore-side of the yard, where they are joined together. The other two ends of the parrel-rope are passed about the yard, and the hind part of the parrel alternately, till the latter is sufficiently secured to the former. The whole process is completed by marling the turns of the parrel-rope together, so as to confine them close in the cavity, formed on the back of the ribs, as expressed in the figure.

The third is nothing more than a single rope, with any number of trucks thereon, sufficient to embrace the mast. These are calculated for the cheeks of a gaff. See that article.

The last, which are known by the name of truss-parrels, are somewhat resembling the first, only that instead of being fastened by lashings, the ropes, of which they are composed, communicate with tackles reaching to the deck, so that the parrel may be occasionally slackened or straitened, in order to let the yard move off from the mast, or confine it thereto as strictly as possible. The last of these are peculiar to the lower-yards, whereon they are extremely convenient. The second are always used for the top-fail-yards, and frequently for the lower-yards, in merchant-ships; and the first are seldom employed but for the top-gallant-yards.

PARSLING. See Parceling.

PARTING, (démarrer, Fr.) the state of being driven from the anchors; expressed of a ship, when she has broke her cable by the violence of the wind, waves, or current, or all of them together.

PARTNERS, (etambraies, Fr.) certain pieces of plank nailed round the several scuttles, or holes, in a ship's deck, wherein are contained the masts and capsterns. They are used to strengthen the deck where it is weakened by those breaches, but particularly to support it when the mast leans against it; as impressed by a weight of fail, or when the capstern bears forcibly upon it whilst charged with a great effort.

Partners is also a name given occasionally to the scuttles themselves, wherein the masts and capsterns are fixed.

PASS, or PASSPORT, a permission granted by any state to navigate in some particular sea, without hindrance or molestation from it. It contains the name of the vessel, and that of the master, together with her tonnage, and the number of her crew, certifying that she belongs to the subjects of a particular state, and requiring all persons, at peace with that state, to suffer her to proceed on her voyage without interruption.

PASSAGE, (traversée, Fr.) a voyage from one place to another by sea; an outward or homeward-bound voyage.

Passage-boat, (barquette, barquerole, Fr.) a ferry-boat, or one to carry passengers or luggage by water, from one port to another.

PASSAREE,
PASSAREE, a rope used to fasten the main-tack down to the ship's side, a little behind the cbs-tree. This contrivance however is very rarely used, and never but in light breezes of wind.

PAUL, (élinguet, épaule, Fr.) a certain short bar of wood, or iron, fixed close to the capstern, or windlass of a ship, to prevent those engines from rolling back, or giving way, when they are employed to heave-in the cable, or otherwise charged with any great effort. See Capstern and Windlass.

PAUNCH. See Panch.

To PAY, (espalmer, Fr.) as a naval term, implies to daub or anoint the surface of any body, in order to preserve it from the injuries of the water, weather, &c.

Thus the bottom of a ship is paid with a composition of tallow, sulphur, resin, &c. as described in the article Breathing.

The sides of a ship are usually paid with tar, turpentine, or resin; or by a composition of tar and oil, to which is sometimes added red oler, &c. to protect the planks thereof from being split by the sun or wind. The lower-masts are, for the same reason, paid with materials of the same sort, if we except those, along which their respective sails are frequently hoisted and lowered; such are the masts of foops and foemen, which are always paid with tallow for this purpose: for the same reason all top-masts and top-gallant-masts are also paid with hog's lard, butter, or tallow. See Coat and Stuff.

PAYING-OFF, (abattie, Fr.) the movement by which a ship's head falls to leeward of the point whither it was previously directed: particularly when, by neglect of the helmsman, she had inclined to windward of her course, so as to make the head-sails shiver in the wind, and retard her velocity. See also Falling-off.

PAYING-OFF is likewise used to signify the payment of the ship's officers and crew, and the discharge of the ship from service, in order to be laid-up at the moorings.

PAYING-OUT, or PAYING-AWAY, the act of slackening a cable, or other rope, so as to let it run out of the vessel for some particular purpose.

PEAK, or PEEK, a name given to the upper-corner of all those sails which are extended by a gaff, or by a yard which crosses the mast obliquely, as the mizen-yard of a ship, the main-yard of a bilander, &c. The upper extremity of those yards and gaffs are also denominated the peak. Hence Peak-haliards, are the ropes, or tackles, by which the outer end of a gaff is hoisted, as opposed to the throat-haliards, which are applied to the inner end. See Haliards.

PEN, (bouchot, Fr.) a place enclosed by hurdles, for fishing on the sea-coast.

PENDENT, (flamme, Fr.) a sort of long narrow banner, displayed from the mast-head of a ship of war, and usually terminating in two ends or points, as expressed by a, fig. 4. plate V. There are, besides others, pendents, cornets, of a larger kind, used to distinguish the chief of a squadron of ships. See the article Commodore.

Pendent, (pantoire, Fr.) is also a short piece of rope, fixed under the shrouds, upon the head of the main-mast and fore-mast, from which it depends.
PENDS as low as the cat-harpins, having an eye in the lower end, which is armed with an iron thimble, to prevent the eye from being fretted by the hooks of the main and fore-tackles, &c.

There are, besides, many other pendants of the latter kind, which are generally single or double ropes, to whose lower extremities is attached a block, or tackle: such are the fish-pendent, the yard-tackle-pendents, the reef-tackle-pendents, &c. all of which are employed to transmit the effort of their respective tackles to some distant object.

PERIAGUA, a fort of large canoe, used in the Leeward islands, South America, and the gulf of Mexico. It differs from the common vessels of that name, as being composed of the trunks of two trees, hollowed and united into one fabric; whereas those which are properly called canoes, are formed of the body of one tree. See CANOE.

PIER, a strong mound, or fence, projecting into the sea, to break off the violence of the waves from the entrance of a harbour.

PILLAGE, (butin, Fr.) the plunder of a prize taken from an enemy.

PILOW, (cousin, Fr.) a block of timber, whereon the inner-end of the bowsprit is supported. See BOWSPRIT.

PILOT, the officer who superintends the navigation, either upon the sea-coast or on the main ocean. It is, however, more particularly applied to our mariners to the person charged with the direction of a ship’s course, on, or near the sea-coast, and into the roads, bays, rivers, havens, &c. within his respective district*.

* The regulations, with regard to pilots in the royal navy, are as follow: The commanders of the king’s ships, in order to give all reasonable encouragement to a body of men as pilots, and to remove all their objections to his majesty’s service, are strictly charged to treat them with good usage, and an equal respect with warrant-officers.

The purser of the ship is always to have a set of bedding provided on board for the pilots, and the captain is to order the boatswain to supply them with hammocks, and a convenient place to lie in, near their duty, and apart from the common men; which bedding and hammocks are to be returned when the pilots leave the ship.

A pilot, when conducting one of his majesty’s ships in pilot-water, shall have the sole charge and command of the ship, and may give orders for steering; setting, trimming, or furling the sails; tacking the ship; or whatever concerns the navigation: and the captain is to take care that all the officers and crew obey his orders. But the captain is diligently to observe the conduct of the pilot, and if he judges him to behave so ill as to bring the ship into danger, he may remove him from the command and charge of the ship, and take such methods for her preservation as shall be judged necessary; remarking upon the log-book the exact hour and time when the pilot was removed from his office, and the reasons assigned for it.

Captains of the king’s ships, employing pilots in foreign parts of his majesty’s dominions, shall, after performance of the service, give a certificate thereof to the pilot, which being produced to the proper naval-officer, he shall cause the same to be immediately paid; but if there be no naval-officer there, the captain of his majesty’s ship shall pay him, and send the proper vouchers, with his bill, to the navy-board, in order to be paid as bills of exchange.

Captains of his majesty’s ships, employing foreign pilots, to carry the ships they command into, or out of foreign ports, shall pay them the rates due by the establishment or custom of the country, before they discharge them; whose receipts being duly vouched, and sent with a certificate of the service performed, to the navy-board, they shall cause them to be paid with the same exactness as they do bills of exchange.” Regulations and Instructions of the Sea-service, &c.
PIN

PIN of a block. See Block.

PINK, (pingue, Fr.) a name given to a ship with a very narrow stern; whence all vessels, however small, whose sterns are fashioned in this manner, are called pink-sterned.

PINNACE, a small vessel, navigated with oars and sails, and having generally two masts, which are rigged like those of a schooner. Pinnace is also a boat, usually rowed with eight oars. See the article Boat.

PINTLES, certain pins or hooks, fastened upon the back part of the rudder, with their points downwards, in order to enter into, and rest upon the goings, fixed on the stern-post to hang the rudder. See Helm.

PIRATE, (pirate, Fr. piratet, Gr.) a sea-robber, or an armed ship that roams the seas without any legal commiffion, and seizes or plunders every vessel she meets indiscriminately, whether friends or enemies.

The colours usually displayed by pirates are said to be a black field, with a death's head, a battle-axe and hour-glass. The last instrument is generally supposed to determine the time allowed to the prisoners, whom they take, to consider whether they will join the pirates in their felonious combination, or be put to death, which is often perpetrated in the most cruel manner.

Amongst the most celebrated pirates of the north is recorded Alvilda, daughter of a king of the Goths, named Sypardus. She embraced this occupation to deliver herself from the violence imposed on her inclination, by a marriage with Alf, son of Sigurds, king of Denmark. She dressed herself as a man, and composed her band of rowers, and the rest of her crew, of a number of young women, attired in the same manner. Amongst the first of her cruizes she touched at a place where a company of pirates bewailed the death of their captain. The strangers were captivated with the agreeable manners of Alvilda, and chose her for their chief. By this reinforcement she became so formidable upon the sea, that prince Alf came to engage her. She sustained his attacks for a considerable time; but, in a vigorous action, Alf boarded her vessel, and having killed the greatest part of her crew, seized the captain, namely herself; whom nevertheless he knew not, because the princes had a casque which covered her visage. Being master of her person, he removed the casque, and in spite of her disguise, instantly recognized her, and offered her his hand in wedlock.†

PITCH, (brai, Fr. pix, Lat.) a composition, black, dry, brittle, and shining, which remains at the bottom of an alembic after the oil of turpentine is drawn off by distillation. It is used in caulking a ship, to fill the chinks, or intervals between the planks of her sides, or decks, or bottom. It is sometimes mixed with resin, or other glutinous material. See Tar.

To Pitch the seams. See the article Pay.

PITCHING, (tangage, Fr. appicciare, Ital.) may be defined, the vertical vibration which the length of a ship makes about her center of gravity; or the movement, by which she plunges her head and after-part alternately into the hollow of the sea.

† Hist. Denmark, by Saxo Grammaticus.

This
This motion may proceed from two causes: the waves, which agitate the vessel; and the wind upon the sails, which makes her float to every blast thereof. The first absolutely depends upon the agitation of the sea, and is not susceptible of inquiry; and the second is occasioned by the inclination of the masts, and may be submitted to certain established maxims.

When the wind acts upon the sails the mast yields to it's effort, with an inclination which increases in proportion to the length of the mast to the augmentation of the wind, and to the comparative weight and distribution of the ship's lading.

The repulsion of the water, to the effort of gravity, opposes itself to this inclination, or at least sustains it, by as much as the repulsion exceeds the momentum, or absolute effort of the mast, upon which the wind operates. At the end of each blast, when the wind suspends it's action, this repulsion lifts the vessel; and these successive inclinations and repulsions produce the movement of pitching, which is very inconvenient; and when it is considerable will greatly retard the course, as well as endanger the mast, and strain the vessel.

PLANE, a term used by shipwrights, implying the area, or imaginary surface, contained within any particular outlines. Thus the plane of elevation, plate I. exhibits a surface limited by the head before, by the stern abaft, by the keel below, and by the upper part of the vessel's side above. Thus the horizontal plane, in the same plate, is comprehended within the lines which describe the ship's greatest breadth and length; and thus also the plane of projection, represented likewise in plate I. circumscribes the greatest height and breadth of the same vessel.

PLANKING, (border, Fr.) the act of covering and lining the sides of a ship with an assemblage of oak planks, which completes the processes of ship-building, and is sometimes called laying on the skin, by the artificers. See the article Building.

The breadth and thickness of all the planks of a 74 gun ship, as also of her wales and thick-stuff, are exhibited in the midship section, plate VII.

PLAT, (garcelle de cable, Fr.) a sort of braided cordage, formed of several strands of old rope-yarn, twisted into foxes. It is used to wind about that part of the cable which lies in the hawse-hole, or against the fore-part of the ship, where it would otherwise be greatly injured by the continual friction, produced by the agitation of the ship in stormy weather. See the articles Freshen and Service.

PLUG, (palardeux, Fr. plug, Swed.) certain pieces of timber, formed like the frustum of a cone, and used to stop the hawse-holes, and the breaches made in the body of a ship by cannon-balls; the former of which are called hawse-plugs, and the latter, shot-plugs, which are formed of various sizes in proportion to the holes made by the different sizes of shot, which may penetrate the ship's sides or bottom in battle; accordingly they are always ready for this purpose. See Engagement.

* Savieron, Ditt, Marine.

PLUNDER,
PLUNDER, (butin, Fr.) a name given to the effects of the officers or crew of a prize, which are pillaged by the captors.

PLYING, the act of making, or endeavouring to make, a progress against the direction of the wind. Hence a ship, that advances well in her course in this manner of failing, is said to be a good plyer, boulinier. See the articles Beating and Tacking.

Point, a low angle, or arm of the shore, which projects into the sea, or into a river, beyond the rest of the beech.

Pointing, the operation of tapering the end of a rope, and weaving a sort of mat, or close texture, about the diminished part of it, so as to thrust it more easily through a hole, and prevent it from being readily untwisted. Thus the end of a reef-line is pointed so, that, being lashed, it may more readily penetrate the eye-let holes of the reef; and the ends of the strands of a cable are occasionally pointed, for the greater conveniency of splicing it to another cable, especially when this task is frequently performed. The extremities of the splice of a cable are also pointed, that it may pass with more facility through the hawse-holes.

Points, (garrettes de ris, Fr.) short flat pieces of braided cordage, tapering from the middle towards each end, and used to reef the courses and top-fails of a ship. See the article Reef.

Polacre, a ship with three masts, usually navigated in the Levant, and other parts of the Mediterranean. These vessels are generally furnished with square sails upon the main-mast, and lateen sails upon the fore-mast and mizen-mast. Some of them however carry square sails upon all the three masts, particularly those of Provence in France. Each of their masts is commonly formed of one piece, so that they have neither top-mast nor top-gallant-mast; neither have they any hosses to their yards, because the men stand upon the top-fail-yard to looie or furl the top-gallant-fail, and on the lower-yard to reef, looie, or furl the top-fail, whose yard is lowered sufficiently down for that purpose. See also Xebec.

Pole-axe, a sort of hatchet nearly resembling a battle-axe, having an handle about 15 inches in length, and being furnished with a sharp point, or claw, bending downwards from the back of it’s head; the blade whereof is formed like that of any other hatchet. It is principally employed to cut away and destroy the rigging of any adversary who endeavours to board.

Pole-axes are also said to have been successfully used on some occasions in boarding an enemy, whose sides were above those of the boarder. This is executed by detaching several gangs to enter at different parts of the ship’s length, at which time the pole-axes are forcibly driven into her side, one above another, so as to form a sort of scaling-ladders.

Pole-mast. See the article Mast.

Under bare poles, (être à sec, Fr.) the situation of a ship at sea when all her sails are furled, particularly in a tempest. See the articles Scudding and Trying.

Pomiglion, a name given by seamen to the caisnel, or hindmost knob of a cannon. See that article.

Pontoon
PONTOON, (ponton, Fr.) a low flat vessel, nearly resembling a lighter, or barge of burthen, and furnished with cranes, capstans, tackles, and other machinery necessary for careening ships of all sizes. These are very common in the principal ports of the Mediterranean, but are rarely used in the northern parts of Europe.

POOP, (dunette, Fr. puppis, Lat.) the highest and utmost deck of a ship. See the article Deck.

Poop-royal, (dunette sur dunette, Fr.) a short deck, or platform, placed over the utmost part of the poop in the largest of the French and Spanish men of war, and serving as a cabin for their masters and pilots. This is usually called the top-gallant-poop by our shipwrights.

POOPING, the shock of a high and heavy sea, upon the stern or quarter of a ship, when the seas before the wind in a tempest. This circumstance is extremely dangerous to the vessel, which is thereby exposed to the risk of having her whole stern beat inwards, by which she would be immediately laid open to the entrance of the sea, and of course founder or be torn to pieces.

PORT, a harbour or haven on the sea-coast. See the article HARBOUR.

Port is also a name given, on some occasions, to the larboard, or left-side of the ship, as in the following instances:

The ship heels to Port, i. e. itoops or inclines to the larboard side.

Top the yard to Port! the order to make the larboard extremity of a yard higher than the other. See Topping.

Port the helm! the order to put the helm over to the larboard-side of the vessel.

In all these senses this phrase appears intended to prevent any mistakes happening from the similarity of sounds in the words starboard and larboard, particularly when they relate to the helm, where a misapprehension might be attended with very dangerous consequences.

PORTS, (Jabords, Fr.) the embrasures or openings in the side of a ship of war, wherein the artillery is ranged in battery upon the decks above and below.

The ports are formed of a sufficient extent to point and fire the cannon, without injuring the ship’s side by the recoil; and as it serves no end to enlarge them beyond what is necessary for that purpose, the shipwrights have established certain dimensions, by which they are cut in proportion to the size of the cannon.

The ports are shut in at sea by a sort of hanging-doors, called the port-lids, mantelets; which are fastened by hinges to their upper-edges, so as to let down when the cannon are drawn into the ship. By this means the water is prevented from entering the lower-decks in a turbulent sea. The lower and upper edges of the ports are always parallel to the deck, so that the guns, when levelled in their carriages, are all equally high above the lower extremity of the ports which is called the port-cells. The ports are exhibited, throughout the ship’s whole length, by H. in the ELEVATION, plate I. They are also represented upon a larger scale in plate IV. fig. 10. and plate VIII. fig. 3. The gun-room-ports, in the ship’s counter, are expressed by H. fig. 1. plate X. See also the articles Deck and Cannon.

POWDER,
POWDER-CHESTS, certain small boxes, charged with powder and
a quantity of old nails, or splinters of iron, and fastened occasionally on
the decks and sides of a ship, in order to be discharged on an enemy who
attempts to seize her by boarding. See that article.

These cases are usually from 12 to 18 inches in length, and about 8 or
10 in breadth, having their outer or upper-part terminating in an edge.
They are nailed to several places of the quarter, the quarter-deck and bulk-
head of the waist, having a train of powder which communicates with the
inner apartments of the ship, so as to be fired at pleasure to annoy the ene-
my. They are particularly used in merchant-ships, which are furnished
with close-quarters to oppose the boarders. See Close-Quarters.

PRAM, or PRAMÉ, a sort of lighter, used in Holland and the ports
of the Baltic sea, to carry the cargo of a merchant-ship along-side, in order
to lade her: or to bring it afloat to be lodged in the store-houses after be-
ing discharged out of the vessel.

PRATIC, (pratique, Fr.) a term used in the European ports of the
Mediterranean sea, implying free intercourse or communication with the
natives of the country, after a limited quarantine has been performed, in
consequence of a voyage to Barbary or Turky.

PREVENTER, an additional rope, employed at times to support any
other, when the latter suffers an unusual strain, particularly in a strong
gale of wind; as the

Preventer-brace, a temporary brace, fixed occasionally to succour
the main or fore-yard of a ship, but particularly the latter, when it is
charged with a greater effort than usual, and which, it is apprehended,
the common standing braces would not be able to support. See Bracce.

Preventer-shrouds, and Preventer-stays, are applied, in the same
manner, to serve the same purposes; and may be easily understood by re-
ferring to the articles Shroud and Stay.

PRICKING the chart, (pointer, Fr.) the act of tracing a ship’s course
upon a marine chart, by the help of a scale and compasses, so as to disco-
very her present situation.

Pricking the fails, the act of stitching two cloths of a fail together
along the space comprehended between the two edges, or selvages, that
overlap each other. Or, it is the sowing a middle-team between the two
seams which are employed to unite every cloth of a fail to the next ad-
joining. This operation is rarely performed till the fails have been worn
for a considerable time, so that the twine, with which they were originally
sewed, is become very feeble and incapable of reuniting the efforts of a
strong gale of wind.

PRIMING, the train of powder which is laid from the opening of the
touch-hole along the cavity of the pan, in order to fire the piece; also the
operation of laying this train. See the articles Cannon and Exercise.

PRIMING-WIRE, or PRIMING-IRON, a sort of iron-needle, em-
ployed to penetrate the touch-hole of a cannon, when it is loaded, in or-
der
order to discover whether the powder contained therein is thoroughly dry, and fit for immediate service.

PRIVATEER, a vessel of war, armed and equipped by particular merchants, and furnished with a military commission by the admiralty, or the officers who superintend the marine department of a country, to cruise against the enemy, and take, sink, or burn their shipping, or otherwise annoy them as opportunity offers. These vessels are generally governed on the same plan with his majesty’s ships, although they are guilty of many scandalous depredations, which are very rarely practised by the latter.

PRIZE, a vessel taken from the enemy by a ship of war, privateer, or armed merchantman *

PRIZING, the application of a lever to move any weighty body, as a caulk, anchor, cannon, &c.

PROP, (accord, Fr.) See Shore.

PROTEST, an instrument, drawn up in writing, and attested before a justice of peace, by the master and a part of the ship’s crew after the expiration of a voyage, describing the severity of the said voyage, occasioned by tempestuous weather, heavy seas, an insufficient crew, or any other circumstances by which the ship has suffered, or may suffer, either in her hull, masts, rigging, or cargo. It is chiefly intended to shew, that such damages or misfortunes did not happen through any neglect or ill conduct of the master or his officers.

PROW, (preue, Fr. pros. Lat.) a name given by seamen to the beak, or pointed cut-water of a polacre, xebeck, or galley. The upper-part of the prow, in those vessels, is usually furnished with a grating-platform for the convenience of the seamen who walk out to perform whatever is necessary about the sails or rigging in the bowprit.

PUDENING, (bourelet, Fr.) a thick wreath, or circle of cordage, tapering from the middle towards the ends, and fastened about the main-mast and fore-mast of a ship, to prevent their yards from falling down, when the ropes by which they are usually suspended are shot away in battle.

The pudening, which is represented by fig. 1. plate VIII. is generally formed in the following manner: A small piece of rope, whole length is twice the diameter of the mast, is spliced together at the two ends, and being thus doubled and extended, a thimble is seized into each of the ex-

* The regulations with regard to prizes in the royal navy are as follow:

1. When any ship or vessel is taken from the enemy, the hatches are to be immediately spiked up, and her lading and furniture secured from embezzlement, till sentence is passed upon her in some court of admiralty, empowered to take cognizance of causes of that nature.

2. The captain is to cause the officers of the prize to be examined; three or more of the company, who can give best evidence, to be brought to the said court of admiralty, together with the charter-parties, bills of lading, and other ship’s papers found on board.

4. When a privateer is taken, great care is to be had to secure all the ship’s papers, especially the commission; but if there be no legal commission found on board, then all the prisoners are to be carried before some magistrate, in order to their being examined and committed as pirates.”

N. B. The third and fourth articles relate to the finding any of the king’s subjects in the prizes; and appear unnecessary in this place.

tremities.
PULLING, a name given by sailors to the act of rowing with the oars.

PUMP, a well-known machine, used to discharge the water from the ship's bottom into the sea.

The common pump is so generally understood, that it hardly requires any description. It is a long wooden tube, whose lower end rests upon the ship's bottom, between the timbers, in an apartment called the well, inclosed for this purpose near the middle of the ship's length.

This pump is managed by means of the brake, and the two boxes, or pistons. Near the middle of the tube, in the chamber of the pump, is fixed the lower-box, which is furnished with a staple, by which it may at any time be hooked and drawn up, in order to examine it. To the upper-box is fixed a long bar of iron, called the spear, whose upper-end is fastened to the end of the brake, by means of an iron bolt passing through both. At a small distance from this bolt the brake is confined by another bolt between two cheeks, or ears, fixed perpendicularly on the top of the pump. Thus the brake acts upon the spear as a lever, whose fulcrum is the bolt between the two cheeks, and discharges the water by means of the valves, or clappers, fixed on the upper and lower boxes.

These sorts of pumps, however, are very rarely used in ships of war, unless of the smallest size. The most useful machine of this kind, in large ships, is the chain-pump, which is universally used in the navy. This is no other than a long chain, equipped with a sufficient number of valves, at proper distances, which passes downward through a wooden tube, and returns upward in the same manner on the other side. It is managed by a roller or winch, whereon several men may be employed at once; and thus it discharges, in a limited time, a much greater quantity of water than the common pump, and that with less fatigue and inconvenience to the labourers.

This machine is nevertheless exposed to several disagreeable accidents by the nature of its construction. The chain is of too complicated a fabric, and the sprocket-wheels, employed to wind it up from the ship's bottom, are deficient in a very material circumstance, viz. some contrivance to prevent the chain from sliding or jerking back upon the surface of the wheel, which frequently happens when the valves are charged with a considerable weight of water, or when the pump is violently worked. The links are evidently too short, and the immechanical manner, in which they are connected, exposes them to a great friction in passing round the wheels. Hence they are sometimes apt to break or burst asunder in very dangerous situations, when it is extremely difficult or impracticable to repair the chain.

The
The consideration of the known inconveniences of the above machine has given rise to the invention of several others which should better answer the purpose. They have been offered to the public one after another with pompous recommendations by their respective projectors, who have never failed to report their effects as considerably superior to that of the chain-pump with which they have been tried. It is however much to be lamented, that in these sort of trials there is not always a scrupulous attention to what may be called mechanical justice. The artist, who wishes to introduce a new piece of mechanism, has generally sufficient address to compare it's effects with one of the former machines which is crazy or out of repair. A report of this kind indeed favours strongly of the evidence of a fallacious witness, but this fiction is not always discovered. The persons appointed to superintend the comparative effects of the different pumps, have not always a competent knowledge of hydraulics to detect these artifices, or to remark with precision the defects and advantages of those machines as opposed to each other. Thus the several inventions proposed to supplant the chain-pump have hitherto proved ineffectual, and are now no longer remembered.

Of late, however, some considerable improvements have been made on the naval chain-pump, by Mr. Cole, under the direction of Capt. Bentinck. The chain of this machine is more simple and mechanical, and much less exposed to damage. It is exactly similar to that of the fire engine, and appears to have been first applied to the pump by Mr. Mylne, to exhaust the water from the caissons at Black-friars bridge. It has thence been transferred to the marine by Capt. Bentinck, after having received some material additions to answer that service. The principal superiority of this pump to the former is, 1. That the chain is more simple and more easily worked, and of course less exposed to injuries by friction. 2. That the chain is secured upon the wheel, and thereby prevented from jerking back when charged with a column of water. 3. That it may be easily taken up and repaired when broken, or choaked with ballast, &c. 4. That it discharges a much greater quantity of water with an inferior number of men.

As we wish to pay all possible attention in this work to every improvement in the marine, we have exhibited in plate VIII. a section of this machine at large, as fixed in a frigate of war, fig. 2. wherein A is the keel, and V the floor-timbers, and X the keelson, a a a the several links of the chain, b b the valves, C the upper wheels, D the lower wheels, c c the cavities upon the surface of the wheels to receive the valves as they pass round thereon, d d the bolts fixed across the surface of the wheels, to fall in the interval between every two links, to prevent the chain from sliding back.

The links of the chain, which are no other than two long plates of iron with a hole at each end, and fixed together by two bolts serving as axles, are represented on a larger scale as a a. The valves are two circular plates of iron with a piece of leather between them: these are also exhibited at large by b b.
Upon a trial of this machine with the old chain-pump aboard the Sea- 
ford frigate, it appears, in a report signed by rear-admiral Sir John Moore,
12 captains, and 11 lieutenants of his majesty’s navy, that it’s effects,
when compared with the latter, were as follow.

<table>
<thead>
<tr>
<th>Number of Men</th>
<th>Tuns of Water</th>
<th>Seconds of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>43.5</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Men</th>
<th>Tuns of Water</th>
<th>Seconds of Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1</td>
<td>76</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>81</td>
</tr>
</tbody>
</table>

The subscribers further certify, that the chain of the new pump was
dropped into the well, and afterwards taken up and repaired and set at work
again in two minutes and a half; and that they have seen the lower wheel
of the said pump taken up to show how readily it might be cleared and re-
 fitted for action, after being choaked with sand or gravel; which they are of
opinion may be performed in four or five minutes.

Pump-spear, (barre de pompe, Fr.)

PUNT, a sort of flat-bottomed boat, whose floor resembles the platform
of a floating-flage. It is used by the naval artificers, either in caulking,
breeching, or repairing the bottom of a ship.

PURCHASE, a name given by sailors to any sort of mechanical power
employed in raising or removing heavy bodies, or in fixing or extending
the ship’s rigging. Such are the tackles, windlasses, capstans, screws, and
handspikes.

PURSER, an officer appointed by the lords of the admiralty, to take
charge of the provisions of a ship of war, and to see that they are carefully
distributed to the officers and crew, according to the instructions which he
has received from the commissioners of the navy for that purpose.
QUADRANT, an instrument used to take the altitude of the sun or stars at sea, in order to determine the latitude of the place; or the sun's azimuth, so as to ascertain the magnetical variation.

These instruments are variously constructed, and by consequence the apparatus of each kind is somewhat different from those of the others, according to the improvements they have at different times received from several ingenious artists.

As all the different kinds of quadrants are circumstantially described, either in printed directions to use them, or in other books, a particular account of them here might reasonably be esteemed superfluous. It suffices to say that the most useful, as well as the most general, for taking observations at sea is the octant, originally invented by Sir Isaac Newton, and since that time improved and brought into practice by Messrs. Godfrey and Hadley. It may not however be unnecessary to remark, that the back-observation, which, in many situations, is certainly more accurate and useful than that which is taken in front, is almost totally neglected by our observers, under pretence of it's being more uncertain, or more liable to error: but really because it is somewhat more difficult to learn. We may venture to affirm however, that no artist, who thoroughly understands the operation, will ever advance so absurd an objection, unless we should doubt the testimony of a multitude of experiments.

QUARANTINE, the state of the persons who are restrained within the limits of a ship, or lazaretto; or otherwise prevented from having a free communication with the inhabitants of any country, till the expiration of an appointed time, during which they are repeatedly examined with regard to their health. It is chiefly intended to prevent the importation of the plague, from the countries under the dominion of the Turks.

QUARTER of a ship, (bancke, Fr.) that part of a ship's side which lies towards the stern; or which is comprehended between the afo most end of the main chains and the sides of the stern, where it is terminated by the quarter-pieces.

Although the lines by which the quarter and bow of a ship, with respect to her length, are only imaginary, yet experience appears sufficiently to have ascertained their limits: so that if we were to divide the ship's sides into five equal portions, the names of each space would be readily enough expressed. Thus the first, from the stern, would be the quarter; the second,
abaft the midships; the third, the midships; the fourth, before the midships; and the fifth, the bow. Whether these divisions, which in reality are somewhat arbitrary, are altogether improper, may be readily discovered by referring to the mutual situation or approach of two adjacent vessels. The enemy boarded us on the larboard-side! Whereabouts? Abaft the midships, before the midships, &c.

Plate VIII. fig. 3. represents a geometrical elevation of the quarter of a 74-gun ship, as corresponding with the other figures of a ship of the same rate, delineated upon the same plate. See the articles Head, Midship-Frame, and Stern.

In this figure, all the parts are distinguished by the same letters as those in the plane of elevation, plate I. wherein the quarter is continued into the side, upon a smaller scale.

Explanation of fig. 3. plate VIII.

A the keel, with a the false keel beneath it.
B the stern-post.
D D the quarter-gallery, with it's balustrades and windows.
E F the quarter-pieces, which limit and form the outlines of the stern.
F the taffarel, or upper pieces of the stern.
F G the profile of the stern, with it's galleries.
H the gun-ports of the lower-deck.
b the gun-ports of the upper and quarter-deck.
I the after-part of the mizen-channel.
K the wing-transom.
K G the lower counter.
L B the station of the deck-transom.
L Q the after-part of the main-wale.
D R the after-part of the channel-wale, parallel to the main-wale.
S U the fleer-rail, parallel to both wales.
T / the rudder.
A i F the rake of the stern.
P i i the drift-rails.
T u the after-part of the load water-line.
k k l the curve of the several decks corresponding to those represented in the head.

As the marks, by which vessels of different constructions are distinguished from each other, are generally more conspicuous on the stern, or quarter, than any other part, we have represented, in plate VIII. some of the quarters, which assume the most different shapes, and form the greatest contrast with each other.

Fig. 4. shews the stern and quarter of a Dutch ship.
Fig. 5. the stern and quarter of a cat.
Fig. 8. is the stern and quarter of a common galley.
Fig. 9. exhibits the quarter of a first-rate galley, otherwise called a gal-lasse.

G g Fig.
Fig. 6. the quarter of a Dutch dogger, or galliot.

Fig. 7. represents the stern and quarter of a floop of war.

The quarters of all other ships have a near affinity to those above exhibited. Thus all ships of the line, and East-Indianinen, are formed with a quarter little differing from the principal figure in this plate. Xebecs have quarters nearly resembling those of galleasses, only somewhat higher. Hagg-boats and pinks approach the figure of cats, the former being a little broader in the stern, and the latter a little narrower; and the sterns and quarters of cats seem to be derived from those of fly-boats. The sterns of Dutch doggers and galliots are indeed singular, and like those of no other modern vessel: they have nevertheless a great resemblance to the ships of the ancient Grecians, as represented in medals and other monuments of antiquity.

On the Quarter, may be defined an arch of the horizon, contained between the line prolonged from the ship's stern and any distant object, as land, ships, &c. Thus if the ship's keel lies on an east and west line, the stern being westward, any distant object perceived in the north-west or south-west, is said to be on the larboard or starboard quarter. See the article Bearing.

Quarter-bill, a roll, or lift, containing the different stations, to which all the officers and crew of the ship are quartered, in the time of battle, and the names of all the persons appointed to those stations.

Quarter-cloths, (bagginge, Fr.) long pieces of painted canvas, extended on the outside of the quarter-netting from the upper part of the gallery to the gangway. They are generally decorated with martial instruments, or allegorical figures.

Quarter-gallery, a sort of small balcony, with or without ballustrades, on the quarter of a ship, as represented by fig. 1. plate VIII. The gallery on the quarter generally communicates with that on the stern, by means of a door passing from one to the other.

Quarter-Gunner, an inferior officer under the direction of the gunner of a ship of war, whom he is to assist in every branch of his duty; as keeping the guns and their carriages in proper order, and duly furnished with whatever is necessary; filling the powder into cartridges; scaling the guns, and keeping them always in a condition for service. The number of quarter-gunners in any ship is always in proportion to the number of her artillery, one quarter-gunner being allowed to every four cannon.

Quarter-master, an inferior officer appointed by the master of a ship of war to assist the mates in their several duties; as flowing the ballast and provisions in the hold, coiling the cables on their platforms, overlooking the steerage of the ship, and keeping the time by the watch-glasses.

Quarter-netting, a sort of net-work, extended along the rails on the upper-part of a ship's quarter. In a ship of war these are always double, being supported by iron cranes, placed at proper distances. The interval is sometimes filled with cork, or old sails, but chiefly with the hammocks of the sailors, so as to form a parapet to prevent the execution of the enemy's small arms in battle. See the article Engagement.
Quarter-rails, are narrow-moulded planks, generally of fir, reaching from the top of the stern to the gangway. They are supported by stanchions, and serve as a fence to the quarter-deck, to prevent the men from tumbling into the sea by the rolling of the ship, particularly in small vessels.

Quartering-wind. See the article Sailing.

Quarters, a name given, at sea, to the several stations where the officers and crew of a ship of war are posted in action. See the article Engagement.

The number of men appointed to manage the artillery is always in proportion to the nature of the guns, and the number and condition of the ship's crew. They are, in general, as follow, when the ship is well manned, so as to fight both sides at once occasionally:

<table>
<thead>
<tr>
<th>Nature of the gun</th>
<th>No. of men</th>
<th>Nature of the gun</th>
<th>No. of men</th>
</tr>
</thead>
<tbody>
<tr>
<td>To a 42</td>
<td>15</td>
<td>To a 9</td>
<td>6</td>
</tr>
<tr>
<td>32</td>
<td>13</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>11</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>9</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This number, to which is often added a boy to bring powder to every gun, may be occasionally reduced, and the guns nevertheless well managed. The number of men appointed to the small arms, on board his majesty's ships and sloops of war, by order of the admiralty, are,

<table>
<thead>
<tr>
<th>Rate of the ship</th>
<th>No. of men to the small arms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>150</td>
</tr>
<tr>
<td>2d</td>
<td>120</td>
</tr>
<tr>
<td>3d of 80 guns</td>
<td>100</td>
</tr>
<tr>
<td>— of 70 guns</td>
<td>80</td>
</tr>
<tr>
<td>4th of 60 guns</td>
<td>70</td>
</tr>
<tr>
<td>4th of 50 guns</td>
<td>60</td>
</tr>
<tr>
<td>5th</td>
<td>50</td>
</tr>
<tr>
<td>6th</td>
<td>40</td>
</tr>
<tr>
<td>Sloops of war</td>
<td>30</td>
</tr>
</tbody>
</table>

The lieutenants are usually stationed to command the different batteries, and direct their efforts against the enemy. The master superintends the movements of the ship, and whatever relates to the sails. The boatwain, and a sufficient number of men, is stationed to repair the damaged rigging; and the gunner and carpenter, wherever necessary, according to their respective offices. See also the articles Cannon and Exercise.

The marines are generally quartered on the poop and forecastle, or gangway, under the direction of their officers; although, on some occasions, they affix at the great guns, particularly in distant cannonading.
QUAERENDA! is also an exclamation to implore mercy from a victorious enemy.

QUICK-SAND, a loose quaking sand, into which a ship sinks by her own weight, as soon as the water retreats from her bottom.

QUICK-work, (œuvre-vives, Fr.) a general name given to all that part of a ship which is under the surface of the water when she is laden fit for a sea-voyage. It is also applied, occasionally, to that part of the side which is above the sheer-rail, and which is usually painted with trophies, &c. on the outside.

QUILTING, (kulcht, Dutch) the operation of weaving a sort of coat, or texture, formed of the strands of rope, about the outside of any vessel, to contain water, &c. as a jar, cask, bottle, &c.

QUOIN, a sort of wedge, employed to raise the cannon to a proper level, that it may be more truly directed to the object.

Quoins are also employed to wedge off the casks of wine, oil, spirituous liquors, &c. from each other, that their bilges may not rub against each other so as to occasion a leak, by the agitation of the ship, at sea.
RABBET, (rabliure, rabattre, Fr.) a deep groove, or channel, cut in a piece of timber longitudinally, to receive the edge of a plank, or the ends of a number of planks, which are to be securely fastened therein. The depth of this channel is equal to the thickness of the plank, so that when the end of the latter is let into the rabbet, it will be level with the outside of the piece. Thus the ends of the lower planks of a ship's bottom terminate upon the stem afore, and the stern-post abaft, with whose sides their surfaces are even. The surface of the garboard streak, whose edge is let into the keel, is, in the same manner, level with the side of the keel at the extremities of the vessel.

RACK, (rafseau, Fr.) a frame of timber, containing several foecaves, and usually fixed on the opposite sides of a ship's bowsprit, to direct the sailors to the respective ropes passing through it; all of which are attached to the sails on the bowsprit.

RACKING, the fastening two opposite parts of a tackle together, so as that any weighty body suspended thereby shall not fall down, although the rope, which forms the tackle, should be loosened by accident or neglect.

This expedient is chiefly practised when the boats are hung up to the ship's side, during the night time, in an open road or bay, lest the rope of the tackle should be untied by the inattention of some of the crew; by which accident the boat might be considerably damaged, and probably lost, or dashed in pieces.

RAFT, (radeau, Fr.) a sort of float, formed by an assemblage of various planks, or pieces of timber, fastened together side by side, so as to be conveyed more commodiously, to any short distance in a harbour or road, than if they were separate. The timber and plank, with which merchant-ships are laden, in the different parts of the Baltic sea, are attached together in this manner, in order to float them off to the shipping.

RAFT-PORT, a square hole, cut through the buttocks of some ships, immediately under the counter, to receive the planks or pieces of timber which are brought to lade her for transportation; and which, on account of their great length, could not be received aboard otherwise.

RAG-BOLT, an iron pin, having several barbs, as explained in the article IRON-WORK, and represented in fig. 2, plate II.

RAILS, are narrow planks, generally of fir, upon which there is a moulding fluck. They are for ornament, and are nailed across the stern, above the wing tranfam and counters, &c. They are likewise nailed upon several planks along the side; one in particular is called the sheer-rail, which limits the height of the side from the forecastle to the quarter-deck, and runs aft to the stern, and forward to the cat-head; the wales are nearly parallel to this. Murray's Ship-Building.
The reader will understand this article better by referring to the figures of the rails, as represented in plates I, IV, VII, and VIII, and their explanations, in Naval Architecture, &c.

Rails of the head, certain curved pieces of timber, extending from the bows on each side to the continuation of the ship's stem, to support the knee of the head, and the ornamental figure fixed thereon. The former of these rails is represented at large in the figure referred to from the article Head, plate IV.

To RAISE, to elevate any distant object at sea, by a gradual approach towards it from the place whence it was formerly observed. This effect is known to be occasioned by the convexity of the surface of the sea, which previously intercepted the view, when directed towards the lower parts of the said object. This term is opposed to LAVING, which see.

RAISING a purchase, the act of disposing certain instruments, or machines, in such a manner, as that, by their mutual effects, they may produce a mechanical force sufficient to overcome the weight or resistance of the object to which this machinery is applied.

RAKE, the projection of the upper parts of a ship at the height of the stem, (clauement, Fr.) and stern, (quette, Fr.) beyond the extremities of the keel. Thus if a plummet be hung from the top of a ship's stern, so as to be level with the continuation of the keel, the distance between the after end of the keel and the plummet will be the length of the rake abaft, or the rake of the stern.

RAKING a ship, the act of cannonading a ship on the stern, or head, so as that the balls shall scour the whole length of her decks; which is one of the most dangerous incidents that can happen in a naval action. This is frequently called raking fore and aft, being the same with what is called esflading by engineers.

RANGE, a sufficient length of the cable, drawn up on the deck, before the anchor is cast loose from the bow, to let it sink to the bottom, without being interrupted, that the flukes may be forced the deeper into the ground, by the additional weight which the anchor acquires in sinking. For this reason the range, which is drawn up out of the tier, ought to be equal in length, to the depth of the water where the ship anchors. See Anchor and Cable-Tier.

Range, is also the distance to which a shell or cannon-ball is thrown from a piece of artillery, by the explosion of gun-powder. See the articles Cannon and Mortar.

The flight of a shot is distinguished, by artillery people, into two different ranges, of which the first is called the point-blank; and the second, the random-shot. To these also may be added the ricochet, or rolling and bounding-shot.

Whatever has been observed, in other parts of this work, with regard to the flight of a shot from a piece of artillery, is on the presumption that it describes a right line in its passage to the object. This, however, is not strictly true; because by its weight it inclines to the earth every instant of its motion: but as it's velocity is very great when first discharged from the cannon, the weight does not sensibly affect the direction in the first instant of
of its motion. Thus the line it describes, as represented in plate III. extending from fig. 16, to the ship under sail, is apparently straight, and the extent of this line is called the point-blank range of the piece; which accordingly may be defined the extent of the apparent right line, described by a ball discharged from a cannon.

This range is much less than the greatest range, or random-shot; but the piece cannot be levelled, or, as it is generally expressed, pointed at an object intended to be battered, if that object is not within the distance of the point-blank range; for beyond that, the stroke is very uncertain.

A piece is said to fire at random-shot, when the breech rests upon the bed of the carriage, so that the ball is carried to the greatest possible distance. But as, in this method of firing, the ball cannot be directed to any determinate object, it is rarely used in the sea-service, and only when the shot cannot fail of doing great execution in the place wherein it falls.

Besides the two ranges above described, there is the ricochet*, invented by the Marshal de Vauban.

To fire a piece by way of the ricochet, the cannon is only charged with a quantity of powder sufficient to carry the shot along the face of the works attacked. The shot, thus discharged, goes rolling and bounding, killing, maiming, or destroying all it meets in its course, and creates much more disorder by going thus slowly, than if thrown from the piece with greater violence.

When ricochet-firing is used, the pieces are elevated from 3 to 6 degrees, and no more; because if the elevation is greater, the shot will only drop into the work, without bounding from one place to another. They are to be loaded with a small charge, and directed in such a manner as just to go over the parapet†.

It was the opinion of engineers formerly, that by charging the pieces high, the ball was thrown to a greater distance. Hence the pieces were charged with two-thirds, or even the whole weight of the shot, in order to impel it with greater velocity; but it has been discovered since, that the half, or one-third of the weight of the ball, is the fittest charge for the piece‡.

If the whole quantity of powder, employed to charge the cannon, could take fire at the same instant, it is apparent that the velocity, communicated to the shot, would increase in proportion to the additional quantity of powder. But though the time of its inflammation is very short, it may yet be conceived as divided into many instants. In the first instant, the powder begins to dilate and impel the shot forward; and if it has force enough to expel it from the piece before the whole charge is inflamed, that part which is left to take fire afterwards will produce no effect at all on the shot. A charge of extraordinary force does not therefore accelerate the velocity of the bullet: and hence it follows that the piece ought to be

* Ricochet signifies duck and drake, a name given to the bounding of a flat stone thrown almost horizontally into the water.
† Muller's Artillery.
‡ Le Blond's Elements of War.
charged with no more powder, than will take fire whilst the ball is passing through the chace of the cannon.

It may not be amiss to observe here, that the range of cannon is greater in the morning and at night, than at noon; and in cold, than in hot weather. The reason is, that at these times the air being less heated, gives less way to the dilatation of the powder, which being by this means confined, as it were, to a smaller sphere of action, must have a stronger effect in proportion.

"When the lengths of cannon are proportional to the height of the charge, the shot will be discharged with the same velocity, whatever the calibre may be; and since the ratios of the velocities of shots, issuing from pieces of different lengths, loaded with different charges of powder, will be of great use in the construction of cannon, we have collected them in the following table, where the numbers at the top express the length of the pieces by the diameter of their shots. That is, the first is 12 diameters; the second 15, and so on. The first perpendicular column expresses the charges, in respect to the weight of the shots: thus, \(\frac{1}{3}, \frac{1}{7}, \frac{1}{3}, \frac{1}{7}\), imply that the weight of the charge is \(\frac{1}{3}, \frac{1}{7}, \frac{1}{3}, \frac{1}{7}\) of the weight of the shot. The other numbers, in the same horizontal lines, express the distance in feet moved over by the velocities of the shot, uniformly continued in a second of time.

\[
\begin{array}{|c|c|c|c|c|c|c|c|}
\hline
\text{length} & 12 & 15 & 18 & 21 & 24 & 27 & 30 & 36 \\
\hline
\text{velocity} & 1043 & 1052 & 1058 & 1063 & 1066 & 1068 & 1071 & 1074 \\
\hline
\text{distance} & 1186 & 1200 & 1210 & 1217 & 1222 & 1224 & 1229 & 1234 \\
\hline
\text{charge} & 1406 & 1434 & 1452 & 1465 & 1475 & 1482 & 1488 & 1497 \\
\hline
\text{diameter} & 1568 & 1613 & 1641 & 1662 & 1677 & 1688 & 1698 & 1711 \\
\hline
\end{array}
\]

"We made use of the diameter of a 9 pound shot, which being 4 inches, is more convenient in the calculation, and this diameter expresses the height of the charge when it is a quarter of the weight of the shot, and the rest in proportion.

"Several remarks may be made upon this table, which are of great importance in the construction of cannon. First, when the charge is but a quarter of the shot's weight, the difference between the velocities, when the length is 12 and 15 diameters, is but 9 feet in a second; and the differences between the other velocities decrease as the length increases.

"Hence, as the difference between the velocities when the piece is 15 and 36 diameters long, is but 22 feet in a second, it is easily perceived, that when the pieces are charged with one quarter of the shot's weight, the length from 12 to 15 diameters is the best.

"Secondly, When the charge is one-third of the shot's weight, the difference of the velocities, when the piece is 12, 15, and 18 diameters long, are 14, 10 seconds; and from thence decrease more and more, as the length of the piece increases: so the length, from 15 to 18 diameters, seems to be the best, every thing being considered.

* Belidor. Bigot de Morogues.

"Thirdly,
"Thirdly, and lastly, it appears, from the same manner of reasoning, that when the charge is one-half of the shot's weight, the length ought to be from 18 to 21 diameters; and when the charge is two-thirds of the shot's weight, the length ought to be from 21 to 24 diameters." Muller's Artillery.

As one of the effects of the shell results from its weight, the range of mortars is extremely different from that of cannon, because the former is not pointed at a certain object, like the latter, but inclined to the horizon at a certain angle, so that the shell, being thrown up obliquely, much in the same direction as a tennis-ball struck by the racket, may fall upon the place intended. Hence it appears that the mortar has no point-blank range, or at least that no use is made of it.

The mortar, being fixed in a situation obliquely with the horizon, so as that the line e, which passes through the middle of it longitudinally, being continued, would make an angle b d with the horizon a b; a shell, discharged in the direction of this continued line, would deviate from it every instant of its motion by its weight, which inclines it downwards, and by this means it would describe a curve-line, as a e b, called a parabola*

The line a b, fig. 19, plate VI. is called the extent of the range, or the amplitude of the parabola; and the line a d, the elevation of the mortar.

To make a shell fall on a given place, two things are to be considered; viz. the elevation of the mortar; and the quantity of powder used to charge it; both of which may be ascertained as follows: A shell discharged from a mortar, pointed vertically, will describe a line nearly perpendicular to the horizon: I say nearly, because the mortar will always have some little motion, which will destroy the exact perpendicularity of the shell's flight; but abstracted from this, a shell, discharged vertically, would fall again into the mortar †.

If the mortar be afterwards inclined more and more towards the horizon, the shell will fall still further and further distant from the mortar, till the elevation rests at 45°; and the more the mortar is pointed under this angle, the more will the range of the shell be diminished: all of which is strictly demonstrated by geometry. But the following is a very simple manner of conceiving it, without having recourse to that science.

A shell, discharged in the direction of a line, nearly perpendicular to the horizon, will fall at a little distance from the bomb- vessel. This requires no proof. A shell, thrown according to a line that makes a very acute angle with the horizon, will presently come to the ground by its weight, and by

---

* Weight, or gravity, always operates equally on a falling body; for as it always subsists in an equal degree, it must perpetually act with equal force, or produce always the same effect in the same time. So if, in the first instant of falling, it communicates to a body a certain force sufficient to move a certain space, it must, in every following instant, communicate a force capable of moving it the like space, and by this means the velocity of a falling body is every moment accelerated; for if it has one degree the first instant, it will have two the second, three the third, and so on. Hence it must move different spaces every instant, and by that means describe the curve-line above mentioned.

† Le Blond's Elements of War.
consequence will not, any more than the other, fall at a considerable distance from the mortar.

Hence it is easy to conceive, that in order to fall at the greatest distance from the mortar, the shell must be fired according to an elevation at the greatest possible distance, as well from a vertical, as from an horizontal line. This elevation divides in two equal parts the angle formed by the vertical and horizontal lines, which being of 90 degrees, or what is called a right angle, a shell will be thrown to the greatest distance, in the direction of a line making an angle of 45 degrees. For above this angle the range will diminish, because the shell approaches the vertical line; and under the same elevation it will also decrease, because the flight of the shell approaches the horizontal line.

Hence also it appears that there are two angles, according to which a mortar may be inclined to make the shell fall on the same place; these are the angles, equally distant from the line, which cuts the quadrant into two equal parts: so that if, for example, a mortar is elevated at 30°, the shell will fall at the same distance as if it had been elevated at 60°, each of these angles being 15° distant on this, and that side of the quadrant; that is, from the angle of 45 degrees.

The second thing to be considered, is, to know the exact charge of powder necessary to throw a shell to a given distance.

If the shell, being fired at an elevation of 45°, falls short of the place intended, the charge of powder must be increased. If it reaches the place, or goes beyond it, it is evident that the charge is sufficient. If the shell, at an elevation under 45°, falls short of the place intended, with a given charge, the mortar must be more elevated: if, on the contrary, it falls too far off, it must be more inclined to the horizon: and by these eflays the proper degree of inclination may be easily and speedily discovered.

If the mortar then is raised above 45°, it must be more inclined, so as to make a more acute angle with the horizon, to increase the range of the shell; and, on the contrary, raised nearer a perpendicular, to diminish it: all of which are consequences drawn from what has been said on this subject.

It must be observed, first, that the greatest distance to which a shell can be thrown, with the strongest charge, is little more than about 1800 or 2000 fathoms.

Secondly, that though a mortar may be elevated indifferently, either so much above or below 45° as to carry a shell to a given distance, yet when any building is to be destroyed, it should be raised above 45°, because the shell, rising to a greater height when fired according to a greater angle, falls with greater force, and by consequence will do more damage to the place on which it is thrown. But when the business is to fire on a body of men, the mortar must be pointed below 45°, that the shell may not have force enough to enter far into the ground, and that the splinters in the explosion may do more execution.
Practice for Sea-Mortars.

Nature of the Mortar.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>3 oz.</td>
<td>3 oz.</td>
<td>12</td>
<td>612</td>
<td>2—64</td>
</tr>
<tr>
<td>4 oz.</td>
<td>4—12</td>
<td>14</td>
<td>832</td>
<td>3-8</td>
</tr>
<tr>
<td>5 oz.</td>
<td>2—4</td>
<td>15</td>
<td>958</td>
<td>3—30</td>
</tr>
<tr>
<td>5—8</td>
<td>2—6</td>
<td>16</td>
<td>1088</td>
<td>3—52</td>
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<tr>
<td>7 oz.</td>
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<td>17</td>
<td>1299</td>
<td>3—74</td>
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<td>18</td>
<td>1377</td>
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<td>20</td>
<td>1534</td>
<td>4—18</td>
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<td>4—8</td>
<td>21</td>
<td>1874</td>
<td>4—40</td>
</tr>
<tr>
<td>9—0</td>
<td>5—8</td>
<td>22</td>
<td>2057</td>
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<td>24</td>
<td>25</td>
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<td></td>
</tr>
<tr>
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<td>8—2</td>
<td>26</td>
<td>2656</td>
<td></td>
</tr>
<tr>
<td>18—0</td>
<td>8—10</td>
<td>27</td>
<td>2873</td>
<td>5—72</td>
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<tr>
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<td>9—8</td>
<td>28</td>
<td>3098</td>
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<td>29</td>
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<td>6—84</td>
</tr>
<tr>
<td>28—0</td>
<td>31</td>
<td>31</td>
<td>3821</td>
<td>6—100</td>
</tr>
<tr>
<td>31—8</td>
<td></td>
<td></td>
<td>4085</td>
<td>6—82</td>
</tr>
</tbody>
</table>

The ranges of mortars, at the several elevations below, are in proportion to one another, viz.

45—40—35—30—25—20—15—10—5
100—98—94—86—76—64—50—34—17

Example. Knowing the range of a shell at 45 to be 890 yards, required the range at 30 with the same powder; say, as 100 : 86 :: 890 : 765. 4; and if you have a shell’s range at 30, and would know how far it will go at 45 with the same quantity of powder, rule as 86 : 100 :: 765. 4 : 890.

N. B. These propositions only hold good when the powder is equal.

RATES, the orders or classes into which the ships of war are divided, according to their force and magnitude.

It has already been observed, in the article Navy, that this regulation, which limits the rates of men of war to the smallest number possible, seems to have been dictated by considerations of political economy, or of that of the simplicity of the service in the royal deck-yards. The British fleet is accordingly distributed into six rates, exclusive of the inferior vessels that usually attend on naval armaments; as floops of war, armed ships, bomb-ketches, fire-ships and cutters, or schooners commanded by lieutenants.

Ships of the first rate mount 100 cannon, having 42 pounders on the lower deck, 24 pounders on the middle deck, 12 pounders on the upper deck,
deck, and 6 pounders on the quarter-deck and forecastle. They are manned
with 850 men, including their officers, seamen, marines and servants.

In general, the ships of every rate, besides the captain, have the master,
the boatswain, the gunner, the chaplain, the purser, the surgeon, and the
carpenter; all of whom, except the chaplain, have their mates or assistants,
in which are comprehended the sail-maker, the master at arms, the armorer,
the captain’s clerk, the gunsmith, &c.

The number of other officers are always in proportion to the rate of the
ship. Thus a first rate has six lieutenants, six master's mates, twenty-four
midshipmen, and five surgeon's mates, who are considered as gentlemen;
besides the following petty officers: quarter-masters, and their mates, four-
teen; boatswains mates and yeomen, eight; gunners mates and assistants,
six; quarter-gunners, twenty-five; carpenters mates, two, besides fourteen
assistants; with one steward, and steward's mate to the purser.

If the dimensions of all ships of the same rate were equal, it would be
the simplest and most perspicuous method to collect them into one point of
view in a table; but as there is no invariable rule for the general dimen-
sions, it must suffice to remark those of some particular ships in each rate;
for which purpose we have selected some of the latest construction.

The Victory, which is the last built of our first rates, is 222 feet 6 inches
in length, from the head to the stern; the length of her keel, 151 feet 3
inches; that of her gun-deck, or lower deck, 166 feet; her extreme breadth
is 61 feet 10 inches; her depth in the hold, 21 feet 6 inches; her burthen
2162 tons; and her poop reaches 6 feet before the mizen-mast.

Ships of the second rate carry 90 guns upon three decks, of which those
on the lower battery are 32 pounders; those on the middle 18 pounders;
on the upper-deck, 12 pounders; and those on the quarter-deck, 6 pounders,
which usually amount to four or six. Their complement of men is 750,
in which there are six lieutenants, four master's mates, twenty-four mid-
shipmen, and four surgeon's mates, fourteen quarter-masters and their
mates, eight boatswain's mates and yeomen, six gunner's mates and yeomen,
with twenty-two quarter-gunners, two carpenter's mates, with ten assistants,
and one steward and steward's mate.

Ships of the third rate carry from 64 to 80 cannon, which are 32, 18,
and 9 pounders. The 80-gun ships however begin to grow out of repute,
and to give way to those of 74, 70, &c. which have only two whole bat-
teries; whereas the former have three, with 28 guns planted on each, the
cannon of their upper-deck being the same as those on the quarter-deck
and forecastle of the latter, which are 9 pounders. The complement in a
74 is 650, and in a 64, 500 men; having, in peace, 4 lieutenants, but in
war, 5; and when an admiral is aboard, 6. They have 3 master's mates;
16 midshipmen, 3 surgeon's mates, 10 quarter-masters and their mates,
6 boatswain's mates and yeomen, 4 gunner's mates and yeomen, with 18
quarter-gunners, 1 carpenter's mate, with 8 assistants, and 1 steward and
steward's mate under the purser.

Ships of the fourth rate mount from 60 to 50 guns, upon two decks, and
the quarter-deck. The lower tier is composed of 24 pounders, the upper
tier
tier of 12 pounders, and the cannon on the quarter-deck and fore-castle are 6 pounders. The complement of a 50 gun ship is 350 men, in which there are three lieutenants, 2 master’s mates, 10 midshipmen, 2 surgeon’s mates, 8 quarter-masters and their mates, 4 boatwain’s mates and yeomen, 1 gunner’s mate and 1 yeoman, with 12 quarter-gunners, 1 carpenter’s mate and 6 assistants, and a steward and steward’s mate.

All vessels of war, under the fourth rate, are usually comprehended under the general name of frigates, and never appear in the line of battle. They are divided into the 5th and 6th rates, the former mounting from 40 to 32 guns, and the latter from 28 to 20. The largest of the fifth rate have two decks of cannon, the lower battery being of 18 pounders, and that of the upper-deck of 9 pounders; but those of 36 and 32 guns have only one complete deck of guns, mounting 12 pounders, besides the quarter-deck and fore-castle, which carry 6 pounders. The complement of a ship of 44 guns, is 280 men; and that of a frigate of 36 guns, 240 men. The first has 3, and the second 2 lieutenants; and both have 2 master’s mates, 6 midshipmen, 2 surgeon’s mates, 6 quarter-masters and their mates, 2 boatwain’s mates, and 1 yeoman, 1 gunner’s mate and 1 yeoman, with 10 or 11 quarter-gunners, and 1 purser’s steward.

Frigates of the 6th rate carry 9 pounders, those of 28 guns having 3 pounders on their quarter-deck, with 200 men for their complement; and those of 24, 160 men; the former has 2 lieutenants, the latter, 1; and both have 2 master’s mates, 4 midshipmen, 1 surgeon’s mate, 4 quarter-masters and their mates, 1 boatwain’s mate and 1 yeoman, 1 gunner’s mate and 1 yeoman, with 6 or 7 quarter-gunners, and 1 purser’s steward.

The slopes of war carry from 18 to 8 cannon, the largest of which have 6 pounders; and the smallest, viz. those of 8 and 10 guns, 4 pounders. Their officers are generally the same as in the 6th rates, with little variation; and their complements of men are from 120 to 60, in proportion to their force or magnitude.

N. B. Bomb-vessels are on the same establishment as slopes; but frigates and hospital-ships are on that of fifth rates.

Having already exhibited the dimensions of the largest first rate in our navy, we have, in the following table, collected those of the inferior rates:

<table>
<thead>
<tr>
<th>Rates</th>
<th>Guns</th>
<th>Length of the keel</th>
<th>Length of the lower deck</th>
<th>Extreme breadth</th>
<th>Depth in the hold</th>
<th>Burthen in tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2d rate, Barfleur</td>
<td>90</td>
<td>144 1/2</td>
<td>177 6</td>
<td>50</td>
<td>21</td>
<td>1934</td>
</tr>
<tr>
<td>3d rate, Arrogant</td>
<td>74</td>
<td>138</td>
<td>168 3</td>
<td>47 4</td>
<td>19 9</td>
<td>1644</td>
</tr>
<tr>
<td>4th rate, Europa</td>
<td>64</td>
<td>139</td>
<td>159</td>
<td>44 4</td>
<td>19 4</td>
<td>1366</td>
</tr>
<tr>
<td>5th rate, Salisbury</td>
<td>50</td>
<td>120 8</td>
<td>146</td>
<td>40 4</td>
<td>17 4</td>
<td>1044</td>
</tr>
<tr>
<td>5th rate, Phoenix</td>
<td>44</td>
<td>116 1/1</td>
<td>140 9</td>
<td>37 1/2</td>
<td>16</td>
<td>856</td>
</tr>
<tr>
<td>5th rate, Venus</td>
<td>36</td>
<td>106 3</td>
<td>128 4½</td>
<td>35 9</td>
<td>12 4</td>
<td>722</td>
</tr>
<tr>
<td>6th rate, Carysfort</td>
<td>28</td>
<td>97 3/4</td>
<td>118 4</td>
<td>33 8</td>
<td>10 6</td>
<td>586</td>
</tr>
<tr>
<td>6th rate, Dolphin</td>
<td>24</td>
<td>93 4</td>
<td>113</td>
<td>32 1</td>
<td>11</td>
<td>511</td>
</tr>
<tr>
<td>Sloop, Nautilus</td>
<td>16</td>
<td>80 7/8</td>
<td>98</td>
<td>27 2</td>
<td>12 8</td>
<td>316</td>
</tr>
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Nothing
Nothing more evidently manifests the great improvement of the marine art, and the degree of perfection to which it has arrived in England, than the facility of managing our first rates; which were formerly esteemed incapable of government, unless in the most favourable weather of the summer. In testimony of this observation we may, with great propriety, produce the example of the Royal George, which, during the whole course of the late war, was known to be as easily navigated, and as capable of service, as any of the inferior ships of the line, and that frequently in the most tempestuous seasons of the year. The ingenious M. Du Hamel, who is eminently distinguished for his knowledge of marine affairs, has indeed judiciously objected to the defects and bad qualities of such large ships.* It is nevertheless hardly possible for any Englishman, who was witness to the defeat of M. Confins, by the victorious Sir Edward Hawke, on the ever-memorable 20th of November 1759, to avoid dissenting a while from that gentleman’s opinion. In reality, a fact, confirmed by repeated experience, must unavoidably triumph over all theoretical conclusions.

Ships of the second rate, and those of the third, which have three decks, carry their sails remarkably well, and labour very little at sea. They are excellent in a general action, or in cannonading a fortress. Those of the third rate, which have two tiers, are fit for the line of battle, to lead the convoys and squadrons of ships of war in action, and in general, to suit the different exigencies of the naval service.

The fourth rates may be employed on the same occasions as the third rates, and may be also destined amongst the foreign colonies, or on expeditions of great distance; since these vessels are usually excellent for keeping and sustaining the sea.

Vessels of the fifth rate are too weak to suffer the shock of a line of battle; but they may be destined to lead the convoys of merchant-ships, to protect the commerce in the colonies, to cruise in different stations, to accompany squadrons, or be sent express with necessary intelligence and orders. The same may be observed of the sixth rates.

The frigates, which mount from 28 to 38 guns upon one deck, with the quarter-deck, are extremely proper for cruising against privateers, or for short expeditions, being light, long, and usually excellent failers.

RATLINGS, (enfeckures, Fr.) certain small lines which traverse the shrouds of a ship horizontally, at regular distances from the deck upwards, and forming a variety of ladders, whereby to climb to any of the masts-heads, or descend from them. Hence the term is apparently derived from rath, an obsolete word, signifying a hill.

In order to prevent the ratling from slipping down by the weight of the sailors, they are firmly attached by a knot, called a clove-hitch, to all the

* The same gentleman observes, that a ship of two decks, such as are generally all those of the third and fourth rates, cannot be so strongly connected as one that is furnished with three: a vessel pierced for 15 guns on one side of her deck must necessarily be very long, and is sometimes apt to droop at the two ends; or, in the sea-phraze, to break her back under the enormous weight of her artillery.
REACH, (ræcau, Sax.) the line, or distance, comprehended between any two points or stations on the banks of a river, wherein the current flows in a straight uninterrupted course.

REAR, (arrière, Fr.) a name given to the last division of a squadron, or the last squadron of a fleet, and which is accordingly commanded by the third officer of the said fleet or squadron. See the article Division.

REEF, (ris, Fr. reef, Dutch) a certain portion of a sail, comprehended between the top or bottom, and a row of eyelet-holes parallel thereto.

The intention of the reef is to reduce the surface of the sail in proportion to the increase of the wind; for which reason there are several reefs parallel to each other in the superior sails, whereby they may be still further diminished, in order to correspond with the several degrees of the gale. Thus the top-fails of ships are usually furnished with three reefs, *lmn*, fig. 1. plate IX. parallel to the yard; and there are always three or four reefs, parallel to the bottom on those main-fails and fore-fails, which are extended upon booms: a circumstance common to many of the small vessels.

REEF also implies a chain of rocks, lying near the surface of the water.

REEF-BAND, a piece of canvas, sewed across the sail, to strengthen it in the place where the eyelet-holes of the reefs are formed.

REEFINING, the operation of reducing a sail, by taking in one or more of the reefs, which is either performed by lines, points, or knittles.

Thus the top-fails are always, and the courses generally, reefed with points, which are flat braided pieces of cordage, whose lengths are nearly double the circumference of the yard. These being inserted in the eyelet-holes, are fixed in the sail by means of two knots in the middle, one of which is before, and the other behind the reef-band.

In order to reef the top-fails with more facility and expedition, they are lowered down and made to *schover* in the wind, which considerably relaxes their tension. The extremities of the reef are then drawn up to the yard-arms by an assemblage of pulleys communicating with the deck, termed the reef-tackle; and they are securely fastened to the yard-arms by small cords, called *earings*. The space of fail, comprehended in the reef, is then laid smoothly over the yard, in several folds or doubles: and the whole is completed by tying the points about the yard, so as to bind the reef close up to it.

The courses of large ships are either reefed with points or small cords, which are thence called reef-lines. In the latter case, the line is passed spirally through the eyelet-holes of the reef, and over the head of the fail alternately, and afterwards strained as tight as possible. It must be observed, however, that the reef-line is sometimes passed round the yard, and sometimes only round the head of the fail; and each of these methods have their advocates, with arguments more or less convincing. But if it should appear essential to prevent the friction by which a fail is galled between the line and the yard; and as the rope-bands are sufficient to sustain the effort of the fail,
fail, it is certainly much better to pass the line only round the fail, provided that the turns are interred through the *roband-legs*; a circumstance which is carefully practised by every skilful sailor.

The same reason may be alleged, with equal propriety, in favour of tying the points of the courses in the same manner; that is to say, the after-end of the point should be thrust forward between the head of the fail and the yard; and the fore-leg of the said point should come aft over the head of the fail, and also under the yard: and thus crossed over the head of the fail, the point should be extended, and the two ends brought over the yard, and tied on the upper side of it as strait as possible.

When a fail is reefed at the bottom, it is done by *knittles*, which being thrust through the eyelet-holes thereof, are tied firmly about the space of canvas of which the reef is composed, and knotted on the lower side of the bolt-rope. These knittles are accordingly removed as soon as the reef is let out.

Besides the manner above-described, there are other methods of reducing a fail to the storm, as explained in the articles *Goose-Wing* and *Balance*.

**REEF-TACKLE**, a rope which passes from the deck to a *block* at the topmast-head, and thence to another block at the top-sail-yard-arm, where it communicates with another rope, called it's *pendent*, that runs downwards through a hole in the yard, and is afterwards attached to a *cringle*, a little below the lowest reef, as exhibited by fig. 1. plate IX. where *b* is the reef-tackle, and *i* the pendent thereof. It is used, as we have already observed, to pull the skirts of the reefs close up to the extremities of the top-sail-yards, in order to lighten the fail, the weight of which would otherwise render it very difficult to perform this operation.

**REEL of the log.** See the article *Log*.

To **REEVE**, is to pass the end of a rope through any hole, as the channel of a block, the cavity of a thimble, cleat, ring-bolt, &c.

**RECKONING.** See *Dead-Reckoning*.

**REFITTING** is generally understood to imply the repairing any damages, which a ship may have sustained in her fails or rigging, by battle or tempestuous weather; but more particularly by the former. See *Engagement* and *Repair*.

**REIGNING-WINDS**, a name given to the winds which usually prevail on any particular coast or region, the knowledge of which is essentially necessary to every pilot who is charged with the navigation in those seas.

**RELEIVING-TACKLES**, two strong tackles used to prevent a ship from overturning on the *careen*, and to assist in bringing her upright after that operation is completed.

The relieving-tackles are furnished with two strong *guys* (attrapes, Fr.) or *pends*, by which their efforts are communicated, under the ship’s bottom, to the opposite side, where the ends of the guys are attached to the lower gun-ports. The other ends of the tackles are hooked to the wharf, or *pontoon*, by which the vessel is careened. Thus if the ship is first to be laid down
down on the larboard-side, which is nearest the wharf, the relieving-tackles are passed under her bottom from the said wharf, and attached to the harbord-side, by which they will restrain her from falling lower than is necessary. See Righting.

Relieving-Tackle, is also a name sometimes given to the train-tackles of a gun-carriage. See Cannon and Exercise.

Rendering, as a sea-term, is generally understood to be the effect of yielding, or giving way, without reluctance, to the efforts of some mechanical power. It is usually expressed of a complicated tackle, leeward, or lefthing, when the effect of the power applied is communicated with facility to all the parts, without being interrupted in its passage. It is therefore used in contra-distinction to flicking or jamming.

Rendezvous, the port, or place of dettination, where the several ships of a fleet or squadron are appointed to rejoin the whole, in case of a separation, occasioned by tempestuous weather, or other unforeseen accident.

Repair, (redoub, Fr.) the operation of amending any injuries, or supplying any deficiencies, which a ship may have received by age, battle, tempestuous weather, &c.

The repair is necessarily greater or smaller, in proportion to the loss which the vessel has sustained. Accordingly a suitable number of the timbers, beams, or planks, or a sufficient part of either, are removed, and new pieces fixed in their places. The whole is completed by beaming, caulking, and paying the body with a new composition of stuff. See Docking.

Reprise, a ship which is retaken from the enemy, soon after the first capture; or at least before she has arrived in any neutral or hostile port.

If a vessel, thus retaken, has been twenty-four hours in the possession of the enemy, it is deemed a lawful prize; but if it be retaken within that time, it is to be restored to the proprietor, with every thing therein, upon his allowing one third to the vessel who made the reprise. Also if the reprise has been abandoned by the enemy, either in a tempest, or from any other cause, before it has been led into any port, it is to be restored to the proprietor.

Retreat, the order or disposition in which a fleet of French men of war decline engagement, or fly from a pursuing enemy*.

Rhomb-line, a line prolonged from any point of the compass on a nautical chart, except the four cardinal points.

* The reader, who wishes to be expert in this maneuvre, will find it copiously described by several ingenious French writers, particularly L'Iliote, Saverien, Morogues, Bourde, and Ozane; who have given accurate instructions, deduced from experience, for putting it in practice when occasion requires. As it is not properly a term of the British marine, a more circumstantial account of it might be considered foreign to our plan. It has been observed in another part of this work (a), that the French have generally exhibited greater proofs of taste and judgment in the sculpture, with which their ships are decorated, than the English; the same candour and impartiality obliges us to confess their superior dexterity in this movement.

(a) See the article Head.
RIBBANDS, *liffes, Fr.* (from *rib* and *bend*) in naval architecture, long narrow flexible pieces of timber, nailed upon the outside of the ribs, from the *stem* to the *stern-post*, so as to envelop the ship lengthways, and appear on her side and bottom like the meridians on the surface of the globe.

The ribbands, being judiciously arranged with regard to their height and distance from each other, and forming regular sweeps about the ship's body, will compose a kind of frame, whole interior surface will determine the curve of all the intermediate, or filling-timbers, which are stationed between the principal ones. As the figure of the ship's bottom approaches to that of a conoid, and the ribbands having a limited breadth, it is apparent, that they cannot be applied to this convex surface without forming a double curve, which will be partly vertical and partly horizontal; so that the vertical curve will increase by approaching the *stem*, and still more by drawing near the *stern-post*. It is also evident, that by deviating from the middle line of the ship's length, as they approach the extreme breadth at the *midship-frame*, the ribbands will also form an horizontal curve. The lowest of these, which is terminated upon the *stem* and *stern-post*, at the height of the *rising-line of the floor*, and answers to the upper part of the floor-timber upon the midship-frame, is called the *floor-ribband*. That which coincides with the *wing-transom*, at the height of the lower-deck upon the midship-frame, is termed the *breadth-ribband*: all the rest, which are placed between these two, are called intermediate ribbands.

From this double curve it results, that the ribbands will appear in different points of view, when delineated upon different planes of the same ship. To conceive this, let us suppose the skeleton of a ship upon the stocks, as in plate IV. fig. 11. and plate X. fig. 2. with the ribbands represented by dotted lines upon her bottom. If a spectator is placed opposite to the *stem* or *stern-post*, on a line prolonged from the keel, he will only view the projection of the ribbands on the plane of the midship-frame, in which the horizontal curve is very little perceived; he will discover part of the vertical curve, which rises continually from the extreme breadth towards the *stem* and *stern*, so that they must be drawn upon the plane of projection as oblique lines, which terminate upon the midship-frame at the point where the ribband touches it, and upon the *stem* and *stern-post* at the point where their ends are lodged.

If the spectator were to change his position, and perceive the projection of the ribbands upon a plane, supposed to be elevated upon the length of the keel, he would also discover their vertical curve, as it is sometimes expressed in the *sheer-draught*, without distinguishing the horizontal one.

But if we imagine the eye of the spectator placed considerably above the ship, on a line perpendicular to the middle of the keel, he will then discover the projection of the ribbands upon the plane of the ground beneath the ship, and view the horizontal curve, (see the *horizontal plane*, plate I.) without perceiving the perpendicular one.

In order to give the reader as distinct an idea as possible of the ribbands, we have, besides the above representations, exhibited a perspective view of them.
them in the frame or skeleton of a small vessel, referred to, from the article Timber.

RIBS of a ship, a figurative expression for the timbers. See that article.

RIBS of a parcel. See Parrel.

RIDERS, a sort of interior ribs, fixed occasionally in a ship's hold opposite to some of the principal timbers, and reaching from the keelson to the beams of the lower-deck, and sometimes higher, in order to strengthen her frame. They are bolted to the other timbers, to support them when it is apprehended the ship is not sufficiently strong in the part where they are fixed; which is generally amidships.

The riders have also their floor-pieces and futtocks, and sometimes their top-pieces, all of which are scarfed to each other in the same manner as in the timbers.

The riders ought to be stationed so as to lie between two parts of the lower deck, and to correspond with the timbers to which they are attached, in such a manner, as that the scars of the riders may be clear of those of the timbers. They are scored upon the keelson, clamps, and thick-fluff of the bottom. They are secured by bolts, which are driven from without, so as to penetrate the outside planks, the timbers, the clamps, and the riders; on the inside of which half they are fore-locked. See those articles.

These pieces are rarely used in merchant-ships, because they would be extremely inconvenient in the hold, besides occupying too large a space there-of; neither are they always used in vessels of war, at least till after the ship is enfeebled by several cruizes at sea.

RIDGE, a long assemblage of rocks, lying near the surface of the sea, so as to intercept the passage of a ship under sail. See also Reef and Shallow.

RIDING, when expressed of a ship, is the state of being retained in a particular station, by means of one or more cables with their anchors, which are for this purpose sunk into the bottom of the sea, &c. in order to prevent the vessel from being driven at the mercy of the wind or current. See Mooring. A rope is said to ride, when one of the turns by which it is wound about the capstern or windlass lies over another, so as to interrupt the operation of heaving.

Riding akewart, the position of a ship which lies across the direction of the wind and tide, when the former is so strong as to prevent her from falling into the current of the latter.

Riding between the wind and tide, the situation of a vessel at anchor, when the wind and tide act upon her in direct opposition; in such a manner as to destroy the effort of each other upon her hull; so that she is in a manner balanced between their reciprocal force, and rides without the least strain on her cables.

When a ship does not labour heavily, or feel a great strain when anchored in an open road or bay, she is said to ride easy. On the contrary, when she pitches violently into the sea, so as to strain her cables, masts, or hull, it is called riding hard, and the vessel is termed a bad roader.

A ship
A ship is rarely laid to ride when she is fastened at both the ends, as in a harbour or river, that situation being comprehended in the article Mooring.

RIGGING, a general name given to all the ropes employed to support the masts; and to extend or reduce the fails, or arrange them to the disposition of the wind.

The former, which are used to sustain the masts, remain usually in a fixed position, and are called standing rigging; such are the shrouds, stays, and back-stays. The latter, whose office is to manage the fails, by communicating with various blocks, or pulleys, situated in different places of the masts, yards, shrouds, &c. are comprehended in the general term of running-rigging. Such are the braces, sheets, beliants, clare-lines, trails, &c.

In rigging a mast, the first thing usually fixed upon it's head, is a circular wreath or rope, called the grommet, or collar, which is firmly beat down upon the top of the bounds. The intent of this is to prevent the shrouds from being fretted or worn by the trestle-trees, or shoulders of the mast; after this arc laid on the two pendants, from whose lower ends the main, or fore-tackles are suspended; and next, the shrouds of the starboard and larboard side, in pairs, alternately. The whole is covered by the stays, which are the largest ropes of the rigging.

When a yard is to be rigged, a grommet is also driven first on each of it's extremities: next to this arc fitted-on the horses, the braces; and, lastly, the lifts, or top-sail-sheet-blocks: all of which are explained in their proper places.

The principal objects to be considered in rigging a ship appears to be strength, convenience, and simplicity; or the properties of affording sufficient security to the masts, yards, and fails; of arranging the whole machinery in the most advantageous manner, to sustain the masts, and facilitate the management of the fails; and of avoiding perplexity, and rejecting whatever is superfluous or unnecessary. The perfection of this art then consists in retaining all those qualities, and in preserving a judicious medium between them.

Rigging-out a boom, the operation of running out a pole upon the end of a yard, or bowsprit, to extend the foot of a fail. These booms are confined in those places by double rings, formed like a figure of 8, one part of which is fastened to the respective yard-arm, or bowsprit-end, and the other receives the boom, which is occasionally rigged out, or drawn in through it. The rings used in this service, are termed boom-irons.

RIGHTING, (relever, Fr.) the act of restoring a ship to her upright position, after she has been laid on a career, by the mechanical powers usually applied in that operation.

This is generally the natural effect of casting loose the carcoening pulleys by which she had been drawn down. It is however necessary sometimes to apply mechanical powers to right the ship in such a situation. The principal of these are the relieving-tackles. See that article.

A ship is also said to right at sea when she rises, with her masts erected, after having been precipt down on one side by the effort of her fails, or a heavy squall of wind.
RIG ROA

RIGHTING, when expressed of the helm, implies the replacing it in the middle of the ship, after having produced the required effect, of wheeling her to the right or left, as much as appeared necessary.

RIM, or BRIM, a name given to the circular edge of any of the tops. See that article.

RING-BOLT, (cheville à bende, Fr.) an iron bolt, with an eye at one end, wherein is fitted a circular ring, as expressed in fig. 3. and 4. plate II. The ring-bolts are for several uses, but particularly to hook the tackles, by which the cannon of a ship are managed and secured: accordingly there is one fixed in the deck opposite to every cannon, represented by Z, plate III. Deck: and they are, for the same purpose, fixed in the edges of the gun-ports, as expressed in the Midship-frame, plate VII. They are driven through the plank and the corresponding beam, or timber, and retained in this position by a small pin thrust through a hole in the small end, as appears in fig. 39. plate II.

RING-ROPEs, short pieces of rope, tied occasionally to the ring-bolts of the deck, to fasten the cable more securely when the ship rides in a tempest, or turbulent sea, or rapid current. They are, however, more particularly necessary in veering away the cable gradually in those circumstances, in order to frezen the bawfe; as, without this precaution, it would be extremely difficult to check the cable, which, being then charged with a great effort, might be drawn violently out of the ship at random.

RING-TAIL, a small triangular fail, extended on a little mast, which is occasionally erected for that purpose on the top of a ship's stern. The lower part of this fail is stretched out by a boom, which projects from the stern horizontally. This fail is only used in light and favourable winds, particularly in the Atlantic ocean.

RING-TAIL is also a name given to a sort of fudding-fail, hoisted beyond the after-edge or skirt of those main-fails which are extended by a boom and gaff; as in all floops, brigs, and schooners: this ring-tail is accordingly of the same depth with that part of the main-fail upon which it borders. See SAIL.

RIPPLING, a broken and interrupted noise, produced by a current on or near the sea-coast.

RISING-LINE, a name given by shipwrights to an incurved line, which is drawn on the plane of elevation, to determine the height of the ends of all the floor-timbers throughout the ship's length, and which accordingly determines the figure of the bottom, with regard to sharpness and flatness.

ROAD, (râde, Fr.) a bay, or place of anchorage, at some distance from the shore, on the sea-coast, whither ships or vessels occasionally repair to receive intelligence, orders, or necessary supplies; or to wait for a fair wind, &c.

The excellence of a road consists chiefly in it's being protected from the reigning winds, and the swell of the sea; in having a good anchoring-ground, and being at a competent distance from the shore. Those which are not sufficiently inclosed are termed open roads.

READER,
ROADER, a vessel riding at anchor in a road, bay, or river. If a vessel under sail strikes against any roader, and damages her in passing, the former is obliged by law to make good the damages sustained by the latter.

The roaders attentively observe to anchor, or moor, at a competent distance from each other; and that those which arrive last shall not moor in the track of the shipping which anchored before, so as to intercept their passage when they are ready to depart.

ROBANDS, or ROPE-BANDS. See Rope-band.

ROGUES-YARN, a name given to a rope-yarn, of a particular construction, which is placed in the middle of every strand, in all cables and cordage in the king's service. It differs from all the rest, as being untares, and twisted in a contrary manner, by which it is easily discovered. The use of this contrivance is to examine whether any cordage, supposed to be stolen or embezzled, has been formed for the king's service.

ROLLER, a cylindrical piece of timber, fixed either horizontally or perpendicularly above a ship's deck, so as to revolve about an axis. It is used to prevent the cables, hawser, &c. from being chafed by the friction which their surfaces would otherwise encounter, from bearing against that part of the ship, where the roller is placed, whilst they are drawn into the ship, &c. by mechanical powers.

ROLLERS, are also moveable pieces of wood, of the same figure, which are occasionally placed under planks, or long pieces of timber, in order to move them with greater facility either in the dock-yards, or in lading and delivering merchant-ships.

ROLLING, the motion by which a ship rocks from side to side like a cradle, occasioned by the agitation of the waves.

Rolling, therefore, is a sort of revolution about an imaginary axis, passing through the center of gravity of a ship; so that the nearer the center of gravity is to the keel, the more violent will be the rolling-motion; because the center about which the vibrations are made, is placed so low in the bottom, that the resistance made by the keel to the volume of water which it displaces in rolling, bears very little proportion to the force of the vibration above the center of gravity, the radius of which extends as high as the mast-heads.

But if the center of gravity is placed higher above the keel, the radius of vibration will not only be diminished, but an additional force to oppose the motion of rolling will be communicated to that part of the ship's bottom, which is below the center of gravity.

So far as relates to the effect of rolling, when produced by the quality or stuffing of the ballast, and to the manner by which it may be prevented, viz. a change of the quantity or disposition of the ballast, we shall endeavour to explain under the article Trim. It may, however, be necessary to remark, that the contrivance of the ship's bottom may also contribute to diminish this movement considerably.

To illustrate this by an example, let us suppose the section of a ship perpendicular to the keel to be exactly circular, plate VIII. fig. 8. it is evident, that
that if this be agitated in the water, it will have nothing to sustain it, because the rolling or rotation about its center displaces no more water than when it remains upright: consequently the rolling motion must be very great in a high sea. But if a plank is fixed below it edgeways, or perpendicular to the surface, as low as e, throughout the whole length of the ship, it is plain that the plank e will displace a volume of water to the right, when the ship is inclined to the left, which will retard her motion; and this obstruction will always act contrary to her keeling or inclination to one side, and greatly diminish the vibration or rolling; although it will add very little to her stiffness: For, admitting the ship to incline to one side, as in fig. 8. the plank de would produce a very weak effort to bring her upright. But the depth of the keel, the rising of the floors, and the dead wood fore and aft, as in fig. 9. plate VIII. will answer the same purpose as the plank de.

Many fatal disasters have happened to ships, arising from a violent rolling; as the loss of the masts, loosening of the cannon, and training violently on the decks and sides, so as to weaken the ship to a great degree. See Ballast, Labouring, and Pitching.

Rolling-tackle, a pulley or purchase fastened to that part of a sail-yard which is to the windward of the mast, in order to confine the yard close down to the leeward when the sail is furled.

It is used to prevent the yard from having a great friction against the mast in a high sea, which would be equally pernicious to both.

Ropes, (cordes, Fr. rap, Sax. reep, Dutch) a general name given to all sorts of cordage, above one inch in circumference, used in the rigging a ship. See Cable, Hawser, Towline, and Warp.

Ropes are either cable-laid or hawser-laid: the former are composed of nine strands, viz. three great strands, each of which is composed of three smaller strands; and the latter is made with three strands, each of which contains a certain number of rope yarns, in proportion to the size of the rope required.

Rope-bands, (rabans, Fr.) pronounced roebins, certain pieces of small rope, or braided cordage, used to tie the upper edges of the great sails to their respective yards. They are inserted through the eyelet-holes in the head of the sail, being generally of a sufficient length to pass two or three times about the lail yard.

Rope-yarn, (fil de carret, Fr.) the smallest and simplest part of any rope, being one of the threads of which a strand is composed; so that the size of the latter, and of the rope into which it is twisted, is determined by the number of rope-yarns.

Rover, a pirate or free-booter. See Pirate.

Rough-tree, a name given in merchant-ships to any mast, yard, or boom, placed as a rail or fence above the ship’s side, from the quarter-deck to the fore-castle. It is, however, with more propriety, applied to any mast, &c. which remains rough and unfinished.
ROUND-HOUSE, a name given, in Half-Indianmen, and other large merchant-ships, to a cabin or apartment built in the after part of the quarter-deck, and having the poop for it's roof. The apartment is usually called the coach in our ships of war.

ROUNDING, certain old ropes wound firmly and closely about that part of a cable which lies in the hawse, or under the ship's bows, or athwart the stem. It is used to prevent the surface of the cable from being chafed or fretted in those places. See the article KANGLING and Service.

ROUNDING-IN generally implies the act of pulling upon any rope which passes through one or more blocks, in a direction nearly horizontal; as, round-in the weather-braces! &c. It is apparently derived from the circular motion of the rope about the sheave or pulley through which it passes.

ROUNDING-UP is used nearly in the same sense, only that it is expressed of a tackle which hangs in a perpendicular position, without sustaining or hoisting any weighty body; it is then the operation of pulling the blocks closer to each other, by means of the rope which passes through them, to compose the tackle; and is therefore opposed to OVER-HAULING, by which the blocks are drawn further afunder.

To ROW, (rameur, Fr. rowan, Sax.) to impel a boat or vessel along the surface of the water by oars, which are managed in a direction nearly horizontal. See OAR.

Row-calley. See the article Galley.

Row-locks, those parts of the gunwale, or upper edge of a boat's side, whereon the oar rests in the exercise of rowing. In the sides of the smallest vessels of war, a number of little square holes, called row-ports, are cut for this purpose, parallel to the surface of the water.

ROWERS, (rameurs, Fr.) a name given to the persons by whom the oars are managed.

ROWING-GUARD. See Guard-boat.

ROWSING, the act of pulling together upon a cable, hawser, &c. without the assistance of tackles, capstans, or other mechanical powers. It is particularly used in the exercise of removing a ship from one place to another, by means of ropes and anchors. See the article WARPING.

ROYAL, (boulingue, Fr.) a name given to the highest sail which is extended in any ship. It is spread immediately above the top-gallant-sail, to whose yard-arms the lower corners of it are attached. This sail is never used but in light and favourable breezes.

RUDDER. See the article Helm.

RUN, the aftermost or hindmost part of a ship's bottom, where it grows extremely narrow, as the floor approaches the stern-post.

RUNG-HEADS, (fleurs, Fr.) a name sometimes given by shipwrights to the upper ends of the floor-timbers, which are otherwise more properly called floor-heads. See Naval Architecture.

RUNNER, (itague, Fr.) a thick rope used to increase the mechanical powers of a tackle. See that article.
The runner $a$, fig. 10. plate VIII. passes through a large hook-block, as $c$, and has usually a hook $b$ attached to one of its ends, and one of the tackle blocks to the other; and in applying it, the hook, as well as the lower block of the corresponding tackle, is fixed to the object intended to be removed.

RUNNING-out a warp, the act of carrying the end of a rope out from the ship, in a boat, and fastening it to some distant place, to remove the ship towards the said place, or keep her steady whilst her anchors are lifted, &c.

RUNNIG-RIGGING, all that part of a ship's rigging which passes through the blocks, to dilate, contract, or traverse the falls. See the article RIGGING.
SADDLE, a small cleat, or wooden block, hollowed on the upper and lower side, and nailed on the lower yard-arms, to retain the mudding-fail-booms in a firm and steady position. For this purpose the cavity on the lower part of the saddle conforms to the cylindrical surface of the yard to which it is attached; and in like manner the hollow, on the upper side, answers to the figure of the boom, and serves as a channel whereby it may be run out or in, along the yard, as occasion requires.

SAGGING to leeward, the movement by which a ship makes a considerable lee-way, or is driven far to leeward of the course wherein she apparently sails. It is generally expressed of heavy-sailing vessels, as opposed to keeping well to windward, or, in the sea-phrase, holding a good wind.

SAIC, a sort of Grecian ketch, which has no top-gallant-fail or mizen-top-fail. See Ketch.

SAIL, (voile, Fr. fœgl, Sax. feybel, fœyl, Dutch) an assemblage of several breadths of canvas, or other texture, fewed together, and extended on, or between the masts, to receive the wind, and carry the vessel along the water.

The edges of the cloths, or pieces, of which a sail is composed, are generally fewed together with a double seam; and the whole is skirted round at the edges with a cord, called the bolt-ropes.

Although the form of sails is extremely different, they are all nevertheless triangular or quadrilateral figures; or, in other words, their surfaces are contained either between three or four sides.

The former of these are sometimes spread by a yard, as lateen-fails; and otherwise by a stay, as stay-fails; or by a mast, as shoulder-of-mutton-fails: in all which cases the foremost leeab or edge is attached to the said yard, mast, or stay, throughout its whole length. The latter, or those which are four-sided, are either extended by yards, as the principal fails of a ship; or by yards and booms, as the mudding-fails, drivers, ring-tails, and all those sails which are set occasionally; or by gaffs and booms, as the main-fails of sloops and brigantines.

The principal fails of a ship (fig. 1, plate IX.) are the courses or lower fails a, the top-fails b, which are next in order above the courses; and the top-gallant-fails e, which are expanded above the top-fails.

The courses are the main-fail, fore-fail, and mizen, main-stay-fail, fore-stay-fail and mizen-stay-fail; but more particularly the three skirts.

N. B. The main-stay-fail is rarely used except in small vessels.

In all quadrangular fails the upper edge is called the head; the sides or skirts are called leeches; and the bottom or lower edge is termed the foot. If the head is parallel to the foot, the two lower corners are denominated clues, and the upper corners earings.
In all triangularails, and in those four-sided fails wherein the head is not parallel to the foot, the foremost corner at the foot is called the tack; and the after lower-corner the clue; the foremost perpendicular or sloping edge is called the fore leech, and the hindmost the after leech.

The heads of all four-sided fails, and the fore-leeches of lateen fails, are attached to their respective yard or gaff by a number of small cords called robands; and the extremities are tied to the yard-arms, or to the peak of the gaff, by earings.

The stay-fails are extended upon stays between the masts, wherein they are drawn up or down occasionally, as a curtain slides upon its rod, and their lower parts are stretched out by a tack and sheet. The clues of a top-sail are drawn out to the extremities of the lower yard, by two large ropes called the top-fail sheets; and the clues of the top-gallant-fails are in like manner extended upon the top-fail yard-arms, as exhibited by plate IX. fig. 1.

The staysails are set beyond the leeches or skirts of the main-fail and fore-fail, or of the top-fails or top-gallant-fails of a ship. Their upper and lower edges are accordingly extended by poles run out beyond the extremities of the yards for this purpose. Those sails however are only set in favourable winds and moderate weather.

All sails derive their name from the main, yard, or stay upon which they are extended. Thus the principal fail extended upon the main-mast is called the main-fail, grande voile, d, fig. 2. plate IX. the next above, which stands upon the main-top-mast, is termed the main-top-fail, grand bunier, e; and the highest, which is spread across the main-top-gallant-mast, is named the main-top-gallant-fail, grand perroquet, f.

In the same manner there is the fore-fail, mistaine, g; the fore-top-fail, petit bunier, h; and the fore-top-gallant-fail, petit perroquet, i; the mizen, artimon, k; the mizen top-fail, perroquet d’artimon, l; and mizen top-gallant-fail, m. Thus also there is the main stay-fail o; main-top-mast stay-fail p; and main-top-gallant stay-fail q; with a middle stay-fail which stands between the two last. N.B. All these stay-sails are between the main and fore-masts.

The staysails (voiles d’étaï, Fr.) between the main-mast and mizen-mast are the mizen stay-sail r; and the mizen top-mast stay-sail s; and sometimes a mizen top-gallant stay-sail above the latter.

The stay-sails between the fore-mast and the bowsprit are the fore stay-sail t; the fore-top-mast stay-sail u; and the jib, foc, x. There is besides two square sails extended by yards under the bowsprit, one of which is called the sprit-fail, ciradière, y; and the other the sprit-top-fail z, perroquet de beaupré. For the French names of all the stay-sails, see the French term Etaï, and the phrases following it.

The staysails, (bonnettes en étai, Fr.) being extended upon the different yards of the main-mast and fore-mast, are likewise named according to their stations, the lower, top-mast, or top-gallant staysails.

The ropes by which the lower yards of a ship are hoisted up to their proper height on the masts, are called the jears. In all other sails the ropes employed for this purpose are called halyards.
The principal fails are then expanded by haliards, sheets, and bowlines, except the courses, which are always stretched out below by a tack and sheet. See Bowline, Close-hauled, &c. They are drawn up together, or truffed up, by bunt-lines, clue-lines, d d, fig. 1. leech-lines, e e; reef-tackles, f f; st'ab-line, g; and spilling-lines. As the bunt-lines and leech-lines pass on the other side of the fail, they are expressed by dotted lines in the figure. See those articles.

The courses, top-sails, and top-gallant sails, are wheeled about the mast, so as to suit the various directions of the wind by braces. The higher fludding-sails, and in general all the stay-sails, are drawn down, so as to be furled, or taken in, by down-hauls. See Brace, Trim, and Down-haul.

Sail is also a name applied to any vessel beheld at a distance under fail.

To set Sail, (faire voile, Fr.) is to unfurl and expand the sails, upon their respective yards and stays, in order to begin the action of failing.

To make Sail, is to spread an additional quantity of fail, so as to increase the ship's velocity.

To shorten Sail, is to reduce or take in part of the fails, with an intention to diminish the ship's velocity.

To strike Sail, is to lower it suddenly. This is particularly used in saluting or doing homage to a superior force, or to one whom the law of nations acknowledges as superior in certain regions: Thus all foreign vessels strike to an English man of war in the British seas. See Salute.

Sailing, the movement by which a vessel is wafted along the surface of the water, by the action of the wind upon her fails.

When a ship changes her state of rest into that of motion, as in advancing out of a harbour, or from her station at anchor, she acquires her motion very gradually, as a body which arrives not at a certain velocity till after an infinite repetition of the action of it's weight.

The first impression of the wind greatly affects the velocity, because the resistance of the water might destroy it, since the velocity being but small at first, the resistance of the water which depends on it will be very feeble: but as the ship increases her motion, the force of the wind on the fails will be diminished; whereas on the contrary the resistance of the water on the bow will accumulate, in proportion to the velocity with which the vessel advances. Thus the repetition of the degrees of force, which the action of the fails adds to the motion of the ship, is perpetually decreasing; whilst on the contrary the new degrees added to the effort of resistance on the bow are always augmenting. The velocity is then accelerated in proportion as the quantity added is greater than that which is subtracted: but when the two powers become equal, when the impression of the wind on the fails has left so much of it's force, as only to act in proportion to the opposite impulse of resistance on the bow, the ship will then acquire no additional velocity, but continue to sail with a constant uniform motion. The great weight of the ship may indeed prevent her from acquiring her greatest velocity; but when she has attained it, she will advance by her own intrinsic motion, without gaining any new degree of velocity, or lessening what she has acquired. She moves then by her
her own proper force in vacuo, without being afterwards subject either to the
effort of the wind on the sails, or to the resistance of the water on the bow.
If at any time the impulsion of the water on the bow should destroy any part
of the velocity, the effort of the wind on the sails will revive it, so that the
motion will continue the same. It must however be observed, that this
state will only subsist when these two powers act upon each other in direct
opposition; otherwise they will mutually destroy one another. The whole
to the direction of the wind. Accordingly the various modes of failing
are derived from the different degrees and situations of the wind with
The effect of failing is produced by a judicious arrangement of the sails
the direction of the wind. To illustrate this observation by examples, the plan of a number of ships
proceeding on various courses are represented by fig. 3. plate IX. which ex-
hibits the thirty-two points of the compass, of which C is the center: the
direction of the wind, which is northerly, being expressed by the arrow.
It has been observed in the article Close-hauled, that a ship in that sit-
uation will fail nearly within six points of the wind. Thus the ships B
and y are close-hauled, the former being on the larboard tack, steering E.
N. E. and the latter on the starboard tack failing W. N. W. with their
yards a b braced obliquely, as suitable to that manner of failing. The line
of battle on the larboard tack would accordingly be expressed by C B,
and on the starboard by C y.
When a ship is neither close-hauled, nor steering afore the wind, she is
in general said to be failing large. The relation of the wind to her course
is precisely determined by the number of points between the latter and the
course close-hauled. Thus the ships c and x have the wind one point large,
the former steering E. b N. and the latter W. b N. The yards remain al-
mast in the same position as in B and y: the bowlines and sheets of the sails
being only a little slackened.
The ships d and u have the wind two points large, the one steering east
and the other west. In this manner of failing, however, the wind is more
particularly said to be upon the beam, (perpendiculaire du vent, Fr.) as being
at right angles with the keel, and coinciding with the position of the ship's
beams. The yards are now more across the ship, the bowlines are cast off,
and the sheets more relaxed; so that the effort of the wind being applied
nearer to the line of the ship's course, her velocity is greatly augmented.
In e and i the ships have the wind three points large, or one point abaft
the beam, the course of the former being E. b S. and that of the latter
W. b S. The sheets are still more flowing; the angle which the yards make
with the keel further diminished; and the course accelerated in proportion.
The ships f and j, the first of which steers E. S. E. and the second W. S. W.
have the wind four points large, or two points abaft the beam. In g and r
the wind is five points large, or three points abaft the beam, the former
failing S. E. b E. and the latter S. W. b W. In both these situations the
sheets are still further flackened, and the yards laid yet more athwart the
ship's length, in proportion as the wind approaches the quarter.

The ships $b$ and $q$, steering S. E. and S. W. have the wind six points
large, or more properly on the quarter; which is considered as the most fa-
vourable manner of failing, because all the sails co-operate to increase the
ship's velocity: whereas, when the wind is right aft, as in the ship $m$, it is
evident, that the wind, in it's passage to the foremost sails, will be inter-
cepted by those which are further ast. When the wind is on the quarter,
the fore-tack is brought to the cat-head; and the main-tack being call'd off,
the weather-clue of the main-fail is hoisted up to the yard, in order to let
the wind pass freely to the fore-fail; and the yards are disposed so as to
make an angle of about two points, or nearly $22^\circ$, with the keel.

The ships $i$ and $p$, of which the former fails S. E. $b$ S. and the latter
S. W. $b$ S. are said to have the wind three points on the larboard or starboard
quarter: and those expressed by $k$ and $o$, two points; as steering S. S. E.
and S. S. W. in both which positions the yards make nearly an angle of $16^\circ$,
or about a point and a half, with the ship's length.

When the wind is one point on the quarter, as in the ships $l$ and $n$, whose
courses are S. $b$ E. and S. $b$ W. the situation of the yards and sails is very
little different from the last mentioned; the angle which they make with the
keel being somewhat less than a point, and the stay-sails being rendered of
very little service. The ship $m$ fails right ahore the wind, or with the wind
right aft. In this position the yards are laid at right angles with the ship's
length: the stay-sails, being entirely useless, are hauled down: and the
main-fail is drawn up in the brails, that the fore-fail may operate; a mea-
sure which considerably facilitates the steering, or effort of the helm. As
the wind is then intercepted, by the main top-fail and main-top-gallant-
fail, in it's passage to the fore top-fail and fore top-gallant-fail, these latter
are by consequence entirely becalmed, and might therefore be furled, to
prevent their being fretted by flapping against the masts, but that their effort
contributes greatly to prevent the ship from broaching-to, when she de-
viates from her course to the right or left thereof.

Thus all the different methods of failing may be divided into four, viz.
close-hauled, large, quartering, and afore the wind; all which relate to
the direction of the wind with regard to the ship's course, and the arrange-
ment of the sails. See also Drift and Leeway.

Order of Sailing, the general disposition of a fleet of ships when pro-
ceeding on a voyage or expedition.

It has already been observed in the article Fleet, that the most convenient
order of failing, for a squadron of ships, is in three parallel columns, so as to
form the line of battle with greater facility and expedition. In this disposi-
tion, the station of each ship is previously appointed by the commander in
chief; and the ranks or columns are as near to each other as regularity, and
a regard for their common security, will admit. This distance, which ought
to be carefully observed in tacking, may be regulated by the movements of
some of the ships in the column furthest to windward, which should accord-
ingly govern the operations of the whole squadron. See Tacking.

Sailing
SAILING also implies a particular mode of navigation, formed on the
principles, and regulated by the laws of trigonometry. Hence we say,
plain sailing, mercator's, middle-latitude, parallel and great circle sailing.
See the article Navigation.

SAILOR, (matelot, Fr.) a seafaring man: a person trained in the exer-
cise of fixing the machinery of a ship, and managing her, either at sea, or
in a road, or harbour.

SAIL-YARD. See the article Yard.

SALLY-PORT. See the article Fire-ship.

SALVAGE, a third part of the value of any thing recovered from the
enemy, after having remained in his possession twenty-four hours; or of
any thing dragged up from the bottom of the sea. It is paid by the first
proprietors to the persons who have so recovered it, or else detained legally
by the latter.

SALUTE, (salut, Fr. from saluto, Lat.) a testimony of deference or
homage rendered by the ships of one nation to another; or by ships of the
fame nation to a superior or equal.

This ceremony is variously performed, according to the circumstances,
rank, or situation of the parties. It consists in firing a certain number of
cannon, or vollies of small arms; in striking the colours or top-fails; or in
one or more general shouts of the whole ship's crew, mounted on the masts
or rigging for that purpose.

The principal regulations with regard to salutes in the royal navy are as
follow:

When a flag-officer salutes the admiral and commander in chief of the
fleet, he is to give him fifteen guns; but when captains salute him, they
are to give him seventeen guns. The admiral or commander in chief of
the fleet is to return two guns less to flag-officers, and four less to cap-
tains. Flag-officers saluting their superior or senior officer, are to give him
thirteen guns. Flag-officers are to return an equal number of guns to
flag-officers bearing their flags on the same mast, and two guns less to the
rest, as also to captains.

When a captain salutes an admiral of the white or blue, he is to give
him fifteen guns; but to vice and rear admirals, thirteen guns. When a
flag-officer is saluted by two or more of his Majesty's ships, he is not to re-
turn the salute till all have finished, and then to do it with such a reason-
able number of guns as he shall judge proper.

In case of the meeting of two squadrons, the two chiefs only are to ex-
change salutes. And if single ships meet a squadron consisting of more than
one flag, the principal flag only is to be saluted. No salutes shall be repeat-
ed by the same ships, unless there has been a separation of six months at least.

None of his Majesty's ships of war, commanded only by captains, shall
give or receive salutes from one another, in whatsoever part of the world
they meet.

A flag-officer commanding in chief shall be saluted, upon his first hoist-
ing his flag, by all the ships present, with such a number of guns as is al-
lowed by the first, third, or fifth articles.

When
* When any of his Majesty's ships shall meet with any ship or ships belonging to any foreign prince or state, within his Majesty's seas, (which extend to Cape Finisterre) it is expected, that the said foreign ships do strike their top-sails, and take in their flag, in acknowledgment of his Majesty's sovereignty in those seas: and if any shall refuse, or offer to resist, it is enjoined to all flag-officers and commanders to use their utmost endeavours to compel them thereto, and not suffer any dishonour to be done to his Majesty. And if any of his Majesty's subjects shall so much forget their duty, as to omit striking their top-sail in passing by his Majesty's ships, the name of the ship and master, and from whence, and whither bound, together with affidavits of the fact, are to be sent up to the secretary of the admiralty, in order to their being proceeded against in the admiralty-court. And it is to be observed, that in his Majesty's seas, his Majesty's ships are in no ways to strike to any; and that in no other parts, no ship of his Majesty's is to strike her flag or top-sail to any foreigner, unless such foreign ship shall have first struck, or at the same time strike her flag or top-sail to his Majesty's ship.

The flag-officers and commanders of his Majesty's ships are to be careful to maintain his Majesty's honour upon all occasions, giving protection to his subjects, and endeavouring, what in them lies, to secure and encourage them in their lawful commerce; and they are not to injure, in any manner, the subjects of his Majesty's friends and allies.

If a foreign admiral meets with any of his Majesty's ships, and salutes them, he shall receive gun for gun. If he be a vice-admiral, the admiral shall answer with two guns less. If a rear-admiral, the admiral and vice-admiral shall return two less. But if the ship be commanded by a captain only, the flag officers shall give two guns less, and captains an equal number.

When any of his Majesty's ships come to an anchor in a foreign port or road, within cannon-shot of it's forts, the captain may salute the place with such a number of guns as have been customary, upon good assurance of having the like number returned, but not otherwise. But if the ship bears a flag, the flag-officer shall first carefully inform himself how flags of like rank, belonging to other crowned heads, have given or returned salutes, and to insist upon the same terms of respect.

It is allowed to the commanders of his Majesty's ships in foreign parts, to salute the persons of any admirals, commanders in chief, or captains of ships of war of foreign nations, and foreign noblemen or strangers of quality, as also the factories of the king's subjects, coming on board to visit the ship; and the number of guns is left to the commander, as shall be suitable to the occasion, and the quality of the persons visiting; but he is nevertheless to remain accountable for any excess in the abuse of this liberty. If the ship visited be in company with other ships of war, the captain is not to make use of the civilities allowed in the preceding article, but with leave and consent of the commander in chief, or the senior captain.

Merchant-ships, whether foreigners, or belonging to his Majesty's subjects, saluting the admiral of the fleet, shall be answered by six guns less; when they salute any other flag-ships, they shall be answered by four guns less; and if they salute men of war commanded by captains, they shall be answered
answered by two guns left. If several merchant-ships salute in company, no return is to be made, till all have finished, and then by such a number of guns as shall be thought proper; but though the merchant-ships should answer, there shall be no second return.—

"None of his Majesty's ships of war shall salute any of his Majesty's forts or castles in Great Britain or Ireland, on any pretence whatsoever." Regulations and Instructions for the Sea-service.

SALT-PITS, (marais salant, Fr.) reservoirs on a coast, to contain seawater for the purposes of making salt.

SAMSONS-POST, (piedroit, Fr.) a sort of pillar erected in a ship's hold, between the lower deck and the keelson, under the edge of a hatchway, and furnished with several notches that serve as steps to mount or descend, as occasion requires.

This post, being firmly driven into its place, not only serves to support the beam, and fortify the vessel in that place, but also to prevent the cargo or materials contained in the hold from shifting to the opposite side, by the rolling of the ship in a turbulent and heavy sea.

SAUCER. See the article CAPSTERN.

SCALE of equal parts, (eckelle, Fr.) also the name of a sea-port in Provence.

SCALING the guns, (fouler, Fr.) the act of cleaning the inside of a ship's cannon, by the explosion of a small quantity of powder; which effectually blows out any dirt or scales of iron which may adhere to the interior surface.

SCANTLING, (adouner, Fr.) the variation of the wind by which it becomes unfavourable to a ship's course, after having been fair or large. It is distinguished from a foul wind, as in the former a ship is still enabled to sail on her course, although her progress is considerably retarded; but in the latter she is obliged to deviate from the line of her course, as explained in the article TACKING.

SCANTLING, (eckantillons, Fr.) the dimensions of any piece of timber with regard to its breadth and thickness in ship-building.

SCARF, (empature, Fr. scharven, Dutch) a particular method of uniting two pieces of timber together by the extremities.

When two pieces of timber are joined together, so that the end of one goes over the end of the other, being tapered so that the one may be let into the other, and become even, they are said to be scarfed: such are the keel-pieces. But when the ends of the two pieces are cut square, and put together, they are said to butt to one another: and when another piece is laid upon, and fastened to both, as is the case in all the frame-timbers, this is called scarfing the timbers; and half the piece which fastens the two timbers together is reckoned the length of the scarf. Murray's ship-building.

SCHOONER, a small vessel with two masts, whose main-sail and foresail are suspended from gaffs reaching from the mast towards the stern; and stretched out below by booms, whose foremost ends are hooked to an iron, which claps the mast so as to turn therein as upon an axis, when the after-ends are swung from one side of the vessel to the other.

SCOOP, (éponge, Fr.) a little hollowed piece of wood, employed to throw water out of a boat into the sea, which is usually called bailing the boat.

I.1 SCRAPING,
SCRAPING, the act of shaving off the dirty surface of the plank, in a ship's side or decks, particularly after a voyage, or when the seams have been covered with a new composition of melted pitch or rosin. The instrument with which this is performed is accordingly called a scraper, and is represented in fig. 4. plate IX.

After the sides of a ship are sufficiently scraped, they are varnished over with turpentine, or a mixture of tar and oil, or such materials; which preserves the planks from being rent or split by the sun and wind, and gives the ship a more gay and splendid appearance on the water.

SCUD, a name given by seamen to the lowest and lightest clouds, which are most swiftly wafted along the atmosphere by the winds.

SCUDDING, (Skutta, Swedish) the movement by which a ship is carried precipitately before a tempest.

As a ship flies with amazing rapidity through the water, whenever this expedient is put in practice, it is never attempted in a contrary wind, unless when her condition renders her incapable of sustaining the mutual effort of the wind and waves any longer on her side, without being exposed to the most imminent danger. See the article TRYING.

A ship either scuds with a jury extended on her fore-mast, or, if the jury is excessive, without any jury, which in the sea-phrase is called scudding under bare poles, (aller à fée. Fr.) In sloops and schooners, and other small vessels, the jury employed for this purpose is called the square-jury, (voie de fortune, Fr.) In large ships, it is either the foresail, at large, reefed, or with its goose-wings extended, according to the degree of the tempest; or it is the fore-top-jury close reefed, and lowered on the cap: which last is particularly used when the sea runs so high as to becalm the foresail occasionally; a circumstance which exposes the ship to the danger of broaching-to.

The principal hazards incident to scudding are generally, a peeping sea; the difficulty of steering, which exposes the vessel perpetually to the risk of broaching-to; and the want of sufficient sea-room. A sea striking the ship violently on the stern may dash it inwards, by which she must inevitably founder. In broaching-to suddenly, she is threatened with being immediately overtopped; and, for want of sea-room, she is endangered by shipwreck on a lee-shore; a circumstance too dreadful to require explanation!

SCUPPERS, (deelots, Fr. scheepen, Dutch, to draw off) certain channels cut through the water-ways and sides of a ship, at proper distances, and lined with plaid lead, in order to carry the water off from the deck into the sea.

The scuppers of the lower deck of a ship of war are usually furnished with a leather pipe, called the scupper-hose, which hangs downward from the mouth or opening of the scupper. The intent of this is to prevent the water from entering when the ship inclines under a weight of sail.

SCUTTLE, (écottille, Fr.) a small hatchway cut for some particular purpose through a ship's deck, or through the coverings of her hatchways, and furnished with a lid which firmly incloses it whenever necessary. See DECK and HATCHWAY.

SCUTTLING, the act of cutting large holes through the bottom or sides of a ship, either when she is firmanded or overtopped, and continues to float on the surface. The design of this expedient is usually to take out the whole or a part of the cargo, provisions, stores, &c. with all possible expedition.
SEA, (mer, Fr. fér, Sax. zee, Dutch) is known to be a great congregation of waters, which is either universal or local; as surrounding the whole earth, or flowing on the coast of some particular country.

This term, however, is variously applied by sailors, to a single wave; to the agitation produced by a multitude of waves in a tempest; or to their particular progress or direction. Thus they say, a heavy sea broke over our quarter, or we shipped a heavy sea; there is a great sea in the offing; the sea sets to the southward. Hence a ship is said to head the sea, when her course is opposed to the setting or direction of the surges.

A long sea implies an uniform and steady motion of long and extensive waves; on the contrary, a short sea is when they run irregularly, broken, and interrupted; so as frequently to burst over a vessel's side or quarter.

SEA-BOAT, (vaiffeau beau de mer, Fr.) a vessel that bears the sea firmly, without labouring heavily, or straining her masts and rigging.

SEA-COAST, the shore of any country; or that part which is washed by the sea.

SEA-CLOths, (habits de bord, Fr.) jackets, trowsers, &c.

SEA-FARING, the occupation of a mariner or sailor.

SEAMAN, (homme de mer, Fr.) a mariner or person trained in the exercise of fixing the machinery of a ship, and applying it to the purposes of navigation.

The principal articles required in a common sailor to intitle him to the full wages, are, that he can steer, sound, and manage the sails, by extending, reefing, and furling them, as occasion requires. When he is expert at these exercises, his skill in all other matters relative to his employment is taken for granted.

SEA-MARK, a point or conspicuous place distinguished at sea.

Sea-marks are of various kinds, as steeples, promontories, piles of ruins, groupes of trees, &c. and are very necessary to direct vessels on the coast of their situation. See also Beacon and Buoy.

SEA-ROOM, (belle derive, Fr.) implies a sufficient distance from the coast, as well as from any rocks or shallows, whereby a ship may drive or stand without danger of shipwreck.

SEA-WEEDS, (farts, Fr.) a sort of herbs or tangles floating on the surface of the sea, or washed upon the sea-coast. See the French term Mer, and the phrases which follow in order.

SEAMS, (coutures, Fr.) the intervals between the edges of the planks in the decks and sides of a ship; or the places where the planks join together. These are always filled with a quantity of oakum, and covered with hot pitch, to prevent the entrance of the water. See the article Caulking.

SEIZING, (amarrage, Fr.) the operation of fastening any two ropes, or different parts of one rope together, with a small line or cord; also the cord (amarrage) which fastens them.

SELVAGE, a sort of hank or skein of rope-yarn tied together at several distances. It is used to fasten round any rope, as a shroud or stay, so that a tackle may be hooked in it, to extend the said shroud or stay, which is called setting it up.
SENGING, the act of pitching precipitately into the hollow, or interval, between two waves.

SENNIT, (garrottes, Fr. from seven and knit) a sort of flat braided cordage, formed by plaiting five or seven rope-yarns together.

SERVING, (faureau, Fr.) winding any thing round a rope, to prevent it from being rubbed. The materials used for this purpose, and which are accordingly called service, fourrure, are generally small lines, leather, plat canvas, &c.

SETTEE, (feitie, Fr.) a ship of two masts, equipped with triangular sails, commonly called lateen sails. These vessels are peculiar to the Mediterranean sea, and are generally navigated by Italians, Greeks, or Mahometans.

SETTING, the act of observing the situation of any distant object by the compass, in order to discover the angle which it makes with the nearest meridian; as, at seven in the evening, we set the Tower of Arabia near the port of Alexandria, and it bore S.S.E. distant four leagues by estimation. See Bearing.

SETTING also denotes the direction of the wind, current, or sea, but particularly the two latter: as, the tide which sets to the south, is opposed to a swelling sea setting to the north-west.

SETTING, when applied to the sails, is the loosening and expanding them, so as to move a ship along the water, after she had been for some time at rest; or to accelerate her velocity when she is already moving, and perhaps give a new direction to her motion. It is used in contradistinction to taking-in the sails, as loosing or heaving-out is opposed to furling or flowing them.

SETTING-up, the act of extending the shrouds, stays, and back-stays, to secure the masts, by the application of mechanical powers, as tackles, &c. See DEAD-EYE, LANIARD, &c.

SETTLED, lowered in the water; as, we have settled the land, or sunk it lower, by failing further out to seaward. This phrase is usually opposed to raising; the former being occasioned by departing from the object understood, and the latter by approaching it; however, the former is more commonly expressed lowering.

SEWED, the situation of a ship which rests upon the ground till the depth of water sufficient to float her is diminished by the reflux of the tide. Thus if a ship runs aground on the tide of ebb, and it be required to know if she has fowed, the water line or mark on her side, stem, or stern-post, where the surface of the water reaches when she is afloat, is examined, and this mark being found above the water, she is said to be fowed by as much as is the difference.

SHAKES, (ebaron, Fr.) a name given by shipwrights to the cracks or rents in a plank, occasioned by the sun or weather.

SHALLOP, a sort of large boat with two masts, and usually rigged like a schooner.

SHANK, the beam or shaft of an anchor. See that article.

SHANK-Painter, a short rope and chain which hangs the shank and flukes of the anchor up to the ship's side, as the stopper fastens the ring and block to the cat-head.
To SHAPE the course, (commander à la route, Fr.) to direct or appoint the track of a ship, in order to prosecute a voyage.

SHARP. See Bottom.

SHEATHING, (doublage, Fr.) a sort of casing or covering laid on the outside of a ship's bottom, to protect the planks from the pernicious effects of the worms: particularly in hot climates, as between the tropics.

Sheathing either consists of a number of boards or deals of fir, or of sheets of lead or copper; which last is a very late invention, having been only experienced on a few of his Majesty's frigates: it seems, however, to answer the purpose much better than the fir-planks. When the sheathing is performed with boards, there is a quantity of hair and tar inserted between the outside of the bottom, and the inner surface of the boards.

SHEAVE, (rouet, Fr. sêbiéf, Dutch) a solid cylindrical wheel, fixed in a channel, and moveable about an axis, as being used to raise or increase the mechanical powers applied to remove any body.

The sheaves are either fixed in blocks, or in channels cut through the masts, caps, cat-heads, or sides of a ship. See those articles.

SHEEP-SHANK: a sort of knot or hitch cast on a rope, to shorten it as occasion requires: particularly to increase the sweep or length of a tackle by contracting its runner. By this contrivance the body to which the tackle is applied may be hoisted much higher, or removed much further, in a shorter time.

Thus if any weighty body is to be hoisted into a ship, and it be found that the blocks of the tackle meet before the object can reach the top of the side, it will be necessary to lower it again, or hang it by some other method, till the runner of the tackle is sheep-shanked, by which the blocks will again be separated to a competent distance.

SHEER, (relevement, Fr.) the longitudinal curve of a ship's deck or sides.

SHEERING, in navigation, the act of deviating or straying from the line of the course, either to the right or left, so as to form a crooked and irregular path through the water. It is commonly occasioned by the ship's being difficult to steer, but very often from the negligence or incapacity of the helmsman. Hence, to sheer off is to remove at a greater distance.

SHEERS, (machine à mater, Fr.) an engine used to hoist-in or displace the lower masts of a ship. See the article Mast.

The sheers employed for this purpose in the royal navy are described under the article bulk. In merchant-ships this machine is composed of two masts or props, erected in the same vessel wherein the mast is to be planted, or from whence it is to be removed. The lower ends of these props rest on the opposite sides of the deck, and their upper parts are fastened across, so as that a tackle, which depends from the intersection, may be almost perpendicularly above the station of the mast, to which the mechanical powers are applied. These sort of sheers are secured by stays, which extend forward and aft to the opposite extremities of the vessel.

SHEET, (écoute, Fr.) a rope fastened to one or both the lower corners of a sail, to extend and retain it in a particular station. See Clew and Sail.
When a ship sails with a lateral wind, the lower corner of the main and fore sail are fastened by a tack and a sheet; the former being to windward and the latter to leeward: the tack, however, is entirely diffused with a stern-wind; whereas the sail is never spread without the assistance of one or both of the sheets.

The staysails and studding-sails have only one tack and one sheet each: the staysail tacks are always fastened forward, and the sheet drawn aft; but the studding-sail-tack draws the outer clue of the sail to the extremity of the bottom; whereas the sheet is employed to extend the inmost.

To haul home the sheet. See home.

Sheet-Anchor. See the article Anchor.

Shell, in artillery. See Mortar and Range.

Shell of a block, the outer frame or cage, wherein the sheave or wheel is contained, and traverses about it's axis. See Block.

Shelves, (écueils, Fr. schiff, Sax,) a general name given to any dangerous shallows, sand-banks, or rocks lying immediately under the surface of the water, so as to intercept any ship in her passage, and expose her to destruction.

Shifted, (desarrimée, Fr.) the state of a ship's ballast or cargo when it is shaken from one side to the other, either by the violence of her rolling in a turbulent sea, or by an extraordinary inclination to one side when under a great preffure of fail. This circumstance, however, rarely happens, unless to those cargoes which are stowed in bulk, as corn, salt, or such materials. See laden and trim.

Shifted, (senté, Fr.) when expressed of the wind, implies altered.

Shifter, (detrempeur, Fr.) a person appointed to assist the ship's cook, particularly in washing, steeping, and shifting the salt provisions.

Shifting a tackle, the act of removing the blocks of a tackle to a greater distance from each other, on the object to which they are applied, in order to give a greater scope or extent to their purchase. This operation is otherwise called fleeting. See that article.

Shifting the helm, (rencontre, Fr.) is the alteration of it's position, by pushing it towards the opposite side of the ship. See helm.

Shifting the royal, (dépasse, Fr.) changing it's position on the capstern from the right to the left, and vice versa.

Ship, (caiffecu, Fr. seip. Sax.) a general name given by seamen to the first rank of vessels which are navigated on the ocean.

Amongst people who are unacquainted with marine distinctions, this term is of very vague and indiscriminate acceptance: and indeed sailors themselves, submitting occasionally to the influence of custom, receive it according to this general idea. In the sea-language, however, it is more particularly applied to a vessel furnished with three masts, each of which is composed of a lower mast, top-mast, and top-gallant-mast, with the usual machinery thereto belonging.

The design of this work being professedly to treat of the construction, mechanism, furniture, movements, and military operations of a ship, we may properly consider the present article as a general recapitulation of the whole subject.

3
SHI  SHI

The plans, elevations, and sections used in the construction of a ship; the principal pieces of which she is composed; and the qualities requisite to answer the several purposes of navigation, are described, or referred to, in Naval Architecture: and the application of this theory to practice is treated in the article Ship-building.

The machinery and furniture with which she is equipped are variously diffused throughout this work, and naturally spring from one another, like a multitude of branches from one general trunk. See Mast, Sail, Yard, Rigging, Anchor, &c.

The qualities by which she is enabled to encounter a tempestuous sea are treated in the article Ballast and Trim; and her several movements therein are explained under Navigation, Drift, Sailing, Tacking, Leeway, Pitching, and Rolling.

Considered as a moveable fortress or citadel, her military operations are copiously described in Cannon, Cannoneade, Engagement, Line, and Range; and as her efforts are occasionally like those of a mine, or bombardment, the reader is also referred to the articles Fire-ship and Mortar.

The vessels which are usually comprehended under the general name of ship, besides those of the line of battle, are galleons, frigates, hag-boats, cats, barks, pinks, and fly-boats; all of which are defined in their proper places, except the hag-boat, that only differs from a frigate-built ship in the figure of the stern, which has a great resemblance to that of the cat, as being in a middle degree between the former and the latter. See also the article Quarter.

Ships of war are properly equipped with artillery, ammunition, and all the necessary martial weapons and instruments for attack or defence. They are distinguished from each other by their several ranks or classes. See Rate.

Ship of the line is usually applied to all men of war mounting sixty guns and upwards. Of late, however, our fifty-gun ships have been formed sufficiently strong to carry the same metal as those of sixty, and accordingly may fall into the line in cases of necessity. See Line.

The ships of seventy-four cannon, and thereabouts, are generally esteemed the most useful in the line of battle, and indeed in almost every other purpose of war. It has therefore been judged conformable to our design, to represent different views and sections of a ship of this class. Thus plate IV. exhibits the head, together with the bow or fore-part. Plate VII. shews a transverse section through the broadest part, with the profile of her upper and lower deck batteries. Plate III. contains an horizontal section at the lower deck, together with the plan of the battery planted on one side thereof, and all the pieces by which the deck is supported on the other. The quarter, and all the after-part of the ship, is exhibited in plate VIII. and the elevation of the stern in plate X. all of which are on the same scale, viz. one fourth of an inch to a foot, except the deck, which is one eighth of an inch to a foot.

We have also, on a smaller scale, expressed an elevation or side-view of a sixty-gun ship, in plate I. with the head thereof in plate IV. fig. 11. and the stern in plate X. fig. 2. both of which are viewed upon a line on the continuation of the keel.

Armed-
Armed-Ship. See Armed Ship.

Hospital-Ship, a vessel fitted up to attend on a fleet of men of war, and receive their sick or wounded; for which purpose her decks should be high, and her ports sufficiently large. The gun-deck is entirely appropriated for the reception of the sick, and is flush without cabins or bulk-heads; except one of deal, or canvas, for separating those in malignant distempers. Two pair of chequered linen sheets are allowed to each bed, and scuttles cut in the sides for inlets of air. The sick are visited by a physician, and constantly attended by a surgeon, a proportionable number of mates, assistants, servant to him, a baker and washerwomen. Her cables ought also to run upon the upper deck, to the end that the beds or cradles may be more commodiously placed between decks, and admit a free passage of the air, to diffuse that which is offensive or corrupted.

Leeward-Ship. See Leeward.

Merchant-Ship, a vessel employed in commerce, to carry commodities of various sorts from one port to another.

The largest merchant ships are those employed by the different European companies of merchants who trade to the East-Indies. They are in general somewhat larger than our forty-gun ships: they are mounted with twenty cannon on their upper-deck, which are nine-pounders, and fix on their quarter-deck, which are six-pounders. Plate IX. fig. 5. represents a view of one of these vessels on the larboard bow, where a is the ensign-staff, A the mizen-mast, B the main-mast, C the fore-mast, K the poop, LL an awning of wood extending across the after part of the quarter-deck, M poop-ladder, N O steps of the gangway, P head of the capstern on the quarter-deck, QR the fkeeds on the gangway, r the belfry on the forecastle, \( f \) the timber-heads, y the cut-water, with a lion-head fixed upon it. The other parts of this ship represented in the figure are referred to from the explanations of the head, plate IV. and the quarter in plate VIII.

Fig. 6, plate IX. exhibits a quarter view of a foreign-built East-Indianman, with a square tuck, or perpendicular counter, and having three poop-lanthorns fixed on her taffarel.

Private Ship of war. See Privateer.

Store-Ship, a vessel employed to carry artillery or naval stores for the use of a fleet, fortress, or garrison.

Transport-Ship is generally used to conduct troops from one place to another.

In the different kinds of ships, referred to above, and distinguished from each other by their size or figure, we have only considered those which are most common in European nations, where the marine art has received the greatest improvements. So far is apparently consistent with the views of utility. To give a circumstantial account of the various species of ships employed in different nations, besides being an almost endless task, would be of little service, except to gratify an useless curiosity. See Vessel.

To Ship, is either used actively, as to embark any person, or put any thing aboard-ship; or passively, to receive any thing into a ship; as, we shipped a heavy sea at three o’clock in the morning.
To Ship, also implies to fix any thing in it’s place; as, to ship the ears, i.e. to fix them in their row-locks. To ship the swivel-guns, is to fix them in their sockets, &c.

Ship-Shape, according to the fashion of a ship, or in the manner of an expert sailor; as, the mast is not rigged ship-shape; trim your sails ship-shape.

SHIPPING, a multitude of vessels. The harbour is crowded with shipping.

SHIVERING, the state of a sail when it shakes or flutters in the wind, as being neither full nor aback, but in a middle degree between both, as well with regard to it’s absolute position, as to it’s relative effect on the vessel.

SHOAL, (bas-fond, Fr.) a term synonymous with shallow. See that article.

SHOE of the anchor, (feuier, Fr.) a small block of wood, convex on the back, and having a small hole, sufficient to contain the point of the anchor-fluke, on the fore-side. It is used to prevent the anchor from tearing or wounding the planks on the ship’s bow, when ascending or descending; for which purpose the shoe slides up and down along the bow, between the fluke of the anchor and the planks, as being press’d close to the latter by the weight of the former.

To Shoe an anchor, (brider, Fr.) is to cover the flukes with a broad triangular piece of plank, whose area, or superficies, is much larger than that of the flukes. It is intended to give the anchor a stronger and firmer hold of the bottom in very soft and oozy ground.

SHORE, (bord de la mer, Fr.) a general name for the sea-coast of any country.

Bold-Shore, (berge, Fr.) on which is depth of water sufficient for a ship’s draught, and free from shoals, or sunken rocks.

Shore, (accords, Fr.) is also a prop or large anchien fixed under a ship’s sides or bottom, to support her when laid aground or on the stocks, &c.

Bold Shore, a coast which is steep and abrupt, so as to admit the closest approach of shipping without exposing them to the danger of being stranded.

To SHORTEN, expressed of a ship’s sails, is used in opposition to make. See that article, as also Sail.

SHOT, a missive weapon, discharged by the force of enflamed powder from a fire-arm in battle.

The shot used in the sea-service is of various kinds, as bullets, bar-shot, chain-shot, case-shot, and grape-shot; all of which are used in the royal navy. There is besides other shot, of a more pernicious kind, used by privateers, and other piratical rovers; such are langrage, star-shot, fire-arrows, &c.

The first and most simple is the round-shot, which is a ball or globe of iron, whose weight is in proportion to the size of the cannon, or to the diameter of its bore.

The double-headed, or bar-shot, fig. 11. plate VII. are balls cut into two equal parts, and joined together by a kind of iron bar. In the French service the middle is sometimes filled with a composition, and the whole covered with linen dipped in brimstone; the cannon in firing also inflames the combustibles or composition of this ball, which sets fire to the sails of the
the vessel. One of the heads of this ball has an hole to receive a fuse, which, communicating with the charge of the cannon, sets fire to the bullet.

The chain-shot, fig. 12, consists of two balls chained together, being principally designed to destroy the masts and rigging, which they are better fitted to perform than the single bullets.

Grape-shot is a combination of balls, fig. 13, put into a thick canvas-bag, and corded strongly together, so as to form a sort of cylinder, whose diameter is equal to that of the ball which is adapted to the cannon. This shot is represented by fig. 13, on a larger scale, at the bottom of the plate.

Case-shot, fig. 14, is formed by putting a great quantity of musket-bullets into a cylindrical tin-box called a canister. They are principally used by the French to scour the decks of the enemy.

<table>
<thead>
<tr>
<th>Diameter of Iron Shot used in the Sea-service, according to their weight.</th>
<th>Construction of Grape-shot used in the Sea-service.</th>
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<tbody>
<tr>
<td>lb. &amp; Inch. Parts.</td>
<td>42</td>
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<tr>
<td>32</td>
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<td>24</td>
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Le Blond's Elements of War.

* Fire-
Fire-arrows are described in the notes under the article Engagement, and Lawrage under that word.

Star-shot consists of four pieces of iron, whose bases, when separate, form the quadrant of a circle; so that the whole, being joined, forms a cylinder equal to the shot of the cannon. Each of those pieces is furnished with an iron bar, the extremity of which is attached to a sort of link, as keys are strung upon a ring. Being discharged from the gun, the four branches or arms extend every way from the link in the center. These also are chiefly intended to destroy the sails or rigging, but their flight and execution is very precarious at any tolerable distance.

SHROUDS, (baubans, Fr. strud, Sax.) a range of large ropes extended from the mast-heads to the right and left side of the ship, to support the masts, and enable them to carry sail, &c.

The shrouds are always divided into pairs or couples: that is to say, one piece of rope is doubled, fig. 7. plate IX. and the two parts fastened together at a small distance from the middle, so as to leave a sort of noose or collar a b to fix upon the mast-head. This collar being fixed in its place, viz. close down upon the trestle-trees k, fig. 2. plate VI. a pair of shrouds depend from it, whose lower ends ought to reach down to the deck. The lower ends of these shrouds are set up or extended to the channel I. fig. 2. plate VI. on the outside of the ship, by the application of mechanical powers, as explained in the articles dead-eye and laniard.

The shrouds as well as the sails are denominated from the masts to which they belong. Thus they are the main, fore, and mizen shrouds, the main top-mast, fore-top-mast, or mizen top-mast shrouds, and the main top-gallant, fore top-gallant, or mizen top-gallant shrouds.

The number of shrouds by which a mast is sustained, as well as the size of rope of which they are formed, is always in proportion to the size of the mast, and the weight of sail it is intended to carry.

The two foremost shrouds on the starboard and larboard side of the ship are always fitted first upon the mast-head; and then the second on the starboard and the second on the larboard, and so on till the whole number is fixed. The intention of this arrangement is to brace the yards with greater facility when the sails are close-hauled, which could not be performed without great difficulty if the foremost shrouds were last fitted on the mast-head, because the angle which they would make with the mast would then be greatly increased. See also Swifter.

The topmast-shrouds are extended from the topmast heads to the edges of the tops, as expressed by fig. 3. pl. VI. and fig. 1. pl. IX. The lower dead-eye q, employed for this purpose, is fitted with an iron band, called the foot-hook-plate, which passes thro' a hole in the edge of the top, and communicates with a rope called the foot-hook shroud, whose lower end is attached to the shrouds of the lower mast, in the station l. The upper ends of the foot-hook shrouds are furnished with an iron hook r, which enters a hole in the lower end of the foot-hook plate, so that when the top mast shrouds are extended to secure the mast, the foot-hook shrouds necessarily acquire...
acquire an equal tension by means of the foot-hook plate, which, passing through the top, transmits the effort of the mechanical powers to the foot-hook throuds below.

The throuds of the top-gallant masts are extended to the cross-trees, as represented by \( m \), fig. 1. plate IX. See also fig. 5. plate VI.

SIDE, (côté, Fr.) a name given to the flanks of a ship, or in general to all that part which is presented to the view between the stem and stern, in a direction nearly perpendicular to the horizon.

The figure of the side is formed by that of the timbers upon which it is constructed. It is covered with planks, extending from one end of the ship to the other; it is also reinforced in different places by beams, clamps, knees, riders, and standards. See those articles.

The side is terminated above by the gunnel, and below by the lower edge of the main wale, which separates it from the bottom; it is inclosed by the stern abaft, and by the bow forward.

SIGNS, (signal, Fr.) certain alarms or notices used to communicate intelligence to a distant object at sea.

Signals are made by firing artillery, and displaying colours, lanthorns, or fire-works; and these are combined by multiplication and repetition. Thus, like the words of a language, they become arbitrary expressions, to which we have previously annexed particular ideas: and hence they are the general sources of intelligence throughout a naval armament, &c. See Admiral and Engagement.

Signals ought to be distinct, with simplicity. They are simple, when every instruction is expressed by a particular token, in order to avoid any mistakes arising from the double purport of one signal. They are distinct, when issued without precipitation; when sufficient time is allowed to observe and obey them; and when they are exposed in a conspicuous place, so as to be readily perceived at a distance.

All signals may be reduced into three different kinds, viz. Those which are made by the sound of particular instruments, as the trumpet, horn, or sife; to which may be added, striking the bell, or beating the drum. Those which are made by displaying pendants, ensigns, and flags of different colours; or by lowering or altering the position of the sails: And, finally, those which are executed by rockets of different kinds; by firing cannon, or small arms; by artificial fire-works; and by lanthorns.

Firing of great guns will serve equally in the day or night, or in a fog; to make or confirm signals; or to raise the attention of the hearers to a future order. This method, however, is attended with some inconveniences, and should not be used indiscriminately. Too great a repetition of the cannon is apt to introduce mistakes and confusion, as well as to discover the track of the squadron. The report and flight of the rockets is liable to the same objection, when at a short distance from the enemy.

It is then, by the combination of signals, previously known, that the admiral conveys orders to his fleet; every squadron, every division, and every ship of which has its particular signal. The instruction may therefore occasionally
finally be given to the whole fleet, or to any of its squadrons; to any division of those squadrons, or to any ship of those divisions.

Hence the signal of command may at the same time be displayed for three divisions, and for three ships of each division; or for three ships in each squadron, and for only nine ships in the whole fleet. For, the general signal of the fleet being shewn, if a particular pendent be also thrown out from some remarkable place on the same mast with the general signal, it will communicate intelligence to nine ships that wear the same pendent.

The preparatory signal given by the admiral to the whole, or any part of his fleet, is immediately answered by those to whom it is directed; by shewing the same signal, to testify that they are ready to put his orders in execution. Having observed their answer, he will shew the signal which is to direct their operations: as,

To chafe, to form the line, to begin the engagement, to board, to double upon the enemy, to rally or return to action, to discontinue the fight, to retreat and save themselves. The dexterity of working the ships in a fleet depends on the precise moment of executing those orders; and on the general harmony of their movements: a circumstance which evinces the utility of a signal of preparation.

As the extent of the line of battle, and the fire and smoke of the action, or other circumstances in navigation, will frequently prevent the admiral's signals from being seen throughout the fleet, they are always repeated by the officers next in command; by ships appointed to repeat signals; and, finally, by the ship or ships for which they are intended.

The ships that repeat the signals, besides the chiefs of squadrons or divisions, are usually frigates lying to windward or to leeward of the line. They should be extremely vigilant to observe and repeat the signals, whether they are to transmit the orders of the commander in chief, or his seconds, to any part of the fleet; or to report the fortunate or distressful situation of any part thereof. By this means all the ships from the van to the rear will, unless disabled, be ready at a moment's warning to put the admiral's designs in execution.

To preserve order in the repetition of signals, and to favour their communication, without embarrassment, from the commander in chief, to the ship for which they are calculated, the commanders of the squadrons repeat after the admiral; the chiefs of the divisions, according to their order in the line, after the commanders of the squadrons; and the particular ships after the chiefs of the divisions; and those in return, after the particular ships, vice versa, when the object is to convey any intelligence from the latter to the admiral.

Besides the signals above mentioned, there are others for different ranks of officers; as for captains, lieutenants, masters, &c. or for any of those officers of a peculiar ship. See Division and Squadron.

Skeet, a sort of long scoop commonly used to wet the decks and sides of a ship in hot weather, in order to keep them cool, and to prevent them from splitting by the heat of the sun. This practice is accordingly performed in general every morning and evening before sun-rise and after sun-set.
This instrument, fig. 8, plate IX. is also employed in small vessels to wet the sails, to render them more steady and efficacious in light breezes.

SKIDS, or SKEEDS, are long compassing pieces of timber, formed so as to answer the vertical curve of a ship's side. See Q, R, fig. 5, plate IX. They are notched below so as to fit closely upon the wale; and as they are intended to preserve the planks of the side, when any weighty body is hoisted or lowered, they extend from the main wale to the top of the side; and they are retained in this position by bolts or spike-nails.

SKIFF, (câisque, noccle, Fr. scaffa, Lat.) a small boat resembling a yawl, also a wherry without masts or sails, usually employed to pass a river. See the article Boat.

SLAB-LINE, (cargue à vue, Fr.) a small cord passing up behind a ship's main-fail or fore-fail, and being reeved through a block, fig. 1, plate IX. attached to the lower part of the yard, is thence transmitted in two branches to the foot of the sail, to which it is fastened. It is used to truss up the sail as occasion requires; but more particularly for the convenience of the pilot or stersman, that they may look forward beneath it, as the ship advances.

SLACK-WATER, the interval between the flux and reflux of the tide; or between the half of the ebb and the first of the flood, during which the current is interrupted; and the water apparently remains in a state of rest.

SLATCH, is generally applied to the period of a transitory breeze of wind, or the length of its duration.

SLEEPERS, a name formerly given by shipwrights to the thick stuff placed longitudinally in a ship's hold, opposite to the several scarfs of the timbers. It is now properly applied to the knees, which connect the transoms to the after-timbers on the ship's quarter.

SLINGS, (elingue, Fr. slingan, Sax.) a rope whose ends are fixed in such a manner to it's other part, as to encircle a cask, bale, or case, and suspend it whilst hoisting or lowering. Of these there are various sorts, according to the weight or figure of the object to which they are applied. Those which are most frequently used in lading and delivering ships are represented in fig. 9, plate IX. being nearly in the form of a pair of spectacles, the tacle being hooked to the middle part a, whilst b and c are fixed on the opposite quarters of the cask, &c.

SLIP, a place lying with a gradual descent on the banks of a river convenient for ship-building.

SLOOP, a small vessel furnished with one mast, the main-fail of which is attached to a gaff above, to the mast on it's foremost edge, and to a long boom below; by which it is occasionally shifted to either quarter. See Vessel.

Sloop of War, a name given to the smallest vessels of war, except cutters. They are either rigged as ships or as snows. See Command, Horse, and Rate.

To SLUE, is to turn any cylindrical or conical piece of timber about it's axis, without removing it. This term is generally expressed of the movement by which a malt or boom is turned about, in it's cap or boom-iron.

SMACK, a small vessel commonly rigged as a sloop or hoy, used in the coasting or fishing trade; or as a tender in the King's service.

SNATCH-
SNATCH-BLOCK, (galoche, Fr.) a block having an opening in one of its sides, wherein to fix the hight of rope occasionally. See Block.

SNOTTER. See the article Sprit.

SNOW, (fenau, Fr.) is generally the largest of all two-masted vessels employed by Europeans, and the most convenient for navigation.

The falls and rigging on the main-mast and fore-mast of a snow, are exactly similar to those on the same masts in a ship; only that there is a small mast behind the main-mast of the former, which carries a sail nearly resembling the mizen of a ship. The foot of this mast is fixed in a block of wood on the quarter-deck abaft the main-mast; and the head of it is attached to the after-part of the main-top. The sail, which is called thetry-sail, is extended from its mast towards the stern of the vessel.

When the floes of war are rigged as snows, they are furnished with a horse, which answers the purpose of the try-fall-mast, the fore-part of the sail being attached by rings to the said horse, in different parts of its height.

SOLE, a name sometimes given to the lower side of a gun-port, which however is more properly called the port-fell.

SOUNDING, (fonder, Fr.) the operation of trying the depth of the water, and the quality of the ground, by means of a plummet, (plomb de fonde, Fr.) funk from a ship to the bottom.

There are two plummets used for this purpose in navigation; one of which is called the hand-lead, weighing about 8 or 9 pounds; and the other the deep-sea-lead, which weighs from 25 to 30 pounds, and both are shaped like the frustum of a cone or pyramid. The former is used in shallow waters, and the latter at a great distance from the shore; particularly on approaching the land, after a sea-voyage. Accordingly the lines employed for this purpose are called the deep-sea-lead-line, and the hand-lead-line.

The hand-lead-line, which is usually 20 fathoms in length, is marked at every 2 or 3 fathoms; so that the depth of the water may be ascertained either in the day or night. At the depth of 2 and 3 fathoms, there are marks of black leather; at 5 fathom, there is a white rag; at 7, a red rag; at 10, black leather; at 15, a white rag; and at 17, a red ditto.

Sounding with the hand-lead, which is called heaving the lead by seamen, is generally performed by a man who stands in the main-chains to windward. Having the line all ready to run out, without interruption, he holds it nearly at the distance of a fathom from the plummet, and having swung the latter backwards and forwards three or four times, in order to acquire the greater velocity, he swings it round his head, and thence, as far forward as is necessary; so that, by the lead's sinking whilst the ship advances, the line may be almost perpendicular when it reaches the bottom. The person sounding then proclaims the depth of the water in a kind of song resembling the cries of hawkers in a city. Thus, if the mark of 5 fathoms is close to the surface of the water, he calls 'By the mark five!' and as there is no mark at 4, 6, 8, &c. he estimates those numbers, and calls, 'By the dip four,' &c. If he judges it to be a quarter, or an half more than any particular number,
he calls, "And a quarter five! and a half four," &c. If he conceives the depth to be 3 quarters more than a particular number, he calls it a quarter less than the next; thus, at four fathom and 4, he calls "A quarter less five!" and so on.

The deep-sea-lead is marked with two knots at 20 fathom, 3 at 30, 4 at 40, and so on to the end. It is also marked with a single knot in the middle of each interval, as at 25, 35, 45 fathoms, &c. To use this lead more effectually at sea, or in deep water on the sea-coast, it is usual previously to bring to the ship, in order to retard her course: the lead is then thrown as far as possible from the ship on the line of her drift, so that, as it sinks, the ship drives more perpendicularly over it. The pilot, feeling the lead strike the bottom, readily discovers the depth of the water by the mark on the line nearest it's surface. The bottom of the lead being also well rubbed over with tallow, retains the distinguishing marks of the bottom, as shells, ooze, gravel, &c. which naturally adhere to it.

The depth of the water, and the nature of the ground, which is called the soundings, are carefully marked in the log-book, as well to determine the distance of the place from the shore, as to correct the observations of former pilots. See Coasting and Navigation.

SPAN, (pendent, Fr. spanna, Ital.) a small line or cord, the middle of which is usually attached to a stay, from whence the two ends branch outwards to the right and left, and having either a block or thimble attached to their extremities. The intention of the span is accordingly to confine some rope which passes through the corresponding block or thimble, as well to increase the effort of the said rope, as to prevent it from swinging at too great a distance from the center of it's action in stormy weather. Such are the spans occasionally used for the top-gallant braces, or the fore-top-gallant bowlines, &c.

SPAN-SHACKLE. See the article Davit.

SPARE, (rechange, Fr.) an epithet applied to any part of a ship's equipment, or furniture, that lies in reserve, to supply the place of such as may be lost, or rendered incapable of service. Hence we say, spare top-masts, spare stays, spare rigging, &c.

PUMP-SPEAR. See the article Pump.

SPELL, the period wherein a sailor, or gang of sailors, is employed in a particular exercise, from which they are relieved as soon as the limited time expires. Such are the spells, to the hand-lead in sounding; to the pump; to look out on the main-head, &c. and to steer the ship; which last, however, is generally called the trick. See Steering.

Spell also implies the relief, or the return of duty to those services: Thus we say, spell the pump, spell the lead, &c.

To SPILL, to discharge the wind out of the cavity or belly of a sail when it is drawn up in the brails in order to furl or reef it. This is either performed by collecting the sail together, or by bracing it's edge to the wind, so as to shiver or be laid aback.

SPILLING-LINES, certain ropes fixed occasionally to the main-fail and fore-fail of a ship, in tempestuous weather, for reefing or furling them

more
more conveniently. They are passed through blocks above the yard, and thence leading down before the sail, come under it’s bottom, and return upwards behind it to the yard, where they are fastened, so that the sail, by their effort, is closely and immovable confined to the yard.

SPINDLE, (baton de girouette, Fr.) a sort of iron-pin tapering at the upper end to the point. It is used to stick into the upper end of the top-gallant-mast, so as to carry a vane, which, turning thereon horizontally, will show the direction of the wind. It is usually crowned with a globular or conical piece of wood called the acorn, which prevents the vane from being blown off. See Acorn.

SPINDLE is also the lower end or foot of the capstern, which is shod with iron, and becomes the pivot or axis upon which it turns in the faucer. See the article Capstern.

SPIRKTING, that range of planks which lies between the water-ways and the lower edge of the gun-ports within the side of a ship of war.

To SPLICE, (epiſfer, Fr. fplifer, Dutic, plieo Lat.) to join the two ends of a rope together, or to unite the end of a rope to any other part thereof.

There are several different methods of performing this operation, according to the services on which it is to be employed. Thus, there is the short-splice, the long-splice, the eye-splice, and the cunt-splice; all of which are calculated for different purposes.

The short-splice is made by untwisting the ends of two ropes, or the two ends of one rope, and, having placed each of the strands of one opposite to and in the interval between two strands of the other, to draw them close together; and then interweave the strands of one into the alternate strands of the other, by penetrating the latter with a fid or marline-splice, parallel to the axis or length of the rope. This splice is used on the cables, slings, block-strops, and in general all ropes which are not intended to run through blocks, or where the splice is not in danger of being looened or separated.

The long-splice, being fixed in three places, occupies a greater extent of the rope; but, by the division of the joinings, the bulk is also divided into different parts of it’s length. Hence it is much neater and smoother than the short-splice, and better adapted to run through the channel of a block, &c. for which use it is generally calculated.

The eye-splice being intended to make a sort of eye or circle at the end of a rope, the strands are untwisted, and their extremities thrust through the three strands in that part of the said rope, whereon the splice is to be formed, and thence passing over the surface of the second strand, they are again thrust through the third, which completes the operation.

The cunt-splice is constructed in the same manner as the eye-splice, being no other than the ends of two lines fastened together at a short distance from each other, the extremities of either being interwoven into the bight of the other, so that the line becomes double in the extent of the splice. This is chiefly used in lead-lines, log-lines, and fishing-lines, where the short-splice would be liable to separation, as being frequently looened by the water.

SPLIT, the state of a sail which is rent asunder by the violence of a tempest, or by sustaining a greater effort on one part of it’s surface than the rest.

N

Split
SPRIT, when applied to a ship, is also the state of being stranded and bilged on a rock or shore.

SPoon-Drift, a sort of showery sprinkling of the sea-water, swept from the surface of the waves in a tempest, and flying according to the direction of the wind like a vapour.

SPooning. By the explanation of this term in our dictionaries, it seems formerly to have signified that movement in navigation, which is now called scudding. Be that as it may, there is at present no such phrase in our sea-language.

SPRAY, the sprinkling of the sea, which is driven from the top of a wave in stormy weather. It differs from spoon-drift, as being only blown occasionally from the broken surface of a high wave, whereas the latter continues to fly horizontally along the sea, without intermission, during the excess of a tempest or hurricane.

SPRING, a crack or breach running transversely or obliquely through any part of a mast or yard, so as to render it unsafe to carry the usual quantity of sail thereon.

Spring is also a rope passed out of one extremity of a ship and attached to a cable proceeding from the other, when she lies at anchor. It is usually performed to bring the ship's broad-side, or battery of cannon, to bear upon some distant object; as another ship, or a fortress on the coast, &c. When a ship rides by anchors which are only carried out of one end, she will swing upon the surface of the water like a weather-cock, according to the direction of the wind; unless the wind is opposed by a current. Now, if instead of being fastened at one end, she is attached by ropes, which, proceeding from her head and stern towards the same source, sustain an equal effort of the wind, it is evident that her side will be presented to the wind; and that, by slackening one of those ropes, and keeping fast the other, her side will lie more or less obliquely to the wind, so as to be opposed to any distant object to the right or left.

Thus, if a ship rides with her head north-easterly, and it is required to cannonade a fortress lying on the south, or south-east, a hawser is run out of the stern, and being carried forward, without her side, is attached to the cable, at a competent distance ahead of the ship; the hawser is then tightened by the capstern or tackles, and the cable being slackened, the ship immediately turns her side towards the object intended to be battered.

Spring is likewise a rope reaching diagonally from the stern of a ship to the head of another which lies along-side or abreast of her, at a short distance. This is generally performed to make one of the ships nearer off, to a greater distance from the other; or to make merchant-ships lie uniformly in the same tier. Springs of this sort are therefore occasionally applied from a ship, to a wharf or key, for the same purposes.

To Spring a Leak. See the article Leak.

Springing the Luff. See Luff.

Spring-tide, the periodical excess of the elevation and depression of the Tide. See that article.
SPRIT, (spytan, Sax. to branch out) a small boom or pole which
crosses the fail of a boat diagonally, from the mast, to the upper hindmost
corner of the fail, which it is used to extend and elevate: the lower end of
the sprit refts in a sort of wreath or collar called the snouter, which encircles
the mast in that place. These sort of fails are accordingly called sprit-fails.

SPRITSAIL, (escadre, Fr.) a fail attached to a yard which hangs
under the bowsprit, as represented in fig. 2. you, plate IX. It is furnished
with a large hole in each of its lower corners, to evacuate the water with
which the cavity or belly of it is frequently filled, by the surge of the sea,
when the ship pitches.

SPRITSAIL-TOPSAIL, (perroquet de beaupre, Fr.) a fail extended above the
former, by a yard which hangs across the jib-boom. The lower corners of
this fail are hauled home to the spritsail-yard-arms; after which the fail is
drawn out toward the extremity of the boom, in light winds, as any other
topfail-yard is hoisted upon its mast.

Formerly the spritsail-top-fails were set on a mast, which was erected per-
pendiculary on the end of the bowsprit: but this method has of late been
justly rejected as inconvenient and dangerous to the bowsprit, although ser-
viceable in light breezes.

SPUNGE. See the article CANNON.

SPUN-YARN, (bittord, Fr.) a small line or cord formed of two or
three rope-yarns twisted together by a winch. The yarns, of which it is
usually made at sea, are drawn out of the strands of old cables or other
ropes, and are knotted together and tarred. It is employed for several pur-
poses; particularly to fall ten one rope to another, to seize block-strips to
the throuds, and to serve ropes which are liable to be chafed by rubbing
one against another, &c.

SPURS of the beams, (barrotins d'écoultiles, Fr.) See the article DECK,
and the explanation of the figure annexed thereto.

SQUADRON, (escadre, Fr. squadrone, Ital.) either implies a detachment
of ships employed on any particular expedition, or the third part of a naval
armament. See the articles FLAG, CENTER, FLEET, and DIVISION.

SQUALL, (raffale, Fr.) a sudden and violent blast of wind, usually oc-
casioned by the interruption and reverberation of the wind from high moun-
tains. These are very frequent in the Mediterranean; particularly that
part of it which is known by the name of the Levant, as produced by the
repulsion, and new direction which the wind meets with in it's passage be-
tween the various islands of the Archipelago.

SQUARE, a term peculiarly appropriated to the yards and their fails,
implying that they hang at right angles with the mast or keel; or that they
are of greater extent than usual.

Thus, when the yards are fo balanced by their lifts, as to hang at right
angles with the mast, they are said to be square by the lifts: when they hang
perpendicular to the ship's length, they are called square by the braces: but
when they lie in a direction perpendicular to the plane of the keel, they are
square by the lifts and braces; or, in other words, they hang directly across
the ship, and parallel to the horizon.
The yards are said to be very square, when they are of extraordinary length; and the same epithet is then applied to theirfails, which by consequence acquire an additional breadth.

Square-rigged, an epithet applied to a ship whose yards are very long. It is also used in contradistinction to all vessels whose sails are extended by stays or lateen-yards; or by booms and gaffs; the usual situation of which is nearly in the plane of the keel; and hence,

Square-sail, (vane, Fr.) is a sail extended to a yard, which hangs parallel to the horizon, as distinguished from the other sails which are extended by booms and stays placed obliquely. This sail is only used in fair winds, or to fend under in a tempest. In the former case, it is furnished with a large additional part called the bonnet, which is then attached to its bottom, and removed when it is necessary to fend. See that article.

Staff, (baton, Fr.) a light pole erected in different parts of a ship, whereon to hoist and display the colours.

The principal of these is reared immediately over the stern, to display the ensign; another is fixed on the bow sprit, to extend the jack; three more are erected at the three main-heads, or formed by their upper ends, to show the flag or pendant of the respective squadron or division to which the ship is appropriated. See Ensign, Mast, Jack, and Pendant.

Stanchion, (batayollette, or batayelles, espantilles, Fr.) a sort of small pillar of wood or iron used for various purposes in a ship; as to support the decks, the quarter-rails, the nettings, the awnings, &c.

The first of these are two ranges of small columns, fixed under the beams, throughout the ship's length between-decks; one range being on the starboard, and the other on the larboard side of the hatchways. They are chiefly intended to support the weight of the artillery.

Stanchions of the nettings, are either slender bars of iron, whose lower ends are fixed in iron sockets at proper distances; or square wooden pillars let into the upper part of the ship's side. See Quarter-netting.

Standard, (courbe, Fr.) in ship-building, is no other than an inverted knee, which is placed above the deck instead of beneath it, and having its vertical branch pointed upwards from that which lies horizontally. The figure and position of one of these standards is expressed by the curve line $f$, which is dotted through the gun-carriage in the Midship-frame, plate VII. Such also are the standards of the bits and channels.

Royal Standard, (etendard royale, Fr.) a flag in which the imperial ensigns of Great Britain, and the arms of France and Ireland, together with the armorial bearings of Hanover, are united and quartered. It is never hoisted unless when the sovereign is personally aboard; at which time it is displayed at the main-top-mast-head.

Standing, in navigation, the movement by which a ship advances towards a certain object, or departs from it: as the enemy stands in-shore: the English fleet are standing off: at day-break we discovered three sail standing to the northward, &c.

Standing-water, (l'eau dormant, Fr.) water where there is no current or tide.
STARBOARD, (tribord, Fr.) the right side of the ship when the eye of the spectator is directed forward. See LARBOARD.

STAY, (eai, Fr.) a large strong rope employed to support the mast on the fore part, by extending from it's upper end towards the fore part of the ship, as the shrouds are extended to the right and left, and behind it. See MAST, RIGGING, and SHROUD.

The stay of the fore-mast, a, fig. 10. plate IX. which is called the fore-stay, reaches from the mast-head towards the bowsprit-end: the main-stay b, extends over the fore-castle to the ship's stem; and the mizen-stay, c, is stretched down to that part of the main-mast which lies immediately above the quarter-deck: the fore-top-mast-stay, d, comes also to the end of the bowsprit, a little beyond the fore-stay: the main-top-mast-stay, e, is attached to the head or bounds of the fore-mast; and the mizen top-mast-stay comes also to the bounds of the main-mast: the fore-top-gallant-stay comes to the outer end of the jib-boom; and the main-top-gallant-stay is extended to the head of the fore-top-mast.

STAY-SAIL, a sort of triangular sail extended upon a stay. See SAIL.

STEDI, the command given by the pilot, &c. to the helmsman, in a fair wind, to steer the ship according to the line on which she advances at that instant, without deviating to the right or left. The helmsman accordingly answers stedi; to shew his attention and obedience to the pilot's order.

STEERAGE, an apartment without the great cabin of a ship, from which it is separated by a thin partition. In large ships of war it is used as a hall through which it is necessary to pass, to arrive at, or depart from the great cabin. In merchant-ships it is generally the habitation of the inferior officers and ship's crew. See also BIRTH.

Steerage is also used to express the effort of the helm; and hence

Steerage-way, is that degree of progressive motion communicated to a ship, by which she becomes susceptible of the effects of the helm to govern her course. See Helm and Sailing.

STEERING, (gouverner, Fr. steeran, Sax.) may be defined the art of directing the ship's way by the movements of the helm; or of applying it's efforts to regulate her course when she advances.

The perfection of steering consists in a vigilant attention to the motion of the ship's head, so as to check every deviation from the line of her course in the first instant of it's motion; and in applying as little of the power of the helm as possible. By this she will run more uniformly in a straight path, as declining less to the right and left: whereas, if a greater effort of the helm is employed, it will produce a greater declination from the course, and not only increase the difficulty of steering, but also make a crooked and irregular track through the water. See Helm.

The helmsman should diligently watch the movements of the head by the land, clouds, moon, or stars; because although the course is in general regulated by the compasses, yet the vibrations of the needle are not so quickly perceived, as the fallies of the ship's head to the right or left, which, if not immediately restrained, will acquire additional velocity in every instant of their motion, and demand a more powerful impulse of the helm to reduce them.
the application of which will operate to turn her head as far on the contrary side of her course.

The phrases used in steering a ship vary according to the relation of the wind to her course. Thus, if the wind is *fair*, or *large*, the phrases used by the pilot, or officer who superintends the steerage, are *port*, *starboard*, and *fledgy*. The first is intended to direct the ship's course further to the right; the second is to guide her further to the left; and the last, as explained under that word, is designed to keep her exactly in the line, whereas she advances, according to the course prescribed. The excess of the first and second movement is called hard-a-port, and hard-a-starboard; the former of which gives her the greatest possible inclination to the right, and the latter an equal tendency to the left.

If, on the contrary, the wind is *foul* or *scant*, the phrases are *baff*, *thim*, and *no nearer*; the first of which is the order to keep her close to the wind; the second, to retain her in her present situation; and the third, to keep her fails full. The effects of these movements are further explained under the several terms; but more particularly under the article Full and By.

In a ship of war, the exercise of steering the ship is usually divided amongst a number of the most expert sailors, who attend the helm in their turns; and are accordingly called *timoners*, from the French term *timonier*, which signifies helmsman. The steerage is constantly supervised by the quarter-masters, who also attend the helm by rotation. In merchant-ships every seaman takes his turn in this service, being directed therein by the mate of the watch, or some other officer.

As the safety of a ship, and all contained therein, depend, in a great measure, on the steerage or effects of the helm, the apparatus by which it is managed should often be diligently examined by the proper officers. Indeed, a negligence in this important duty appears almost unpardonable, when the fatal effects which may result from it are duly considered.

**STEEVING**, the elevation of a ship's bowsprit above the stem, or the angle which it makes with the horizon.

**STEM**, (etrave, Fr. stammen, Swed.) a circular piece of timber, into which the two sides of a ship are united at the fore end: the lower end of it is scarfed to the keel, and the bowsprit rests upon it's upper end.

The stem is formed of one or two pieces, according to the size of the vessel; and as it terminates the ship forward, the ends of the wales and planks of the sides and bottom are let into a groove or channel, in the middle of it's surface, from the top to the bottom: which operation is called rabbeting. See that article.

The outer side of the stem is usually marked with a scale, or division of feet, according to it's perpendicular height from the keel. The intention of this, is to ascertain the draught of water at the fore part, when the ship is in preparation for a sea-voyage, &c.

The stem at it's lower end is of equal breadth and thickness with the keel, but it grows proportionally broader and thicker towards it's upper extremity. See Naval Architecture and Ship-Building.

**STEMSON**,
STEMSON, (marlouiu, Fr.) an arching piece of timber fixed within the
apron to reinforce the scarf thereof; in the same manner as the apron sup-
ports the scarf of the stern. In large ships it is usually formed of two
pieces, as represented by I. in plate I. PIECES OF THE HULL.

STEP, (earlingue, Fr.) a block of wood fixed on the decks or bottom
of a ship, and having a hole in its upper side fitted to receive the heel of a
mast or capstern.

The steps of the main and fore-masts of every ship rest upon the keelson,
as appears in fig. 2. and 3. plate VI. to which they are firmly secured by
knees, bolts, or spike-nails. The step of the mizen-mast usually rests upon
the lower deck. See also the article CAPSTERN.

STERN, (arcaffe, Fr. fleer, Sax.) the posterior face of a ship; or that
part which is presented to the view of a spectator, placed on the continu-
ation of the keel behind, as exhibited in plate X. fig. 1, 2, and 3; and in
plate XI. fig. 1.

The stern, as represented in plate X. is terminated above by the taffarel,
and below by the counters: It is limited on the sides by the quarter-pieces;
and the intermediate space comprehends the galleries and windows of the
different cabins.

EXPLANATION of fig. 18, plate X. which exhibits the Stern of
a seventy-four gun-ship.

A, the keel, with a the false keel beneath it.
A B, the stern-post.
C, the rail which determines the height of the counters.
D D, the upper and lower quarter-galleries, with their ballustrades and
windows.
E, the quarter-pieces: and P F P, the taffarel.
K G K, the lower counter, with H H, its gun-ports.
G, the rail which separates the lower counter from the second or upper
counter; which last is included between G and C.
K K, the wing-transom.
L L, the deck-transom.
M, N, O, first, second, and third transoms; the 4th, 5th, and 6th, tran-
soms are placed immediately under these: and that which lies between the
wing and deck-transoms, is called the filling-transom.
O M L K P, the direction of the fashion-piece, whose upper part is ex-
pressed by the dotted lines K P.
Q, the cove, a sort of arched canopy, serving as a roof to the stern-
gallery.
R Q R, the screen bulk-head, or partition, containing the cabin win-
dows.
R S S R, the ballustrade of the stern-gallery, with S S, the foot-pace-
rail, which determines the height of its floor, or platform.
S C S, the ward-room windows.
T, the lower finishing of the quarter-gallery.

Fig.
Fig. 2. exhibits a stern view of a 60 gun-ship, with the curve of the frame-timbers on one side, and the disposition of all the planks of the bottom on the other side.

Fig. 3. represents a stern view of a French man of war of 70 guns.

Plate XI. fig. 1. is a stern for a first or second rate: accordingly it is furnished with a middle apartment between the ward-room and the captain's cabin. This apartment is also furnished with galleries on the stern and quarter. The other parts of it are described in the explanation of fig. 1. in plate X. See also the article Quarter.

Stern-fast, a rope used to confine the stern of a ship or boat to any wharf or jetty-head, &c.

Sternmost, usually implies that part of a fleet of ships which is in the rear, or furthest atern, as opposed to headmost.

Stern-post, (etambot, Fr.) a long straight piece of timber erected on the extremity of the keel, to sustain the rudder, and terminate the ship behind. This piece, which is expressed by B in the Pieces of the Hull, plate I. ought to be well secured and supported; because the ends of all the lower planks of the ship's bottom are fixed in a channel, cut on it's surface; and the whole weight of the rudder is sustained by it.

The dimensions of the stern-post, or the proportional breadth and thickness, in the different parts of it's height, are geometrically delineated in the quarter and stern of a 74 gun-ship, plate VIII. and X. being expressed in both by A B. It is usually marked like the stem, with a scale of feet from the keel upwards, in order to ascertain the draught of water, at that part of the vessel.

The difficulty of procuring a stern-post of sufficient breadth in one piece, has introduced the practice of fixing an additional piece behind it, which is strongly bolted to the former. The hinges, which support the rudder, are accordingly fixed to this latter, which is also tenanted into the keel, and denominated the back of the post, being expressed by E in the pieces of the hull, referred to above. It is half the breadth of the stern post at the heel, but diminishes gradually towards the upper end, where it is one third narrower.

The stern-post is strongly attached to the keel by a knee, G, Pieces of the Hull, of which one branch extends along the keel, being scarf'd and bolted to the dead-wood, and fore-locked under the keel; whilst the other branch inclines upwards, and corresponds with the infide, or fore part of the stern-post; to which it is also bolted in the same manner.

Stern-sheets, that part of a boat which is contained between the stern and the aftmost, or hindmost, seat of the rowers. It is generally furnished with benches to accommodate the passengers. See the article Boat.

Stern-way, the movement by which a ship retreats, or falls backward, with her stern foremost.

Steward, (maître-valet, Fr.) an officer in a ship of war, appointed by the purser, to distribute the different species of provisions to the officers and crew; for which purpose he is furnished with a mate and proper assistants.
STIFF, the quality by which a ship is enabled to carry a sufficient quantity of sail, without hazard of oversetting. See the articles BALLAST and TRIM.

STINK-POT, (pot à feu, Fr.) an earthen jar, or shell, charged with powder, grenades, and other materials of an offensive and suffocating smell. It is frequently used by privateers, in the western ocean, in the attack of an enemy, whom he designs to board; for which purpose it is furnished with a lighted fuse, at the opening or touch-hole. See BOARDING.

STIRRUPS. See the article Horse.

STOCKS, (chauffiers, Fr.) a frame erected on the shore of a river, or harbour, wherein to build shipping. It generally consists of a number of wooden blocks, ranged parallel to each other, at convenient distances, and with a gradual declivity towards the water. See LANCING.

STOPPERS, (basses, Fr.) certain short pieces of rope, which are usually knotted at one, or both ends, according to the purpose for which they are calculated. They are either used to suspend any weighty body, or to retain a cable, braid, &c. in a fixed position.

Thus, the anchors, when first hoisted up from the ground, are hung to the car-head, by a stopper attached to the latter, which, passing through the anchor-ring, is afterwards fastened to the timber head, $n$, fig. 10. plate IV. and the same rope serves to fasten it on the boat at sea; or to suspend it by the ring, when it is to be funk from the ship to the bottom.

The stoppers of the cables have a large knot, and a laniard at one end, and are fastened to a ring-bolt in the deck, by the other. They are attached to the cable, by the laniard, which is fastened securely round both by several turns passed behind the knot, or about the neck of the stopper; by which means the cable is restrained from running out of the ship, when the rides at anchor. See also Bits and Ring-rope.

The stoppers of the shrouds have a knot and a laniard at each end. They are used only when the shrouds are cut asunder in battle, or disabled by tempestuous weather; at which time they are lashed, in the same manner as those of the cables, to the separated parts of the shroud, which are thereby reunited, so as to be fit for immediate service. This, however, is only a temporary expedient, applied when there is not time or opportunity to refit them, by a more complete operation.

STORE-KEEPER. (garde-magasin, Fr. an officer in the royal docks, invested with the charge of the principal naval stores; as the sails, anchors, cordage, &c.

STORE-ROOM, (foule, Fr.) an apartment, or place of reserve, of which there are several in a ship, to contain the provisions, or stores of a ship, together with those of her officers, during a sea-voyage.

STOWAGE, (arrimage, Fr.) the general disposition of the several materials contained in a ship's hold, with regard to their figure, magnitude, or solidity.

In the stowage of different articles, as ballast, casks, cafes, bales, and boxes, there are several general rules to be observed, according to the circumstances or qualities of those materials. The casks, which contain any liquid, are, ac-
cording to the sea phrase, to be *bung up* and *lifee free*, i.e. closely wedged up, in an horizontal position, and reeling on their quarters; so that the bilges, where they are thickest, being entirely free all round, cannot rub against each other, by the motion of the vessel. Dry goods, or such as may be damaged by the water, are to be carefully inclosed in casks, bales, cases, or wrappers; and wedged off from the bottom and sides of the ship, as well as from the bows, masts, and pump-well. Due attention must likewise be had to their disposition, with regard to each other, and to the trim and center of gravity of the ship; so that the heaviest may always be nearest the keel, and the lightest gradually above them. See *Ballast*, *Trim*, and *Rolling*.

STRAIT, (*croire*, Fr.) a narrow channel, or arm of the sea, contained between two opposite shores; as the straits of Gibraltar; the straits of Sunda; the straits of Dover, &c.

STRAKES, or STREAKS, the uniform ranges of planks on the bottom and sides of a ship; or the continuation of planks joined to the end of each other, and reaching from the *stem*, which limits the vessel forward, to the *stern-post*, and fashion *pieces*, which terminate her length abaft. The lowest of these, which is called the *garboard-streak*, is let into the keel below, and into the stem and stern-post. See those articles.

STRAND, (*touron*, Fr.) one of the twirls, or divisions, of which a rope is composed. See the articles *Rope* and *Cable*.

STRAND also implies the sea-beach; hence a ship is said to be stranded when she has run aground on the sea-shore.

STRETCHER, (*bannet*, Fr.) a sort of staff fixed athwart the bottom of a boat, for the rower to place his feet against, in order to communicate a greater effort to his oar.

STRETCHING, *in navigation*, is generally understood to imply the progression of a ship under a great surface of sail, when *close-hauled*. The difference between this phrase and *standing*, is apparently in the quantity of sail, which, in the latter, may be very moderate, but in stretching, generally signifies excess: as, we saw the enemy at day-break stretching to theouthward, under a crowd of sail, &c.

To STRIKE, *in navigation*, to run ashore, or to beat upon the ground in passing over a bank or shallow.

To STRIKE also implies to lower or let down any thing; as an ensign, or topsail, in saluting; or, as the yards and topmasts in tempestuous weather. It is, however, more particularly used to express the lowering of the colours, in token of surrender, to a victorious enemy.

STRIKING, *in ship-building*, the highest range of planks in a ship's ceiling; or that which lies between the *gunnel*, and the upper edge of the upper deck-ports, as expressed by T in the *Midship-Frame*, plate VII.

To STRIP the masts, (*defumer*, Fr.) is to unrig a ship, or deprive the masts of their machinery and furniture; an exercise which is otherwise called dismantling.

STROKE, a single sweep of the oars in rowing. Hence they say, Row a long stroke! (*longue rime!* Fr.) which is intended to push the vessel forward more
more steadily. See the article Oar; as also the French term Nager, and the phrases following it.

STROKESMAN, the person who rows the hindmost oar in a boat, and gives the stroke, which the rest are to follow; so that all the oars may operate together.

STROP, (entrope, Fr.) a piece of rope spliced into a circular wreath, and used to surround the body of a block; so that the latter may be hung to any particular station about the masts, yards, or rigging. Thus, fig. 37. and 38. in plate II. represent two block-strops of different sorts. See Block and Eye.

Strops are also used occasionally to fasten upon any large rope, for the purpose of hooking a tackle to the eye, or double part of the strop; in order to extend, or pull with redoubled effort, upon the same rope; as in setting-up the rigging, where one hook of the tackle is fixed in a strop applied to the particular foremast, and the other to its lanyard. See the article Lanyard.

STUDDING-SAILS, (bonettes en etui, Fr.) certain light sails extended, in moderate and steady breezes, beyond the skirts of the principal sails, where they appear as wings upon the yard-arms.

The word may be traced from several derivations; as from feud, stead, or steady. The small sails used by sloops, schooners, and tartanes, when scudding, are nearly of the same size or figure with the lower scudding-sails; and the accidental application of the former, to the usual design of the latter, throws a probability on the derivation from feud; especially as being used in the small vessels of our ancestors, who were unacquainted with topmasts; and, of course, had no conception of topmast-scudding-sails. An ingenious friend of the author, seems, with great propriety, to derive it from steady; because, when the wind is extremely feeble, the fluctuation of the sea, although almost imperceptible, is communicated to the ship, and thence to the principal sails; which, being shaken and flapped against the masts, will, by their weight, prevent, or at least considerably diminish, the operation of the wind. The scudding-sails, on the contrary, being of a much lighter and thinner texture, more readily feel the effort of the breeze, and continue inflated, so as to push the ship forward, and give her head-way. By this circumstance, she becomes susceptible of the power of the helm, and is accordingly retained in a steady course; and hence those sails may originally have been called steadying-sails, afterwards corrupted into scudding-sails. The latter conjecture, which seems equally favourable, is drawn from the Saxon word Bed, to help or assist; in which sense, those sails may be considered as auxiliar, being let occasionally to help the others, or assist the ship's course; and thence called steadying, or steadying-sails. But the expression of steering-sails, however adopted by many officers, is a more contemptible conceit, without either authority or reason to support it. The others are implicitly submitted to the reader's decision.

The topmast scudding-sails, or those which are let on the out side of the top-fails, are spread below by a boom, which, flowing out from the extremities of the main and fore-yard, as explained in the article Spanker, pushes out their lower corners; and their upper edges, which are attached
to a light pole, are hoisted up to the topsail-yard-arms. See also Boom-iron, in the article Iron-work.

The lower fuddling-sails, which are spread beyond the skirts or leech of the main-sail and fore-sail, are fixed nearly in the same manner; only that the boom, which extends their bottoms, is generally hooked to the chains by means of a goose-neck; or else swings off along with the sail, to which it is suspended; being kept steady behind by a rope called the guy.

STUFF, (courée, Fr.) any composition, or melted mass, used to smear or daub the masts, sides, or bottom of a ship. That which is chiefly used for the lower masts is simply turpentine, resin, or varnish of pine: for the topmasts, tallow or butter: for the sides, turpentine, varnish of pine, tar and oil, or tar mixed with oil and red ocher: and for the bottom, a mixture of tallow, sulphur, and resin, or tar: whale-oil and broken glass; or any part of these ingredients: and this application is called giving a new coat of stuff to the masts, sides, &c.

SUPERCARGO, an officer charged with the accounts of the cargo, and all other commercial affairs in a merchant-ship.

SUPPLY, a fresh recruit of provifions or stores sent to a ship or fleet.

SURF, the swell of the sea which breaks upon the shore, or any rock lying near the surface of the sea.

SURGE, the fame as a wave; which see.

SURVEY, an examination made by several naval officers into the state or condition of the provifions, or stores, belonging to a ship, or fleet of men of war.

SURVEYORS of the navy, two officers, who sit at the navy-board, being invested with the charge of building and repairing his Majesty's ships, at the different dock-yards of the kingdom: for which purpose they are trained to the theory and practice of ship-building. It is also their office to know the state of the navy; to audit the accounts of all boat-swains and carpenters serving therein; and to enquire into the condition of all naval stores, at home or abroad, in order to supply whatsoever may be deficient.

SWAB, (fauber, Fr. swabb, Swed.) a sort of mop formed of a large bunch of old rope-yarns, and used to clean the decks and cabins of a ship: hence the perfon who uses it is called the swabber.

SWABBER, (balayeur d'une navire, Fr.) ship's sweeper, usually called captain's swabber.

SWEEPER of the sky, (balai du ciel, Fr.) a name given by sailors to the N. W. winds of America.

SWEEPING, (draguer, Fr.) the act of dragging the bight, or loose part of a small rope, along the surface of the ground, in a harbour, or road, in order to hook and recover some anchor, wreck, or other material, sunk at the bottom. It is performed by fastening the two ends of this rope to the sides of two boats which are abreast of each other, at some distance. To the middle of the rope are suspended two cannon-shot, or something which weighs heavy, in order to sink it to the ground: so that, as the boats advance by rowing ahead, the rope drags along the bottom, to hook any anchor, &c. for which they are searching.

SWELL,
SWELL, (enflement, Fr.) generally denotes an heavy and continued agita-
tion of the waves, according to a particular direction: as there is a great
swell setting into the bay. It is, however, more particularly applied to
the fluctuating motion of the sea, which remains after the expiration of a
storm: as also, to that which breaks on the sea-shore; or upon rocks, or
shallows.

SWIFTER, a rope used to confine the bars of the capstern in their
sockets, whilst the men are heaving it about; for which purpose it is passed
through holes in the extremities of the bars, so as to strain them firmly to-
gether like the spokes of a wheel; which is accordingly called swifiting.
See the article CAPSTERN.

SWIFTER is also a strong rope, sometimes used to encircle a boat longitu-
dinally, as well to strengthen and defend her sides, as to enable her the
better to resist the impression of other boats which may run against her occa-
sonally. It is usually fixed about a foot under the boat's upper edge, or
gunnel.

SWIFTERS are likewise two shrouds fixed on the starboard and larboard
side of the lower masts, above all the other shrouds, as an additional secu-
ritv to the masts. The hoisters are never confined, like the other shrouds,
by Catharpings. See that article.

To SWING, to turn round the anchors, or moorings, at the change of the
wind, or tide: it is usually expressed of a ship, either when she is moored by
the head, or riding at a single anchor.
TABLING, (bander, Fr.) a sort of broad hem formed on the skirts and bottoms of a ship's sails, to strengthen them in that part which is attached to the bolt-ropes.

TACK, (courbe, Fr.) a rope used to confine the foremost lower-corners of the courses and stay-fails in a fixed position, when the wind crosses the ship's course obliquely. The same name is also given to the rope employed to pull out the lower corner of a flying-sail or driver to the extremity of its boom.

The main-sail and fore-sail of a ship are furnished with a tack on each side, which is formed of a thick rope tapering to the end, and having a knot wrought upon the largest end, by which it is firmly retained in the clue of the fail. By this means one tack is always fastened to windward, at the same time that the sheet extends the fail to leeward. See Chestree.

Tack is also applied, by analogy, to that part of any sail to which the tack is usually fastened.

A ship is said to be on the starboard or larboard tack, when she is close-hauled, with the wind upon the starboard or larboard side; and in this sense, the distance which she sails in that position is considered as the length of the tack; although this is more frequently called a Board. See that article.

To Tack (virer vent devant, Fr.) to change the course from one board to another, or turn the ship about from the starboard to the larboard tack, in a contrary wind. Thus the ship A, fig. 2, plate XI. being close-hauled on the larboard tack, and turning her prow suddenly to windward, receives the impression of the wind on her head-sails a, by which she falls off upon the line of the starboard tack a. Tacking is also used, in a more enlarged sense, to imply that manœuvre, in navigation, by which a ship makes an oblique progression to the windward, in a zigzag direction. This, however, is more usually called beating or turning to windward. See Beating and Turning.

Thus, suppose a ship A, fig. 2, plate XI. bound to a port B lying to windward, with the wind northerly, as expressed by the arrow. The sails a, b, c, being braced obliquely with the keel, the wind also falls upon their surfaces in an oblique direction, by which the ship is pushed to leeward, as explained in the article Lee-way. Hence, although she apparently sails W. N. W. upon the larboard tack, as expressed in the dotted line A d, and E. N. E. upon the other d s, yet if the lee-way is only one point, (and indeed it is seldom
TAC

TAC

dom less in the smoothest water), the course will accordingly be W. by N. upon one tack, and E. by N. upon the other, as represented by the lines $\Lambda e$, and $eg$.

If the port $A$ were directly to windward of the ship, it is evident that both tacks ought to be of equal length; or, in other words, that the ship to run the same distance upon each tack: but as the place of her destination lies obliquely to windward, she must run a greater distance upon one tack than the other; because the extremities of both boards should be equally distant from the line of her true course $BA$; so the larboard tack $\Lambda e$, crossing the course more obliquely than the other $eg$, will necessarily be much longer.

As the true course, or the direct distance from $B$ to $A$, is only 12 leagues, it is evident, that with a favourable wind she could reach it in a few hours. On the contrary, her distance is considerably increased by the length of her boards, in a contrary wind; which, by it's obliquity with her fails, operates also to retard her velocity. Thus her first board $\Lambda e$, on a W. by N. course, is equal to 5. 7 leagues. The second tack $eg$, is 9. 2 leagues E. by N.; the third tack, parallel to $\Lambda e$, is 11. 5: the fourth, parallel to $eg$, is 9. 2: and the fifth, parallel to the first, 11. 7 leagues. Finally, the sixth board is 4. 8 leagues parallel to the second, which brings her to the port $B$. By this scheme it appears that she has run more than four times the extent of the line $AB$, her primitive distance; and this in the most favourable circumstances of a contrary wind, viz. when the sea is smooth, and when she may carry her full topsails. For if the wind blows stronger, to render it necessary to reef the topsails, she will soon make two points of lee-way, and accordingly run east on one board, and west on the other. In this situation she will neither approach nor recede from the place of her destination: but if the wind increases, the sea will also be enlarged; a circumstance that still further augments the lee-way. Hence the vessel will gradually fall off from the port, in proportion to the augmentation of the wind and sea, which occasions a proportional increase of lee-way.

In order to explain the theory of tacking a ship, it may be necessary to premise a known axiom in natural philosophy, 'That every body will persever in a state of rest, or of moving uniformly in a right line, unless it be compelled to change it's state by forces impressed; and that the change of motion is proportional to the moving force impressed, and is made according to the right line in which that force is exerted.'

By this principle it is easy to conceive how a ship is compelled to turn into any direction, by the force of the wind acting upon her fails, in horizontal lines. For the fails may be so arranged as to receive the current of air, either directly, or more or less obliquely: hence the motion communicated to the fails must of necessity conspire with that of the wind upon their surfaces. To make the ship tack, or turn round with her head to the windward, it is therefore necessary, after she has received the first impression from the being, that the head-fails should be so disposed as to diminish the effort of the wind, in the first instant of her motion, and that the whole force of the wind should be exerted on the after-fails, which, operating on the ship's stern, carries it round like a weather-
weather-ock. But since the action of the after-fails, to turn the ship, will unavoidably cease when her head points to the windward, it then becomes necessary to use the head-fails, to prevent her from falling-off, and returning to her former situation. These are accordingly laid aback on the lee-side, to push the vessel's fore-part towards the opposite side, till she has fallen into the line of her course thereon, and fixed her fails to conform with that situation.

It has been observed above, that the first effort to turn the ship in tacking is communicated by the helm, which is then put to the lee-side. This circumstance being announced by the pilot, or commanding-officer, who then calls out, Helm's a-lee! the head-fails are immediately made to shiver in the wind, by casting loose their sheets or bowlines. The pilot then calls, Up tacks and sheets! which is executed by loosening all the ropes which confine the corners of the lower fails, in order that they may be more readily shifted to the other side. When the ship has turned her head directly to windward, as in fig. 2, plate XI. the pilot gives the order to turn about the fails on the main and mizen-masts, by the exclamation, Haul main-fail, haul! the bowlines and braces are then instantly cast off on one side, and as expeditiously drawn in on the other side, so as to wheel the yards about their masts: the lower corner of the main-fail is, by means of it's tack, pulled down to it's station at the cheslree; and all the after-fails are, at the same time, adjusted to stand upon the other board. Finally, when the ship has fallen off five or six points, as b, fig. 2, plate XI. the pilot cries, Haul of all! or, Let go, and haul! then the fails on the fore-mast are wheeled about by their braces: and as the ship has then a tendency to fall-off, she is checked by the effort of the helm, which for that purpose is put hard a-lee. The fore-tack, or the lower corner of the fore-fail, being fixed in it's place, the bowlines are hauled, and the other fails, which have been neglected in the hurry of tacking, are properly arranged to the wind; which exercise is called trimming the fails. See Leeway and Sailing.

TACcLE, (pâlen, Fr.) pronounced tiecle, a machine formed by the communication of a rope with an assemblage of blocks, and known in mechanics by the name of pulley.

Tackles are used in a ship to raise, remove, or secure weighty bodies; to support the masts; or to extend the fails and rigging. They are either moveable, as communicating with a runner; or fixed, as being hooked in an immoveable station; and they are more or less complicated, in proportion to the effects which they are intended to produce.

If a b d e, fig. 3, plate XI. be a single block, upon which are suspended the weights f g, then since the nearest distance of the ropes f g, from the center of motion c, and a c equal to d e, the block will be reduced to the lever or balance a d with respect to it's power: Since a c is then equal to d e, it is apparent that f g will always be in equilibrium. As no advantage therefore can be acquired, in raising a weight by an immoveable single block, it is only rendered useful by changing the direction of the moving power. This circumstance is extremely convenient to the labourers, and often absolutely necessary, particularly in raising bodies to a higher station; as from the hold to the upper decks, or from the deck to the masts or yards, &c. which would
would otherwise be difficult or impracticable to perform. See also the articles Block and Whip.

When a single block is moveable along with the body to which it is attached, fig. 4, plate XI. as the blocks of the brace-pendents, reef-tackle, pendents, jigger, &c. the momentum of the power is doubled; because it moves twice as fast as the weight, or body to which it is attached. For in the same time that any part of the rope $f$, moves upward from $f$ to $g$, equal in length to the two equal ropes $d$ and $e$, the block, and consequently the weight annexed, will be drawn through the space $e\,b$, whole length is equal to one of the ropes only.

When a tackle consists of two or more fixed and moveable blocks, wherein one rope communicates with the whole: if one end of the rope be fixed, as in fig. 5, 6, and 7, in order to proportion the weight to the resistance, the power applied must be to the weight, as one, to twice the number of sheaves in the moveable blocks: because, in the efforts of a tackle, the velocity of the moving power is, to the velocity of the rising or moving body, as twice the number of moveable sheaves to unity, as appears in fig. 5, which consists of one fixed block $a$, and another moveable as $e$. For since one rope operates on all the sheaves from $g$ to $f$, the part at $f$, lying beyond the fixed block, and called the fall, cannot be drawn down and lengthened, unless the two parts $d$ and $e$, on each side of the moveable block, be at the same time equally drawn up and shortened. Hence it is evident, that the part $a\,f$ will be lengthened twice as much as either $d$ or $e$ is shortened, because whatever is taken from each of those parts is added to the length of $a\,f$; but the point $f$, to which the power is applied, descends as fast as $a\,f$ is lengthened; and the point $e$, to which the weight is fastened, ascends as fast as $d$ or $e$ is shortened. If therefore, a weight suspended at $f$, be to a weight suspended at $e$, as one to two, they will balance each other, as being in the reciprocal ratio of their velocities.

Whatever has been observed with regard to the tackles above mentioned, is equally applicable to all others, and is in the same manner demonstrable, viz. that the velocity with which the mechanical force moves, in raising a weight, is to the velocity wherewith the weight rises, as twice the number of moveable sheaves to unity.

A tackle wherein both the blocks are moveable, and communicate with a runner, is represented by fig. 10, plate VIII. That part of the tackle which is fixed to one of the blocks, &c. is called the standing part; all the rest are called running parts; and that wherein the men pull when employing the tackle, is called the fall. The application of the tackle to mechanical purposes is termed hawling or hawking. See those articles.

Ground Tackle. See Ground Tackle.

Tack-tackle, a small tackle used occasionally to pull down the tack of the principal fail of a ship to their respective stations. There is also a tackle of this kind constantly fixed to the tacks of the main-fail in brigs, sloops, and jib-boomers, for the same purpose. See the French term Palan, and the phrases annexed thereto.
Winding Tackle, (calicorne, Fr.) a tackle formed by a rope passing through two three-fold blocks.

Taffarel, (couvrement, Fr.) the upper part of a ship's stern, being a curved piece of wood, expressed by F F, in fig. 1. plate X. and usually ornamented with sculpture.

Tail, a name given by sailors to the extremities of a hurricane, where-in the violence is considerably exhausted.

Tail-block, a small single block, having a short piece of rope attached to it, by which it may be fastened to any object at pleasure; either for convenience, or to increase the force applied to the said object, as explained in the first part of the article tackle.

Taking-in, the act of brailing-up and furling the sails at sea, particularly when the wind increases. It is generally used in opposition to setting. See also Furl and Shorten.

Tallying, (border, Fr.) a phrase used by the common sailors, implying the act of pulling aft the sheets, or lower corners of the main-sail and fore-sail.

Tar, a sort of liquid gum of a blackish hue, which distils from pines or fir-trees, either naturally or by incision; and being prepared by boiling, is used to pay the sides of ships and boats, and their rigging, in order to preserve them from the effects of the weather, by which they would otherwise soon become cracked, split, or rotten.

Tar is also a figurative expression for a sailor of any kind.

Tar-pawling, (prélar, Fr.) a broad piece of canvas well daubed with tar, and used to cover the hatchways of a ship at sea, to prevent the penetration of the rain, or sea-water, which may occasionally rush over the decks. See Battens.

Tartan, (tartana, Ital.) a small coasting vessel navigated in the Mediterranean sea, and having only one mast and a bowprit, the principal sail, which is extremely large, being extended by a lateen yard. See Vessel.

Taught, (voile, Fr. dicht, Dutch) the state of being extended or stretched out. It is usually applied to a rope or sail, in opposition to flack.

Taunt, (foit, Fr.) an epithet used in the sea-language, to signify high or tall. It is peculiarly expressed of the masts when they are of an extraordinary length, as square is applied to the yards on the same occasion.

Tender, (patache, Fr.) a small vessel employed in the King’s service, on various occasions; as, to receive volunteers and pressed men, and convey them to a distant place; to attend on ships of war or squadrons; and to carry intelligence or orders from one place to another, &c.

Tending, the movement by which a ship turns or swings round her anchor in a tide-way, at the beginning of the flood or ebb. Thus, if the flood sets northward, it is evident that the ship, unless when moored head and stern, will fall into the line of the current, turning her head to the southward. But as the reflux will for the same reason set to the southward, the ship will of necessity turn about at the change of the tide, and carry her head to the northward; and the transition from one situation to the other is called tending or swinging.

Tenon,
TENON, the end of a piece of timber cut smaller to enter into a mortise.

THICK-STUFF. See the articles Ship-building and Midship-frame.

THIMBLE, (cafe, Fr.) a sort of iron ring, whose outer surface is hollowed throughout it's whole circumference, in order to contain, in the channel or cavity, a rope which is spliced about it, and by which it may be hung in any particular station. See plate XII. fig. 1. It is used to guide the direction of some running rope, which passes through it, from one place to another. See SPAN.

THOLES, (tbolet, Fr.) certain small pins driven perpendicularly into the upper edge of a boat, as expressed by t, fig. 1. plate III. In the exercise of rowing, the oar is contained between the two tholes, in the space which is called the row lock. Sometimes there is only one pin to each oar, as in the boats navigated on the Mediterranean sea. In that case the oar is hung upon the pin by means of a drop; and indeed this method is much more ancient than the former. See the article Rowing.

THROAT, a name given to the inner end of a gaff, or to that part which is next to the mast. It is opposed to peek, which implies the outer extremity of the said gaff, or that part of it which extends the fail behind. Hence the ropes employed to hoist up, and lower a gaff, being applied to those parts of it, are called the throat and peek haliards. See Haliards.

THUNDERING-BARRELS, (bariques à feu, or foulbroyantes, Fr.) casks which contain the fire-pots in a fire-ship.

THUS! the order by which the pilot directs the helmsman to keep the ship in her present situation when failing with a seaent wind; so that the may not approach too near the direction of the wind, and thereby suffer her sails, nor fall to leeward, and run further out of her course. See Steering.

THWART, (banc, Fr.) the seat or bench of a boat whereon the rowers fit to manage the oars.

THWART-SHIPS, across the ship. See the article Athwart.

TIDE, (mairie, Fr. tyd, Sax.) a regular periodical current of the water, setting alternately in a flux and reflux, produced by the influence of the moon.

If the ocean were equally deep in every place, the ebbing and flowing of the tide would be uniformly regular and equal; but the shallowness of the water in many places, and the heightness of the channels, by which the tides may be considerably interrupted in some parts, and propagated in others, occasion a great diversity in their force and quantity. Hence, without an exact knowledge of all the circumstances of the several places where they happen to run, as of the position of the land, the breadth and depth of channels, it is impossible to account for this diversity.

The theory of the tides is concisely described by a great author, in these words: "That motion of the water called tides is a rising and falling of the sea: the cause of this is the attraction of the moon, whereby the part of water in the great ocean which is nearest the moon, being most strongly attracted, is raised higher than the rest; and the part opposite to it being least attracted, is also higher than the rest; and these two opposite elevations of the surface of the water in the great ocean, following the motion of the moon from east to west, and striking against the large coasts of the con-

continents,
tments, from thence rebounds back again, and so makes floods and ebbs in narrows, seas, and rivers." Locke.

Irregular Tides, (Débuche.)

With regard to the relative force of the tide on a ship floating therein, it is already explained in the article Current.

TIER, (batterie, Fr.) a name given to the range of cannon mounted on one side of a ship's deck. See the articles Deck and Cannon.

TIER of the cable, is a range of the fakes or windings of the cable, which are laid within one another in an horizontal position, so as that the last becomes the innermost. See Coiling.

Cable-Tier is the hollow space in the middle of a cable, when it is coiled.

TIGHT, (diket, Dutch) the quality whereby a vessel resists the penetration of any fluid, whether compressing it's surface, or contained within it. Hence a ship is said to be tight, when her planks are so compact and solid as to prevent the entrance of the water in which she is immered: and a cask is called tight, when the staves are so close that none of the liquid contained therein can issue through or between them. In both senses it is opposed to leaky, which see.

TILLER, (timon, or barre de gouvernail, Fr.) the bar or lever employed to turn the rudder in steering. See the article Helm.

TILT, (tendelet, Fr. tyld, Sax.) a small canopy or awning of canvas, or other cloth, extended over the stern-sheets of a boat, and supported by small pillars, or broad laths of flexible wood incurvated into arches. It is used to cover the passengers from the rain or sunshine. See Boat.

TIMBERS, (couples, Fr.) the ribs of a ship, or the incurvated pieces of wood, branching outward from the keel in a vertical direction, so as to give strength, figure, and solidity to the whole fabric.

It has been observed in the article Naval Architecture, that one timber is composed of several pieces united into one frame, which is accordingly called a frame of timbers by the artificers. These different pieces are exhibited in plate I. Pieces of the Hull, by U, V, and W. The head of the lower piece, called the floor-timber, being cut square, to join the heel of the next above it. To support the connection of the timber in that place, another assemblage of pieces are formed, and joined in the same manner; so that when both the lets are fastened together, the joinings in one set will be nearly opposite to the middle of the pieces in the other. Hence it is evident, that the mould which serves for the lowest piece will conform to the under part of the corresponding piece above it: and thus the mould, appropriated to every division of a timber, will determine, or answer to the figure of the next adjoining thereto.

The timbers, whole areas or planes are perpendicular to the keel, are called square timbers; and those which are placed obliquely on the keel, as at the extremities of a ship, are called cant-timbers. The foremost of those pieces on the ship's box, are called the knuckle-timbers; and the hindmolt on the quarter are called the fathion-pieces.

The outlines, or bends of the principal timbers of the ship, are geometrically delineated in the plane of projection, plate I. as also in plate IV.
TIM TO P

fig. 11. and plate X. fig. 2.: and their particular stations in the ship's length are represented in the horizontal plane, and that of the elevation, plate I. In order to give a more comprehensive idea of their figures and dimensions, we have exhibited a perspective view of the carcase of a small vessel, in plate XII. fig. 2. confining only of the keel A, the stern-post B, the stem C, the transforms K L M, and the ribbands F F.

Timber and room, or room and space, is the distance betwixt the moulding edges of two adjoining timbers, which must always contain the breadth of two timbers; and sometimes two or three inches between them. It must be observed, that one mould serves for two timbers; the fore side of the one being supposed to unite with the after side of the other, and so make only one line; which is actually the case in all the frames, which in some ships are every third, and in others every fourth timber. The frames are first put up, and fastened to the ribbands, and afterwards the others are put up, which are called fitting timbers. Murray's ship-building.

Timoneer, (timonier, Fr.) the helmsman, or person who manages the helm to direct the ship's course. See the article Steering.

In a ship of war the quarter-masters and timoneers are usually chosen by the master, to run and steer the ship; as also, to draw the provisions in the hold, coil the cables, regulate the watch, &c. See Quarter-master.

Together! (accord, Fr.) the order given to the men in the exercises of heaving, rowing, hoisting, &c. to act all in concert, or at the same instant.

Toggel, (cabillot, Fr.) a small wooden pin, about five or six inches in length, and usually tapering from the middle towards the extremities. It is used to fix transversely in the lower part of a tackle, in which it serves as an hook whereby to attach the tackle to a strop, slings, or any body whereon the effort of the tackle is to be employed.

There are also toggels of another kind, employed to fasten the top-gallant sheets to the span, which is knotted round the cap at the top-mast-head. For as the lifts of the top-sail-yard are out of use when the top-sail is hoisted, they are always converted into top-gallant-sheets, to render the rigging at the mast-heads as light and simple as possible. Before the top-sail-yards can be lowered so as to be sustained by their lifts, it therefore becomes necessary to transfer that part of the lift to the top-mast-head, that so the whole weight of the yard may be sustained by it's mast-head, and no part thereof by the top-gallant-yard, which would otherwise be the case. This is performed by fixing the double part, or bight of the lift, within the eye of the span above mentioned, and inverting the toggel through the former, so as to confine it to the latter, which operation is amongst sailors called putting the sheets in the becket.

Tompion, (tampon, Fr.) a sort of hung or cork used to stop the mouth of a cannon. At sea this is carefully encircled with tallow or putty, to prevent the penetration of the water into the bore, whereby the powder contained in the chamber might be damaged or rendered incapable of service.

Tonnage. See the article Burthen.

Top, (banc, Fr.) a sort of platform, surrounding the lower mast-head, from which it projects on all sides like a scaffold.
The principal intention of the top is to extend the top-mast-shrouds, so as to form a greater angle with the masts, and thereby give additional support to the latter. It is sustained by certain timbers fixed across the beams or shoulders of the mast, and called the trestle-trees and crosstrees, the former of which are expressed by k, fig. 1. plate VI. and the latter by l, l, fig. 2. The plan of the top is represented in fig. 6. where g g represents the holes through which the top-mast shrouds communicate with those of the lower-mast, as explained in the article Shroud.

Besides the use above mentioned, the top is otherwise extremely convenient to contain the materials necessary for extending the small sails, and for fixing or repairing the rigging and machinery, with more facility and expedition. In ships of war it is used as a kind of redoubt, and is accordingly fortified for attack or defence, being furnished with swivels, musketry, and other fire-arms; and guarded by a thick fence of corded hammers. Finally, it is employed as a place for looking out, either in the day or night.

The frame of the top is either close-planked like a platform, or open like a grating. The former kind, which is exhibited in fig. 6. plate VI. is generally stronger and more convenient; but the latter is much better in tempestuous weather, as presenting a smaller surface to the wind when the ship leans over to one side, and by consequence being less exposed to its efforts.

In all ships of war, and in the largest merchantmen, the top is fenced on the outside by a rail of about three feet high, stretching across, and supported by stanchions, between which a netting is usually constructed, as appears by fig. 1. plate IX. The outside of this netting is generally covered with red bayze or red painted canvas, which is extended from the rail down to the edge of the top, and called the top-armour. By this name it seems to have been considered as a sort of blind, behind which the men may conceal themselves from the aims of the enemy’s fire-arms in time of action, whilst they are charging their own muskets, carabines, or swivels.

The dimensions of tops in the royal navy are as follows. The breadth of the top at hawse-ship, q q, fig. 6. is one third of the length of its corresponding top-mast. The length of all tops, from the foremost to the after edge p p, is equal to three fourths of their breadth athwart; and the square hole in the middle is five inches to a foot of those dimensions. The trestle-trees and crosstrees extend nearly to the edge of the tops. See those articles.

Top-block. See Block and Mast.
Top-chain. See the article Chain.
Top-lanthorn, (fanal de bune, Fr.) a large lanthorn placed in the after part of the top, in any ship where an admiral or commodore is personally aboard. It is supported on each side by iron braces r, as expressed in fig. 3. plate VI.
Top-mast, (mat de bune, Fr.) the second division of a mast; or that part which stands between the upper and lower pieces. See the article Mast.
Top-rope, (guindereffe, Fr.) a rope employed to fasten up a top-mast or top-gallant-mast in order to fix it in its place; or to lower it in tempestuous weather, or when it is no longer necessary. The rope used on this occasion for the top-masts is, on account of their great weight, furnished with
an assemblage of pulleys, at its lower end, called the *top-tackle*, to hoist or lower the masts with greater facility. The whole of this is particularly explained in the article MAST, and the plate therein referred to.

**Top-sails**, certain large sails extended across the top-masts, by the top-fail-yard above, and by the yard attached to the lower mast beneath; being fastened to the former by *reefing*, and to the latter by means of two great blocks fixed on its extremities, through which the top-fail-sheets are inserted, passing from thence to two other blocks fixed on the inner part of the yard close by the mast: and from these latter the sheets lead downwards to the deck, where they may be flackened or extended at pleasure. See the article SAIL.  

**Topping**, (apiqueur, Fr.) the act of pulling one of the extremities of a yard higher than the other, by slackening one of the *lifts*, and pulling upon the opposite one, so as to place the yard at a greater or lesser obliquity with the mast.

**Topping-lift**, (balancine de gui, Fr.) a large and strong tackle, employed to suspend or *top* the outer end of a *gaff*, or of the *boom* of a main-sail and fore-sail; such as are used in *brigs*, *floops*, or *schooners*. See SQUARE.

**Tornado**, (travaude, Fr.) a violent squall or gust of wind rising suddenly from the shore, and afterwards veering round the compass like a hurricane. These are very frequent on the coasts of Guinea and South Barbary. See WIND.

**Touching** the state of a ship's *fails* when they first begin to shiver, with their edges in the direction of the wind. It is either occasioned by a sudden alteration of the ship's course, or by a change of the wind, in which it blows more obliquely along the surface of the *fails*, instead of falling into their cavities from behind, according to its usual direction. See FULL AND BY.

**Touching-at**, implies the circumstance of *topping*, or anchoring occasionally, at some intermediate port, in the course of a voyage.

**To Tow**, (remorquer, Fr. teon, teohan, Sax.) to draw a ship forward in the water, by means of a rope attached to another vessel or boat, which advances by the effort of rowing or *sailing*.

Towing is either practised when a ship is disabled, and rendered incapable of carrying *fail* at sea, or when her *fails* are not fixed upon the masts, as in a harbour: or when they are deprived of their force of action by a cessation of the wind.

When a ship of war is dismasted, or otherwise disabled from carrying fail at sea, she is usually towed by a cable reaching from her bow to another ship a-head. In a harbour towing is practised by one or more boats, wherein all the force of the *oars* are exerted to make her advance.

**Tow-line**, a small hawser generally used to remove a ship from one part of an harbour or road to another, by means of anchors, *capsterns*, &c.

explained
explained in the article Warping. It is also employed occasionally to moor a small vessel in a harbour, conveniently sheltered from the wind and sea.

Tow-rope, a name given to any cable or other rope used in the exercise of towing.

TRACING-LINE, (martinet, Fr.) a small cord generally passing through a block or thimble, and used to hoist up any object to a higher station, in order to render it less inconvenient. Such are the tracing-lines of the awnings, and those of the yard-tackles, which, by hanging down in a cavity or hight, would be awkward and inconmodious.

TRACK of a ship. See the article Wake.

TRACT-SCOUT, a vessel employed to carry goods or passengers up and down the rivers or canals in Holland, and the countries bordering on the Baltic sea. It is usually tracted by a horse, who trots along the margin to a limited distance, after which he is relieved by another.

TRACTING, the act of pulling any vessel or floating body along the stream of a canal or river, by means of a rope extending from the vessel, &c. to the adjacent shore, and drawn along the banks of the river, by men or horses.

TRADE-WINDS, certain regular winds blowing within or near the tropics, and being either periodical or perpetual. Thus, in the Indian ocean, they blow alternately from different points of the compass, during a limited season; and, in the Atlantic ocean, continue almost without interruption in the same direction. They are accordingly called trade-winds, from their great utility in navigation and commerce. See Monsoon and Wind.

TRAIN. See the articles Cannon and Fire-ship.

TRANSOMS, (barres d'arcafe, Fr. transomma, Lat.) certain beams or timbers extended across the stern-post of a ship, to fortify her after-part, and give it the figure most suitable to the service for which she is calculated.

Transoms are here defined beams or timbers, because they partake equally of the form and purpose of those pieces. Thus the deck-tranfo is the aftermost or hindmost beam of the lower deck, whereon all the deck-planks are rabbeted: and all the transoms are fixed athwart the stern-post, in the same manner as the floor-timbers are laid upon the keel. As the floor-timbers also, with regard to their general form and arrangement, have a rifting, by which the bottom becomes narrower as it ascends towards the extremities; so the arms of the transoms, being gradually closer in proportion to their distance from the wing-tranfom downwards, give a similar figure to that part of the ship, which accordingly becomes extremely narrow, from the counter towards the keel; and this general figure or curve is called the flight of the transoms.

Although these pieces are therefore extremely different in their figures, according to the extent of the angles formed by their branches or horns, each of them has nevertheles a double curve, which is partly vertical, and partly horizontal, with regard to its situation in the ship. The former of these is called, by the artificers, the round-up, and the latter the round-aft.

As the transoms fill up the whole space comprished between the head of the stern-post above, and the aftermost floor-timbers below, it is necessary to distinguish them by particular names. Thus the highest is called the wing-tranfom:
The next, the deck-transom; and afterwards follow the first, second, and third transoms; together with the intermediate ones, as represented in fig. 1. plate X. and described in the explanation thereof.

The vertical direction of the arms or angles of the transoms, with regard to the ship's length, are expressed in the plane of Elevation; and their horizontal curves are also delineated on the plane of Projection; both of which are represented under those terms in plate I. and described in the general explanation of the planes in the article Naval Architecture.

The highest transoms are connected to the ship's quarter by knees, which are bolted to those pieces, and to the after-timbers. See the article Sleepers.

TRANSPORT. See the article Ship.

TRANSPORTING, the act of removing a ship from one place to another, by the help of anchors and ropes. See Warping.

TRAVELER, (vacambeau, Fr.) a sort of thimble, whose diameter is much longer, in proportion to the breadth of it's surface, than the common ones, fig. 3. plate XII. It is furnished with a tail formed of a piece of rope, about three feet in length, one end of which encircles the ring, to which it is spliced. These machines are principally intended to facilitate the hoisting or lowering of the top-gallant-yards at sea: for which purpose two of them are fixed on each back-flay, wherein they slide upwards and downwards, like the ring of a curtain upon it's rod: being thus attached to the extremities of the top-gallant-yard, they prevent it from swinging backwards and forwards, by the agitation of the ship, whilst the yard is hoisting or lowering at sea.

TRAVERSE, in navigation, implies a compound course, or an assemblage of various courses, lying at different angles with the meridian. Thus fig. 2. plate XI. exhibits the traverses formed by a ship, when making an oblique progression against the direction of the wind, as explained in the article Tacking.

The true course and distance resulting from this diversity of courses is discovered by collecting the difference of latitude and departure of each course, and reducing the whole into one departure and one difference of latitude, according to the known rules of trigonometry. This reduction will immediately ascertain the base and perpendicular; or, in other words, will give the difference of latitude and departure to discover the course and distance. See Navigation.

TRAVERSE BOARD, a thin circular piece of board, marked with all the points of the compass, and having eight holes bored in each, and eight small pegs hanging from the center of the board. It is used to determine the different courses run by a ship during the period of the watch; and to ascertain the distance of each course. This implement is particularly useful in light and variable winds, at which time the helmsman marks the course every half hour, by fixing a peg in that point of the compass whereon the ship had advanced. Thus, if the wind is northerly at the beginning of the watch, the ship, being close-banked on the larboard tack, will steer W. N. W. If, after the first half hour, the wind changes to N. by W. the ship will fall off to W. by N. both of these courses are marked by the helmsman upon the traverse-board,
board, by putting in one peg for every half hour on which she steers the same course; as, one peg into W. N. W., and two pegs into W. by N. if she fails an hour on the latter course; and so on. The lee-way and variation of the compass are afterwards allowed by the pilot, on summing up the whole.

TREE-NAILS, (gournables, Fr.) certain long cylindrical wooden pins, employed to connect the planks of a ship's side and bottom to the corresponding timbers.

The tree-nails are justly esteemed superior to spike-nails or bolts, which are liable to rust, and loosen, as well as to rot the timber; but it is necessary that the oak of which they are formed should be solid, close, and replete with gum, to prevent them from breaking and rotting in the ship's frame. They ought also to be well dried, so as to fill their holes when they are swelled with moisture. They have usually one inch in thickness to 100 feet in the vessel's length; so that the tree-nails of a ship of 100 feet long, are one inch in diameter; and one inch and a half for a ship of 150 feet.

TRESTLE-TREES, (teffleaux, Fr.) two strong bars of timber fixed horizontally on the opposite sides of the lower mast-head, to support the frame of the top, and the weight of the top-mast. See Mast and Top.

TRIM, (monege du navire, Fr. trimman, Sax. to build) implies, in general, the state or disposition by which a ship is best calculated for the several purposes of navigation.

Thus the trim of the hold denotes the most convenient and proper arrangement of the various materials contained therein, relatively to the ship's motion or stability at sea. The trim of the masts and sails is also their most appropriate situation, with regard to the construction of the ship, and the effort of the wind upon her sails.

As the stowage of the hold, or the disposition of the several articles of the cargo, considerably affects the ship's motion and stability, it will be necessary to give a general idea of the action of a heavy body upon the fluid that supports it, and the reaction of the fluid on the floating body.

The whole weight of any body, then, may be considered as united in its center of gravity; so that, if it were suspended by a line fastened to this center, the line would hang in a perpendicular position, as directed through the center of gravity to the center of the earth. A body which floats in a fluid is not, however, supported by its center of gravity, but by the compression of the surrounding filaments of water: and each of these, being considered as infinitely small, will act upon a very minute portion of the surface of the floating body, with regard to the specific gravity, and conform to a principle applicable to all fluids, in proportion to the height of these filaments, viz. That the weight of a column of any fluid will be in proportion to the specific gravity of the fluid and the height of the column multiplied by its base.

But as heavy bodies endeavour, by their gravity, to approach the center of the earth, in a vertical line passing through their centers, so the pressure of fluids endeavours to carry bodies in a vertical, tending from the center of the earth towards their surface, and passing through the center of gravity of the submerged part, which forces them towards the surface. So, in any submerged
merged body at rest, these two opposite forces coincide in the same vertical, acting in a direction quite contrary to each other. *Bongier's Traité du navire.*

From this theory it results, that the stability or trim of a ship chiefly depends upon her construction, as considering the bottom to be homogeneous. This, however, can only happen when her cargo consists of the same materials throughout, as with corn, salt, or any species stowed in bulk, and when her hold is entirely filled. For if the ship has not sufficient breadth to resist the effort of the wind upon her sails; or if she is built too high, or too sharp in the floor, her center of gravity will be too high, and she will be very *crank,* i. e. apt to overturn.

But as the *stiffness* of a ship, or quality to carry sail without danger of overturning, depends very much on the *stowage* of the hold, the center of gravity may thereby be considerably lowered, by which her stability will be increased in proportion. It is a general maxim amongst mariners, that a ship will not carry sufficient sail till she is laden so deep that the surface of the water may glance on her extreme breadth amidships. She must therefore have a great deal of weight, as ballast, &c. to bring her to this situation, which is called a good failing trim.

Several circumstances are also to be particularly considered with regard to the quality, weight, and stowage of the ballast. The center of gravity being placed too high, will render the ship incapable of carrying a sufficient quantity of sail; and by having it too low, she will be in danger of rolling away her masts. When it is placed too far forward, the ship will *pitch,* and *labour* heavily; and when too far aft, she will occasionally be exposed to the dangerous circumstance of a *pooping* sea. These extremes being carefully avoided, it remains to proportion the contents of every part of the *hold* to its capacity, and to place the lightest materials uppermost. See *Stowage.*

*Trim,* when applied to the sails, denotes the general arrangement which is best calculated to accelerate the ship's course, according to the direction of the wind. See the article *Sailing.*

If the ship were always to fail before the wind, it would be a very simple operation to trim the sails; because nothing else could be required than to dispose them so as to receive the greatest possible effort of the wind, which is evidently performed by arranging them at right angles with it's direction. But when the current of wind acts more directly upon the ship's side, it necessarily falls more obliquely on the surface of the sails, so as to diminish their effort to push the ship forward; and to augment their tendency to make her incline to one side. Hence we may conclude, that an increase of the wind, when accompanied with a variation unfavourable to the ship's course, will by no means augment her velocity; because the force, previously employed to push her forward, will afterwards operate to overturn her; and because this impression renders it necessary to reduce the quantity of sail; the effort of which is further diminished by the obliquity of the action of the wind upon it's surface.

By this theory it appears, that the effect of the wind to advance the ship decreases in proportion to it's obliquity with any sail upon which it operates.
The mechanical disposition of the sails, according to every direction of the wind upon their surfaces, is copiously described in the article Close-hauled, Large, Sailing, and Tacking.

Trim, when expressed of the masts, denotes their position with regard to the ship and to each other. Thus, in the latter sense, they should neither be too near nor too far apart; and, in the former, they should not be too far forward or aft; and, according to the situation or quality which communicates a greater velocity to the vessel, they should either be upright, or inclining aft, or forward.

Trim of a ship's hold, (effice, Fr.) the disposition of her cargo.

Trim the boat, (barque droite, Fr.) See Boat, and the phrases succeeding it.

Sailing-Trim, (erreur, Fr.) state of a ship by which she is best calculated for the purposes of sailing.

Sharp-Trimmed, the situation of a ship's sails in a scant wind.

TRIMONEER, a barbarous corruption of Timoneer. See that article.

TRIP, a cant phrase, implying an outward-bound voyage, particularly in the coasting navigation. It also denotes a single board in plying to windward.

TRIPPING, the movement by which an anchor is loosened from the bottom by it's cable or buoy-ropes. See Atrip.

TROUGH, a name given to the hollow, or interval between two high waves, which resembles a broad and deep trench perpetually fluctuating. As the setting of the sea is always produced by the wind, it is evident that the waves, and consequently the trough or hollow space between them, will be at right angles with the direction of the wind. Hence a ship rolls heaviest when she lies in the trough of the sea.

TROWSERS, a sort of loose breaches of canvas worn by common sailors.

TRUCK, a piece of wood, which is either conical, cylindrical, spherical; or spheroidal.

Thus the trucks fixed on the spindle of a mast-head, and which are otherwise called acorns, are in the form of a cone; and those which are employed as wheels to the gun-carriages are cylinders. The trucks of the parrels assume the figure of a globe; and, lastly, those of the flag-staffs resemble an oblate spheroid. See the articles Acorn, Cannon, Parrel, and Flag-staf.

Trucks of the shrouds are nearly similar to those of the parrels: they are fastened to the shrouds about twelve or fourteen feet above the deck, the hole in the middle being placed perpendicularly to contain some rope which passes through it. The intention of these is to guide the failors to the particular rope, which might otherwise be easily mistaken for some other of the same size, especially in the night.

Speaking-TRUMPET, (trompette marine, Fr.) a trumpet of brass or tin used at sea, to propagate the voice to a great distance, or to convey the orders from one part of the ship to another, in tempestuous weather, &c. when
TRUSSB-TRY

when they cannot otherwise be distinctly heard by the persons to whom they are directed.

Fire-TRUNK. See the article Fire-ship.

TRUNNIONS, (tourellons, Fr.) the two knobs or arms which project from the opposite sides of a piece of artillery, and serve to support it in the carriage. See CANNON and Mortar.

TRUSS, (trouffe, Fr.) a machine employed to pull a yard home to it's respective mast, and retain it firmly in that position.

As the trusses is generally used instead of a parrel, it is rarely employed, except in flying top-gallant-fails, which are never furnished with parreals. It is no other than a ring or traveller, which encircles the mast, and has a rope fastened to it's after-part, leading downward to the top or decks; by means of which the trusses may be straitened or slackened at pleasure. The haliards of the top-gallant-fail being passed through this ring; and the fail being hoisted up to it's utmost extent; it is evident, that the yard will be drawn close to the mast, by pulling down the trusses close to the upper part of the sail. For, without the trusses, the sail and it's yard would be blown from the mast, so as to swing about, by the action of the wind, and the rolling of the vessel; unless the yard were hoisted close up to the pulley wherein the haliards run; which seldom is the case in flying top-gallant fails, because they are usually much shallower than those which are fixed or standing.

Truss-parrel. See Parrel.

TRYING, (à la cape, Fr.) the situation in which a ship lies nearly in the trough or hollow of the sea in a tempest, particularly when it blows contrary to her course.

In trying, as well as in feudding, the sails are always reduced in proportion to the increase of the storm. Thus, in the former state, a ship may lie by the wind under a whole main-fail, a whole fore-fail, or a whole mizen; or under any of those sails, when diminished by the reef or balance. As the least possible quantity of sail used in feudding are the goosenecks of the fore-fail; so in trying, the smallest portion is generally the mizen-stay-fail or main-stay-fail: and in either state, if the storm is excessive, she may lie with all the sails furled, or, according to the sea-phrase, under bare poles.

The intent of spreading a sail at this time is to keep the ship more steady, and, by pressing her side down in the water, to prevent her from rolling violently; and also to turn her bow towards the direction of the wind, so that the shock of the waves may fall more obliquely on her flank, than when she lies along the trough of the sea. While she remains in this situation, the helm is fastened close to the lee-side, or, in the sea-language, hard a-lee, to prevent her as much as possible from falling off. But as the ship is not then kept in equilibrium by the effort of her sails, which at other times counterbalance each other at the head and stern, she is moved by a slow but continual vibration, which turns her head alternately to windward and to leeward, forming an angle of three or four points in the interval. That part where the tops, in approaching the direction of the wind, is called her coming-to, and the contrary excess of the angle to leeward is termed her falling-off.

Thus,
TUC TYE

Thus, suppose the wind northerly, and a ship trying with her starboard side to windward: if, in turning her head towards the source of the wind, she arrives at N. W. 4 N. or N. 39° W. and then declines to the leeward as far W. 4 S. or S. 84° W. the former will be called her coming-to, and the latter her falling-off. In this position she advances very little according to the line of her length, but is driven considerably to leeward, as described in the articles Drift and Lee-way.

TUCK, a name given to that part of the ship where the ends of the bottom-planks are collected together immediately under the stern or counter.

When this part, instead of being incurvated, and forming a convex surface, assumes the shape of a vertical or oblique plane, it is said to be square, as represented in fig. 8. plate IX. A square tuck is accordingly terminated above by the wing-transform, and below and on each side by the fashion-pieces.

TUMBLING-HOME, (encabanement, Fr.) that part of a ship’s side which falls inward above the extreme breadth, so as to make the ship gradually narrower from the lower deck upwards. This angle is represented in general throughout all the timbers in the plane of projection, plate I. It is also more particularly expressed by QT in the Midship-frame, plate VII. where it is evident, that the ship grows narrower from Q towards T. N. B. In all our old sea-books, this narrowing of a ship from the extreme breadth upwards is called houfing-in. See Upper-work.

TURNING-to-windward, (ebicaner le vent, Fr.) that operation in failing wherein a ship endeavours to make a progress against the direction of the wind, by a compound course, inclined to the place of her destination. This method of navigation is otherwise called phying. See also Beating and Tacking.

TYE, (itague, Fr.) a sort of runner or thick rope, used to transmit the effort of a tackle to any yard or gaff, which extends the upper part of a sail.

The tye is either passed through a block fixed to the maff-head, and afterwards through another block moveable upon the yard or gaff intended to be hoisted, or the end of it is simply fastened to the said yard or gaff, after communicating with the block at the maff-head. See also the article Jears.
VAN, (avante garde, Fr.) the foremost division of any naval armament, or that part which usually leads the way to battle; or advances first in the order of sailing. See Center, Fleet, and Rear.

VANE, a thin slip of bunting hung to the mast-head, or some other conspicuous place in the ship, to show the direction of the wind. See b, fig. 1, plate 1. It is commonly sewed upon a wooden frame called the stock, which contains two holes whereby to slip over the spindle, upon which it turns about as the wind changes.

Dog-VANE, (panon, Fr.) a small light vane, formed of a piece of pack-thread about two feet in length, upon which are fixed five or six thin slices of cork stuck full of light feathers. It is usually fastened to the top of a staff two yards high, which is placed on the top of the ship's side on the quarter-deck, in order to shew the direction of the wind to the helmsman, particularly in a dark night, or when the wind is extremely feeble.

VANGS, a sort of braces to support the mizen gaff, and keep it steady. They are fixed on the outer-end or peak, and reach downwards to the aftermost part of the ship's side, where they are hooked and drawn tight, so as to be slackened when the wind is fair; and drawn in to windward when it becomes unfavourable to the ship's course.

VARIATION, the angle contained between the true meridian and the magnetic meridian.

After the discovery of that most useful property of the magnet, or load-stone, namely, the giving hardened iron and steel a polarity, the compass was for many years used without knowing that it's direction in any ways deviated from the poles of the world: and about the middle of the 16th century, so certain were some of it's inflexibly pointing to the north, that they treated with contempt the notion of the variation, which about that time began to be suspected*. However, careful observations soon discovered, that in England, and it's neighbourhood, the needle pointed to the eastward of the true north; but the quantity of this deviation being known, mariners became as well satisfied as if the compass had none; because they imagined that the true course could be obtained by making allowance for the true variation.

* From successive observations made afterwards, it was found, that the deviation of the needle from the north was not a constant quantity; but that

* Mr. Robertson, librarian of the Royal Society, favoured the author with an inspection of several curious remarks concerning the history of modern navigation; in which it appears, that the most early discoveries with regard to the magnetic variation were made about the year 1570. Mr. Robert Norman, from a variety of observations made by him nearly at that time, ascertains it to have been 11° 15' easterly, or one point of the compass.
it gradually diminished, and at last, and about the year 1660, it was found at London that the needle pointed due north, and has ever since been getting to the westward, and now the variation is more than 20 degrees to the westward of the north: so that in any one place it may be suspected the variation has a kind of libratory motion, traversing through the north to unknown limits eastward and westward. But the settling of this point must be left to time.

During the time of the said observations it was also discovered, that the variation of the needle was different in different parts of the world, it being west in some places when it was east in others; and in places where the variation was of the same name, yet the quantity of it greatly differed. It was therefore found necessary, that mariners should every day, or as often as they had opportunity, make, during their voyage, proper observations for an amplitude or azimuth; whereby they might be enabled to find the variation of the compass in their present place, and thence correct their courses.’ Robertson’s Elements of Navigation.

Dr. Halley published, in the last century, a theory of the variations of the compass. In this work he supposes there are four magnetic poles in the earth, two of which are fixed and two moveable, by which he explains the different variation of the compass, at different times, in the same place. But it is impossible to apply exact calculations to so complicated an hypothesis. M. Euler, son of the celebrated geometer of that name, has however shewn, that two magnetic poles placed on the surface of the earth will sufficiently account for the singular figure assumed by the lines which pass through all the points of equal variation in the chart of Dr. Halley.

M. Euler first examines the case, wherein the two magnetic poles are diametrically opposite; 2d. he places them in the two opposite meridians, but at unequal distances from the poles of the world; 3d. he places them in the same meridian. Finally, he considers them situated in two different meridians. These four cases may become equally important; because, if it is determined that there are only two magnetic poles, and that these poles change their situations, it may some time hereafter be discovered that they pass through all the different positions.

Since the needle of the compass ought always to be in the plane which passes through the place of observation and the two magnetic poles, the problem is reduced to the discovery of the angle contained between this plane and the plane of the meridian. M. Euler, after having examined the different cases, finds, that they also express the earth’s magnetism, represented in the chart published by Meff. Mountaine and Dodson in 1744, particularly throughout Europe and North America, if the following principles are established.

Between the Arctic pole and the magnetic pole 14° 53′.
Between the Antarctic pole and the other magnetic pole 29° 23′.
53° 18′ the angle at the north pole, formed by the meridians passing through the two magnetic poles.

250°.
250° the longitude of the meridian, which passes over the northern magnetic pole.

As the observations which have been collected with regard to the variation are, for the most part, loose and inaccurate, it is impossible to represent them all with precision; and the great variations observed in the Indian ocean seem to require, says M. Euler, that the three first quantities should be 14, 35, and 65 degrees. In the mean time, the general agreement is sufficiently satisfactory.

The high reputation of Dr. Halley’s magnetical chart renders it more particularly necessary to point out the errors contained therein*. There is evidently too little distance between the lines of no variation, of which one crosses the equator 17° westward of London, and the other 119° to the eastward. This makes 136 degrees only; whereas it should necessarily exceed 180 and even 200, inasmuch as the pole of the world is supposed further distant from the magnetic pole towards the south than in the north, as is required by the other phenomena. Again, upon the coasts discovered by Dijmen, there was no variation in 1642; and Dr. Halley also supposes there was none in 1700. Meanwhile, by the alteration observed at Paris, the line of no variation should be advanced 60° towards the south, which will agree better with the calculations, and prove that the distance of the two interections was really greater than Dr. Halley had established.

The table of variation of Meff. Mountaine and Dodson is accompanied with several interesting particulars, which equally deserve to be inserted here.

At Barbadoes, (says Capt. Snow) the variation seems very nearly at a stand; for in the road I observed 5° east; and by Dr. Halley’s draught, in the year 1701, 5½ degrees. In 1747, at Port Royal keys, Jamaica, I observed the variation 7° 20’ E.; and on the coast of Carthagena, the same week, off the high land of Santa Marthu, 7° 45’ nearly south of Port Royal. Therefore these curves are not much altered: the curve at Jamaica is nearly at a stand, as though tied, and the south part of them with the rest dropping to the westward.

Under the equator, in longitude 40° E. from London, the highest variation during the whole fifty-five years appears to be 17° ½ W. and the least 16° ½ W.; and in latitude 15° N. longitude 60° W. from London, the variation has been constantly 5° E.; but in other places the case has been widely different. For in the latitude of 10° S. longitude 60° E. from London, the variation has decreased from 17° W. to 7° ½ W.; and in latitude 10° S. longitude 5° W. from London, from 2° ½ W. to 12° ½ W.; and in latitude 15° N. longitude 20°, it has increased from 1° W. to 9° W.

But there is still a more extraordinary appearance in the Indian seas. For instance, under the equator:

* Euler. De la Lande.
### Longitude and Magnetic Variation

<table>
<thead>
<tr>
<th>Degree</th>
<th>1700</th>
<th>1756</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>16$\frac{1}{2}$ W.</td>
<td>16$\frac{1}{2}$ W.</td>
</tr>
<tr>
<td>45</td>
<td>17$\frac{1}{4}$ W.</td>
<td>14$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>50</td>
<td>17$\frac{1}{2}$ W.</td>
<td>11$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>55</td>
<td>16$\frac{1}{4}$ W.</td>
<td>8$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>60</td>
<td>15$\frac{1}{4}$ W.</td>
<td>6$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>65</td>
<td>13$\frac{1}{4}$ W.</td>
<td>4$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>70</td>
<td>11$\frac{1}{4}$ W.</td>
<td>3$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>75</td>
<td>9$\frac{1}{4}$ W.</td>
<td>1$\frac{1}{4}$ W.</td>
</tr>
<tr>
<td>80</td>
<td>7$\frac{1}{4}$ W.</td>
<td>0$\frac{1}{4}$ E.</td>
</tr>
<tr>
<td>85</td>
<td>5$\frac{1}{4}$ W.</td>
<td>1$\frac{3}{4}$ E.</td>
</tr>
<tr>
<td>90</td>
<td>4$\frac{1}{4}$ W.</td>
<td>1$\frac{1}{4}$ E.</td>
</tr>
<tr>
<td>95</td>
<td>3$\frac{1}{4}$ W.</td>
<td>0$\frac{3}{4}$ W.</td>
</tr>
<tr>
<td>100</td>
<td>2$\frac{1}{4}$ W.</td>
<td>1 W.</td>
</tr>
</tbody>
</table>

Where the west variation, in the longitude 40° E., is the same in both the above years; and in 1700 the west variation seemed to be regularly decreasing from longitude 50° E. to the longitude 100° E. but in 1756, we find the west variation decreasing so fast, that we have east variation in the longitude 80°, 85°, and 90° E. and yet in the longitude 95° and 100° E. we have west variation again. *Philosophical Transactions* for the year 1757.

To these remarks may be subjoined the following extracts from the *Exposition du calcul astronomique*, by M. de la Lande.

At the royal observatory in Paris, a magnetical needle of four inches deviated from the N. 18° 10' towards the west, on the 15th of February 1759; and on the 22d of April 1760, the same needle varied 18° 20'. It is indeed natural to conceive, that nothing can be precisely ascertained by ten minutes upon a circle whose diameter is only four inches. It is nevertheless sufficiently evident, that this variation continues to increase at Paris. In 1610 the needle declined 8° towards the east, so that the variation has changed 26° 20' in the space of 150 years; and this appears particularly since 1740: for the same needle, which has always been used by M. Malaldi, is more than 3° advanced towards the west, beyond what it was at that period; and this makes 9° in one year.

To **veer and haul**, to pull a rope tight, by drawing it in and slackening it alternately, till the body to which it is applied acquires an additional motion, like the increased vibrations of a pendulum, so that the rope is straitened to a greater tension with more facility and dispatch. This method is particularly used in hauling the *bowlines*.

The wind is said to veer and haul when it alters its direction, and becomes more or less fair. Thus it is said to veer aft and to haul forward.

*To veer away the cable*. See *cable*.

**Veer ing**, (*virez vent arrière*, Fr.) the operation by which a ship, in changing her course from one board to the other, turns her stern to windward.
ward. Hence it is used in opposition to tacking, wherein the head is turned to the wind, and the stern to leeward.

Thus the ship A, fig. 8. plate XI. having made the necessary dispositions to veer, bears away gradually before the wind, till it blows obliquely upon the opposite side, which was formerly to leeward, as at a; and as the stern necessarily yields to this impression of the wind, assisted by the force of the helm, and the action of the waves upon the same quarter, the side which was formerly to leeward soon becomes to windward, as in the point a.

Since, by this movement, a ship loses ground considerably more than by tacking, it is rarely practised except in cases of necessity or delay: as, when the violence of the wind and sea renders tacking impracticable; or when her course is slackened to wait for a pilot, or some other ship in company, &c.

It has been observed in the article Tacking, that the change of motion is in any body, will be in proportion to the moving force impressed, and made according to the right line in which that force operates. Hence it is evident, that veering as well as tacking is a necessary consequence of the same invariable principle; for as, in the latter, almost the whole force of the wind and of the helm are exerted on the hind part of the ship, to turn the prow to windward; so in the former, the same impression, assisted by the efforts of the helm, falls upon the prow, to push it to leeward; and the motion communicated to the ship must in both cases necessarily conspire with the action of the wind.

Thus, when it becomes necessary to veer the ship, the sails towards the stern are either furled, or brailed up, and made to filler in the wind; whilst those near the head are spread abroad, so as to collect the whole current of air which their surfaces can contain. Hence, while the whole force of the wind is exerted on the fore part of the ship to turn her about, it's effect is considerably diminished, or altogether destroyed, on the surfaces of the after-falls. The fore part accordingly yields to the above impulse, and is put in motion; and this movement, conspiring with that of the wind, pushes the ship about as much as is necessary to produce the effect required. When she is turned so that the wind will act upon that quarter which was formerly to leeward, as at the point a, fig. 8. her circular motion will be accelerated by extending some of the sails near the stern, as the mizen, and by placing those at the prow more obliquely, which will weigh the vessel round with her bow to the windward; in the same situation, with regard to the wind, as when close-hauled, or tacking.

When the tempest is so violent as to prevent the use of sails, the effort of the wind operates almost equally on the opposite ends of the ship, so that the masts and yards situated at the head and stern counterbalance each other. The effect of the helm is also considerably diminished, because the head-way, which gives life and vigour to all it's operations, is at this time feeble and ineffectual. Hence it is necessary to destroy this equilibrium which subsists between the mast and yards afore and abaft, and to throw the balance forward, in order to prepare for veering. This is accordingly performed by bracing the foremasts and yards across the direction of the wind, and arranging those on the main-mast and mizen-mast directly in the line of the wind. If this expedient proves unsuccessful, and it is absolutely necessary to veer, in order to save
the ship from destruction, by overfetting or running ashore, the mizen-maff must instantly be cut away, and even the main-maff, if she yet remains incapable of answering the helm by bearing away before the wind.

VENT. See the articles Cannon and Windage.

VESSEL, (batiment, Fr.) a general name given to the different sorts of ships which are navigated on the ocean, or in canals and rivers. It is, however, more particularly applied to those of the smaller kind, furnish'd with one or two maffs.

It has already been remarked in the article Ship, that the views of utility, which ought always to be considered in a work of this kind, seem to limit our general account of shipping to those which are most frequently employed in European navigation. We have therefore collected into one point of view the principal of these in plate XII. so that the reader, who is unacquainted with marine affairs, may the more easily perceive their distinguishing characters, which are also more particularly described under the respective articles.

Thus fig. 4. plate XII. exhibits a snow under fail; fig. 5. represents a ketch at anchor; fig. 6. a brig or brigantine; fig. 7. a bilander; fig. 8. a xebec; fig. 9. a schooner; fig. 10. a galliot; fig. 11. a dogger; all of which are under fail; fig. 12. & 13. two gallies, one of which is under fail, and the other rowing; and fig. 14. a floop.

The ketch, whose maffs are furled, is furnish'd with a try-fail, like the snow; and it has a fore-fail, fore-stay-fail, and jib, nearly similar to those of a floop; but the fails on the main-maff and mizen-maff are like those of a ship. The main-fail and main-top-fail of the brig are like those of the schooner; and the fore-maff is rigged and equipped with fails in the same manner as the ship and snow. The fails, maffs, and yards of the xebec, being extremely different from these, are described at large under the article. In the schooner both the mainfail and forefail are extended by a boom and gaff, as likewife is the floop's mainfail; the fails of the dogger and galliot are sufficiently expressed in the plate; and, finally, the gallies are navigated with lateen-fails, which are extremely different from those of the vessels above described.

Agent VICTUALER. See Agent Victualer.

To UNBALAST, (delester, Fr.) to discharge the ballast of a ship.

UNBENDING, (défamarrer, Fr.) generally implies the act of taking off the fails from their yards and stays; or casting loose the anchors from their cables, or of untieing one rope from another. See also Bend.

UNBITTING, (dibitter, Fr.) the operation of removing the turns of a cable from off the bits. See Bits and Cable.

To UNDER-RUN, (parcourir, Fr.) to pass under or examine any part of a cable or other rope, in order to discover whether it is damaged or intangled.

It is usual to under-run the cables in particular harbours, as well to cleanse them with brooms and brushes from any filth, ooze, shells, &c. collected in the stream; as to examine whether they have sustained any injury under the surface of the water; as, from rocky ground, or by the friction against other cables or anchors.
To Under-run a tackle, is to separate the several parts of which it is composed, and range them in order, from one block to the other; so that the general effort may not be interrupted, when it is put in motion.

Under sail, the state of a ship when she is loofened from her moorings, and under the government of her masts and rudder. See Helm and Sail.

Unlacing, (déboutonner, Fr.) the act of loofening and taking off the breeches of a sail from its principal part.

To unmoor, (desafoucher, Fr.) is to reduce a ship to the state of riding by a single anchor and cable, after she has been moored or fastened by two or more cables. See the articles Anchor and Mooring.

Unreeving, the act of withdrawing or taking out a rope from any channel through which it had formerly passed; as in a block, thimble, dead-eye, &c. See Reeve.

To unrig a ship, (défuner, Fr.) is to deprive her of the standing and running rigging.

Voyage, (campagne sur mer, Fr.) at sea for a limited season.

Voyol, (tournevis, Fr.) a large rope used to unmoor, or heave up the anchors of a ship, by transmitting the effort of the capstern to the cables.

This is performed by fastening one part of the voyol to the cable in several places, and by winding another part thereof three or four times about the capstern, which answers the same purpose as if the cable itself were in that manner wound about the capstern; and the voyol being much lighter and more pliant, is infinitely more convenient in this exercise. See the articles Capstern and Nipper.

If the cable is drawn into the ship by the main capstern, the voyol is used without any block: but if the capstern in the fore part of the ship be employed for this purpose, the voyol usually passes through a large block attached to the main-mast, and thence communicates with the jear-capstern.

Upper-deck, the highest of those decks which are continued throughout the whole of a ship of war, or merchantman, without any interruption, of steps or irregular ascents. See Deck and Waist.

Upper-work, (oeuvres mortes, Fr.) a general name given to all that part of a ship which is above the surface of the water when she is properly balanced for a sea-voyage: hence it may be considered as separated from the bottom by the main water, as explained particularly in the article Naval Architecture.

Upright, the situation wherein the opposite sides of a ship are equally elevated above the surface of the water, as in fig. 2. plate VI. or when she neither inclines to the right nor left, with regard to the vertical position of her stem and stern-post.

Uses and Customs of the Sea, certain general principles which compose the basis of marine jurisprudence, and regulate the affairs of commerce and navigation.
WAD, (bourrelet, Fr.) a quantity of old rope-yarns, hay, &c. rolled firmly together into the form of a ball, and used to confine the shot or shell, together with its charge of powder, in the breach of a piece of artillery.

M. Le Blond observes, in his Elements of war, that the wad is necessary to retain the charge closely in the chamber of the cannon, so that it may not, when fired, be diluted around the sides of the ball, by its windage as it passes through the chase; a circumstance which would considerably diminish the effort of the powder. But as the wad cannot be fastened to the sides of the bore, it is carried away in the same instant when the charge is inflamed, and that with so little resistance, that it cannot, in any degree, retard the explosion, or give time for the entire inflammation of the powder.

This reasoning may with equal propriety be applied to the wad that covers the bullet; which, nevertheless, is absolutely requisite, to prevent it from rolling out when the piece is fired horizontally or pointed downwards. Both are therefore peculiarly necessary in naval engagements, because, without being thus retained in its chamber, the shot would instantly roll out of the chase by the agitation of the vessel.

WAFT, (borne, Fr.) a signal displayed from the stern of a ship for some particular purpose, by hoisting the ensign, furled up together into a long roll, to the head of it's staff. It is particularly used to summon the boats off from the shore to the ship where to they belong; or as a signal for a pilot to repair aboard. See Signal.

WAIST, (belle or embelle, Fr.) that part of a ship which is contained between the quarter-deck and fore-castle, being usually a hollow space, with an ascent of several steps to either of those places.

When the waist of a merchant-ship is only one or two steps of descent from the quarter-deck, and fore-castle, she is said to be galley-built; but when it is considerably deeper, as with six or seven steps, she is called frigate-built. See the articles Deck, Deep-waisted, and Frigate-

WAKE, (bouache, fillage, Fr.) the print or track impressed by the course of a ship on the surface of the water. It is formed by the re-union of the body of water, which was separated by the ship's bottom whilst moving through it; and may be seen to a considerable distance behind the stern, as smoother than the rest of the sea. Hence it is usually observed by the compass, to discover the angle of Lee-way.

A ship is said to be in the wake, (dans l'eau, Fr.) of another, when she follows her on the same track, or on a line supposed to be formed on the continual-
A further WASH, or L to endeavouring intercepted and thofe WAR to ship's fig.

Two distant objects observed at sea are called in the wake of each other, when the view of the furthest is intercepted by the nearest; so that the observer's eye and the two objects are all placed upon the same right line.

WALE-KNOT, or WALL-KNOT, a particular fort of large knot raised upon the end of a rope, by untwisting the brands, and interweaving them amongst each other. See the article Knot.

WALE-REARED, an obsolete phrase, implying wall-sailed, which see.

WALES, (preceinter, Fr.) an assemblage of strong planks extending along a ship's side, throughout her whole length, at different heights, and serving to reinforce the decks, and form the curves by which the vessel appears light and graceful on the water.

As the wales are framed of planks broader and thicker than the rest, they resemble ranges of hoops encircling the sides and boxes. They are usually distinguished into the main-wale and the channel-wale; the breadth and thickness of which are expressed by Q and R in the Midship-frame, plate VII. and their length is exhibited in the Elevation, plate I. where is IX.

The situation of the wales, being ascertained by no invariable rule, is generally submitted to the fancy and judgment of the builder. The position of the gun-ports and scuppers ought, however, to be particularly considered on this occasion, that the wales may not be wounded by too many breaches.

WALES-SIDED, the figure of a ship's side, when, instead of being incurved so as to become gradually narrower towards the upper part, it is nearly perpendicular to the surface of the water, like a wall: and hence the derivation of the phrase.

WALT, an obsolete or spurious term signifying crank. See that article.

WARP, (cordelle, Fr.) a small rope employed occasionally to remove a ship from one place to another, in a port, road, or river. And hence, To WARP, (remorquer, Fr.) is to change the situation of a ship, by pulling her from one part of a harbour, &c. to some other, by means of warps, which are attached to buoys; to anchors sunk in the bottom; or to certain stations upon the shore, as poles, rings, trees, &c. The ship is accordingly drawn forwards to those stations, either by pulling on the warps by hand, or by the application of some purchase, as a tackle, windlass, or capstern, upon her deck. See those articles.

When this operation is performed by the ship's leffler anchors, these machines, together with their warps, are carried out in the boats alternately towards the place where the ship is endeavouring to arrive: so that when she is drawn up close to one anchor, the other is carried out to a competent distance before her, and being sunk, serves to fix the other warp by which she is further advanced.

Warping is generally used when the sails are incident, or when they cannot be successfully employed, which may either arise from the unfavourable state of the wind, the opposition of the tide, or the narrow limits of the channel.
WASH. See the article Oar.

WASH-BOARD, a broad thin plank fixed occasionally on the top of a boat's side, so as to continue the height thereof, and be removed at pleasure. It is used to prevent the sea from breaking into the vessel, particularly when the surface is rough, as in tempestuous weather.

WATCH, (quart, Fr.) the space of time wherein one division of a ship's crew remains upon deck, to perform the necessary services, whilst the rest are relieved from duty, either when the vessel is under sail or at anchor.

The length of the sea-watch is not equal in the shipping of different nations. It is always kept four hours by our British seamen, if we except the dog-watch between four and eight in the evening, that contains two reliefs, each of which are only two hours on deck. The intent of this is to change the period of the night-watch every twenty-four hours; so that the party watching from eight till twelve in one night, shall watch from midnight till four in the morning on the succeeding one. In France the duration of the watch is extremely different, being in some places six hours, and in others seven or eight; and in Turky and Barbary it is usually five or six hours.

A ship's company is usually divided into two parties; one of which is called the starboard and the other the larboard watch. It is, however, occasionally separated into three divisions, as in a reed, or in particular voyages.

In a ship of war the watch is generally commanded by a lieutenant, and in merchant-ships by one of the mates; so that if there are four mates in the latter, there are two in each watch; the first and third being in the larboard, and the second and fourth in the starboard watch: but in the navy the officers who command the watch usually divide themselves into three parts, in order to lighten their duty.

WATCH-GASSES, (berlage, Fr.) a name given to the glasses employed to measure the period of the watch, or to divide it into any number of equal parts, as hours, half-hours, &c. so that the several stations therein may be regularly kept and relieved; as at the helm, pump, look-out, &c.

To set the Watch, is to appoint one division of the crew to enter upon the duty of the watch; as at eight o'clock in the evening. Hence it is equivalent to mounting the guard in the army. See the French term BORDE'r.

WATER-BOARDS, (bardis, Fr.) or weather-boards of a boat, to keep out the waves or spray of the sea.

WATER-BORNE, the state of a ship, with regard to the water surrounding her bottom, when there is barely a sufficient depth of it to float her off from the ground; particularly when she had for some time rested thereon.

For Dead-Water, Foul-Water, and High-Water, see Dead, Foul, and High.

WATER-LINES, (hinges d'eau, Fr.) certain horizontal lines supposed to be drawn about the outside of a ship's bottom, close to the surface of the water in which she floats. They are accordingly higher or lower upon the bottom, in proportion to the depth of the column of water required to float her. See a particular account of these in the article Naval Architecture.
In order to conceive a clearer idea of the curves of those lines when represented on a plane, let us suppose a ship laid upright on a level ground; so that the keel shall lie in the same position, with respect to the horizon, as when she is laden. We may then describe several black horizontal lines about her bottom, which may be whitened for that purpose.

If a spectator is supposed to be placed, at a competent depth, under the middle of her bottom, in a line perpendicular to the plane of the ground; he will then, viewing the bottom upwards, discover the horizontal curves of all the water-lines. These curves are all delineated on a plane, supposed to be formed by an horizontal section of the bottom, at the height of the load-water-line, (ligne d'eau du vaisseau chargé, Fr.)

Water-logged, the state of a ship when, by receiving a great quantity of water into her hold, by leaking, &c. she has become heavy and inactive upon the sea, so as to yield without resistance to the efforts of every wave rushing over her decks. As, in this dangerous situation, the center of gravity is no longer fixed, but fluctuating from place to place, the stability of the ship is utterly lost: she is therefore almost totally deprived of the use of her sails, which would operate to overset her, or preset the head under water. Hence there is no resource for the crew, except to free her by the pumps, or to abandon her by the boats as soon as possible.

Water-Sail, a small sail spread occasionally under the lower studding-sail, or driver-boom, in a fair wind, and smooth sea.

Water-shot. See the article Mooring.

Water-splot, (cédileon, Fr.) an extraordinary and dangerous meteor, consisting of a large mass of water, collected into a sort of column by the force of a whirlwind, and moved with rapidity along the surface of the sea.

A variety of authors have written on the cause and effects of these meteors, with different degrees of accuracy and probability. As it would be superfluous to enter minutely into their various conjectures, which are frequently grounded on erroneous principles, we shall content ourselves with selecting a few of the latest remarks; and which are apparently supported by philosophical reasoning.

Dr. Franklin, in his physical and meteorological observations, supposes a water-splot and a whirlwind to proceed from the same cause, their only difference being, that the latter passes over the land, and the former over the water. This opinion is corroborated by M. de la Pryme, in the Philosophical Transactions; where he describes two spouts observed at different times in Yorkshire, whose appearances in the air were exactly like those of the spouts at sea; and their effects the same as those of real whirlwinds.

Whirlwinds have generally a progressive as well as a circular motion; so had what is called the splot at Topsham, described in the Transactions; and this also by its effects appears to have been a real whirlwind. Water-spouts have also a progressive motion, which is more or less rapid; being in some violent, and in others barely perceptible.

Whirlwinds generally rise after calms and great heats: the same is observed of water-spouts, which are therefore most frequent in the warm latitudes.
The wind blows every way from a large surrounding space to a whirlwind. Three vessels, employed in the whale-fishery, happening to be becalmed, lay in sight of each other, at about a league distance, and in the form of a triangle. After some time a water-spout appeared near the middle of the triangle; when a brisk gale arose, and every vessel made sail. It then appeared to them all by the trimming of their sails, and the course of each vessel, that the spout was to leeward of every one of them; and this observation was further confirmed by the comparing of accounts, when the different observers afterwards conferred about the subject. Hence whirlwinds and water-sprouts agree in this particular likewise.

But if the same meteor, which appears a water-spout at sea, should, in its progressive motion, encounter and pass over land, and there produce all the phenomena and effects of a whirlwind, it would afford a stronger conviction that a whirlwind and a water-spout are the same thing. An ingenious correspondent of Dr. Franklin gives one instance of this that fell within his own observation.*

A fluid moving from all points horizontally towards a center must, at that center, either mount or descend. If a hole be opened in the middle of the bottom of a tub filled with water, the water will flow from all sides to the center, and there descend in a whirl. But air flowing on or near the surface of land or water, from all sides towards a center, must at that center ascend; because the land or water will hinder it’s descent.

If these concentric currents of air be in the upper region, they may indeed descend in the spout or whirlwind; but then, when the united current reached the earth or water, it would spread, and probably blow every way from the center. There may be whirlwinds of both kinds; but from the effects commonly observed, Dr. Franklin suspects the rising one to be most frequent: when the upper air descends, it is perhaps in a greater body extending wider, as in thunder-gusts, and without much whirling; and when air descends in a spout or whirlwind, he conceives that it would rather pref

* I had often seen water-sprouts at a distance, and heard many strange stories of them, but never knew anything satisfactory of their nature or cause, until that which I saw at Antigua; which convinced me that a water-spout is a whirlwind, which becomes visible in all it’s dimensions by the water it carries up with it.

There appeared, not far from the mouth of the harbour of St. John’s, two or three water-sprouts, one of which took it’s course up the harbour. It’s progressive motion was slow and unequal, not in a straight line, but as it were by jerks or starts. When just by the wharf, I stood about 100 yards from it. There appeared in the water a circle of about twenty yards diameter, which to me had a dreadful though pleasing appearance. The water in this circle was violently agitated, being whirled about, and carried up into the air with great rapidity and noise, and reflected a luster, as if the sun shined bright on that spot, which was more conspicuous, as there appeared a dark circle around it. When it made the shore, it carried up with it the same violence hingles, slates, large pieces of the roofs of houses, &c. and one small wooden house it lifted entirely from the foundation on which it stood, and carried it to the distance of fourteen feet, where it settled without breaking or overthrowing; and, what is remarkable, though the whirlwind moved from west to east, the house moved from east to west. Two or three negroes and a white woman were killed by the fall of the timber, which it carried up into the air, and dropped again. After passing through the town, I believe it was soon dispers’d; for, except tearing a large limb from a tree, and part of the cover of a sugar-work near the town, I do not remember any further damage done by it. I conclude, wishing you success in your enquiry, and am, &c.

W. M.
the roof of a house inwards, or force in the tiles, shingles, or thatch, and force a boat down into the water, or a piece of timber into the earth, than snatch them upwards, and carry them away.

The whirlwinds and spouts are not always, though most frequently, in the day-time. The terrible whirlwind which damaged a great part of Rome, June 11, 1749, happened in the night; and was supposed to have been previously a water-spout, it being asserted as an undoubted fact, that it gathered in the neighbouring sea, because it could be traced from Ostia to Rome.

This whirlwind is said to have appeared as a very black, long, and lofty cloud, discoverable, notwithstanding the darkness of the night, by its continually lightning, or emitting flashes on all sides, pushing along with a surprising swiftness, and within three or four feet of the ground. Its general effects on houses were, stripping off the roofs, blowing away chimneys, breaking doors and windows, forcing up the floors, and unpaving the rooms, (some of these effects seem to agree well with the supposed vacuum in the center of the whirlwind) and the very rafters of the houses were broke and dispersed, and even hurled against houses at a considerable distance, &c.

The Doctor, in proceeding to explain his conceptions, begs to be allowed two or three positions, as a foundation for his hypothesis. 1. That the lower region of air is often more heated, and so more rarified, than the upper; and by consequence especially lighter. The coldness of the upper region is manifested by the hail, which sometimes falls from it in warm weather. 2. That heated air may be very moist, and yet the moisture so equally diffused and rarified as not to be visible till colder air mixes with it, at which time it condenses and becomes visible. Thus our breath, although invisible in summer, becomes visible in winter.

These circumstances being granted, he presumes an tract of land or sea, of about sixty miles in extent, unsheltered by clouds and unrefreshed by the wind, during a summer's day, or perhaps for several days without intermission, till it becomes violently heated, together with the lower region of the air in contact with it, so that the latter becomes specifically lighter than the superincumbent higher region of the atmosphere, wherein the clouds are usually floated: he supposes also that the air surrounding this tract has not been so much heated during those days, and therefore remains heavier. The consequence of this, he conceives, should be, that the heated lighter air should ascend, and the heavier descend; and as this rising cannot operate throughout the whole tract at once, because that would leave too extensive a vacuum, the rising will begin precifically in that column which happens to be lightest, or most rarified; and the warm air will flow horizontally from all parts to this column, where the several currents meeting, and joining to rise, a whirl is naturally formed, in the same manner as a whirl is formed in a tub of water, by the descending fluid receding from all sides of the tub towards the hole in the center.

And as the several currents arrive at this central rising column, with a considerable degree of horizontal motion, they cannot suddenly change it to a vertical motion; therefore, as they gradually, in approaching the whirl, decline from right to curve or circular lines, so, having joined the

whirl.
whirl, they ascend by a spiral motion; in the same manner as the water descends spirally through the hole in the tub before mentioned.

Lastly, as the lower air nearest the surface is more rarified by the heat of the sun, it is more impressed by the current of the surrounding cold and heavy air which is to assume its place, and consequently its motion towards the whirl is swiftest, and so the force of the lower part of the whirl strongest, and the centrifugal force of its particles greatest. Hence the vacuum which encloses the axis of the whirl should be greatest near the earth or sea, and diminish gradually as it approaches the region of the clouds, till it ends in a point.

This circle is of various diameters, sometimes very large.

If the vacuum passes over water, the water may rise in a body or column therein to the height of about thirty-two feet. This whirl of air may be as invisible as the air itself, though reaching in reality from the water to the region of cool air, in which our low summer thunder-clouds commonly float; but it will soon become visible at its extremities. The agitation of the water under the whirling of the circle, and the swelling and rising of the water in the commencement of the vacuum, renders it visible below. It is perceived above by the warm air being brought up to the cooler region, where its moisture begins to be condensed by the cold into thick vapour; and is then first discovered at the highest part; which being now cooled condenses what rises behind it, and this latter acts in the same manner on the succeeding body; where, by the contact of the vapours, the cold operates faster in a right line downwards, than the vapours themselves can climb in a spiral line upwards; they climb, however, and as by continual addition they grow denser, and by consequence increase their centrifugal force; and being risen above the concentrating currents that compose the whirl, they fly off, and form a cloud.

It seems easy to conceive, how, by this successive condensation from above, the spout appears to drop or descend from the cloud, although the materials of which it is composed are all the while ascending. The condensation of the moisture contained in so great a quantity of warm air as may be supposed to rise in a short time in this prodigiously rapid whirl, is perhaps sufficient to form a great extent of cloud: and the friction of the whirling air on the sides of the column may detach great quantities of its water, disperse them into drops, and carry them up in the spiral whirl mixed with the air. The heavier drops may indeed fly off, and fall into a shower about the spout; but much of it will be broken into vapour, and yet remain visible.

As the whirl weakens, the tube may apparently separate in the middle; the column of water subfiding, the superior condensed part drawing up to the cloud. The tube or whirl of air may nevertheless remain entire, the middle only becoming invisible, as not containing any visible matter.

Dr. Stuart, in the Philosophical Transactions, says, "It was observable of all the spouts he saw, but more perceptible of a large one, that towards the end it began to appear like a hollow canal, only black in the borders, but white in the middle; and though it was at first altogether black and opaque,
yet the sea-water could very soon after be perceived to fly up along the middle of this canal like smoke in a chimney."

When Dr. Stuart’s Spouts were full charged, that is, when the whirling pipe of air was filled with quantities of drops and vapour torn off from the column, the whole was rendered so dark that it could not be seen through, nor the spiral ascending motion discovered; but when the quantity ascending lefthened, the pipe became more transparent, and the ascending motion visible. The spiral motion of the vapours, whose lines intersect each other on the nearest and furthest side of this transparent part, appeared therefore to Stuart like smoke ascending in a chimney; for the quantity being still too great in the line of sight through the sides of the tube, the motion could not be discovered there, and so they represented the solid sides of the chimney.

Dr. Franklin concludes by supposing a whirlwind or spout to be stationary, when the concurring winds are equal; but if unequal, the whirl acquires a progressive motion in the direction of the strongest pressure. When the wind that communicates this progression becomes stronger above than below, or below than above, the spout will be bent or inclined. Hence the horizontal process and obliquity of water-spouts are derived.

**W A T E R-W A Y** (gouttiere, Fr.) a long piece of timber serving to connect the sides of a ship to her decks, and form a sort of channel to carry off the water from the latter by means of scuppers. See that article.

The convexity of the decks, represented by N, M, N, in the Midship-frame, plate VII. necessarily carries the water towards the sides, where this piece is fixed, which is principally designed to prevent the water from lodging in the seams, so as to rot the wood and oakum contained therein. The water-ways N N are therefore hollowed in the middle lengthways, so as to form a kind of gutter or channel, one side of which lies almost horizontally, making part of the deck, whilst the other rises upwards, and corresponds with the side of which it likewise makes a part. They are scored down about an inch and a half, or two inches, upon the beams, and rest upon lodging-knees or carlings. They are secured by bolts driven from without through the planks, timbers, and water-ways, and clinched upon rings on the inside of the latter.

The scuppers, which are holes by which the water escapes from off the deck, are accordingly cut through the water-ways.

**W A V E**, a volume of water elevated by the action of the wind upon its surface, into a state of fluctuation.

Mr. Boyle has proved, by a variety of experiments, that the utmost force of the wind never penetrates deeper than six feet into the water; and it should seem a natural consequence of this, that the water put in motion by it can only be elevated to the same heighth of six feet from the level of the surface in a calm. This six feet of elevation being then added to the six of excavation, in the part whence that water was raised, should give twelve feet for the greatest elevation of a wave, when the heighth of it is not increased by whirlwinds, or the interruption of rocks or shoals, which always gives an additional elevation to the natural swell of the waves.
We are not to suppose, from this calculation, that no wave of the sea can rise more than six feet above it's natural level in open and deep water; for some immensely higher than these are formed in violent tempests, in the great seas. These, however, are not to be accounted waves in their natural state; but they are single waves composed of many others: for in these wide plains of water, when one wave is raised by the wind, and would elevate itself up to the exact height of six feet, and no more, the motion of the water is so great, and the succession of the waves so quick, that during the time wherein this rife, it receives into it several other waves, each of which would have been of the same height with itself. These accordingly run into the first wave, one after another as it rises: by this means it's rife is continued much longer than it would naturally have been, and it becomes accumulated to an enormous size. A number of these complicated waves arising together, and being continued in a long succession by the duration of the storm, make the waves so dangerous to shipping, which the sailors, in their phrase, call mountains high. 

Way of a ship, the course or progress which she makes on the water under sail. Thus, when she begins her motion, she is said to be under way; and when that motion increases, she is said to have fresh way through the water. Hence also she is said to have head-way or stern-way. See those articles.

Wearing. See the article Veering.

Weather is known to be the particular state of the air with regard to the degree of the wind, to heat or cold, or to dryness and moisture.

Weather is also used as an adjective, applied by mariners to every thing lying to windward of a particular situation. Thus a ship is said to have the weather-gage of another, when she is further to windward. Thus also, when a ship under sail presents either of her sides to the wind, it is then called the weather-side; and all the rigging and furniture situated theron are distinguished by the same epithet; as, the weather-shrouds, the weather-lifts, the weather-braces, &c. See the article Lee.

Weather-beaten, (battu, Fr.) shattered by a storm, or disabled in battle.

To weather, is to sail to windward of some ship, bank, or head-land.

Weather-bit, a turn of the cable of a ship about the end of the windlass, without the knight-heads. It is used to check the cable, in order to slacken it gradually out of the ship, in tempestuous weather, or when the ship rides in a strong current. See also Ring-rope.

Weather-shore, a name given by seamen to the shore lying to the windward.

To weigh, denotes in general to heave up the anchor of a ship from the ground, in order to prepare her for sailing. See also Aweigh.

Well, an apartment formed in the middle of a ship's hold to inclose the pumps, from the bottom to the lower deck. It is used as a barrier to preserve those machines from being damaged by the friction or compression of the materials contained in the hold, and particularly to prevent the entrance of ballast, &c. by which the tubes would presently be choked, and the
the pumps rendered incapable of service. By means of this inclosure, the artificers may likewise more readily descend into the hold, in order to examine the state of the pumps, and repair them, as occasion requires.

**Well of a fishing-vessel**, an apartment in the middle of the hold, which is entirely detached from the rest, being lined with lead on every side, and having the bottom thereof penetrated with a competent number of small holes, palling also through the ship's floor, so that the salt-water running into the well is always kept as fresh as that in the sea, and yet prevented from communicating itself to the other parts of the hold.

*Well-room of a boat*, the place in the bottom where the water lies, between the ceiling and the platform of the stern-sheets, from whence it is thrown out into the sea with a scoop.

**Wharf**, a perpendicular building of wood or stone raised on the shore of a road or harbour, for the convenience of lading or discharging a vessel by means of cranes, tackles, capsterns, &c.

A wharf is built stronger or lighter, in proportion to the effort of the tide or sea which it is to support, and to the weight which it is intended to support.

**Wharfinger**, the person who has the charge of a wharf, and takes account of all the articles landed thereon, or removed from it, into any vessel lying alongside thereof; for which he receives a certain fee called wharfage, which becomes due to the proprietor for the use of his machines and furniture.

**Wheel of the helm.** See Helm.

**Whelps.** See the article Capstern.

**Wherry, (bache, bacbot, Fr.)** See Yawl and Skiff.

**Whip**, a sort of small tackle, either formed by the communication of a rope with a single immovable block, as fig. 3. plate XI. or with two blocks, one of which is fixed, and the other moveable, as fig. 5. It is generally used to hoist up light bodies, as empty casks, &c. out of a ship's hold, which is accordingly called whipping them up. See Tackle.

To **Whip**, is also to tie a piece of pack-thread, spun-yarn, &c. about the end of a rope, to prevent it from being untwisted and loosened.

**Boatswain's Whistle.** See Call.

**Whooping.** See the article Rabbot.

**Winch**, a cylindrical piece of timber, furnished with an axis, whose extremities rests in two channels placed horizontally or perpendicularly. It is turned about by means of an handle resembling that of a draw-well, grind-stone, &c. and is generally employed as a purchase, by which a rope may be more conveniently or more powerfully applied to any object, than when used singly, or without the assistance of mechanical powers.

**Wind, (vent, Fr.)** a stream or current of air which may be felt; and usually blows from one part of the horizon to its opposite part.

The horizon, besides being divided into 360 degrees, like all other circles, is by mariners supposed to be divided into four quadrants, called the north-east, north-west, south-east, and south-west quarters. Each of these quarters they divide into eight equal parts, called points, and each point into four equal
equal parts, called quarter-points. So that the horizon is divided into 32 points, which are called rhumbs or winds; to each wind is assigned a name, which shows from what point of the horizon the wind blows. The points of north, south, east, and west, are called cardinal points; and are at the distance of 90 degrees, or eight points from one another.

Winds are either constant or variable, general or particular. Constant winds are such as blow the same way, at least for one or more days; and variable winds are such as frequently shift within a day. A general or reigning wind is that which blows the same way, over a large tract of the earth, almost the whole year. A particular wind is what blows, in any place, sometimes one way, and sometimes another, indifferently. If the wind blows gently, it is called a breeze; if it blows harder, it is called a gale, or a stiff gale; and if it blows with violence, it is called a storm or hard gale.

The following observations on the wind have been made by skilful seamen; and particularly the great Dr. Halley.

1st. Between the limits of 60 degrees, namely, from 30° of north latitude to 30° of south latitude, there is a constant east wind throughout the year, blowing on the Atlantic and Pacific oceans; and this is called the trade-wind.

For as the sun, in moving from east to west, heats the air more immediately under him, and thereby expands it; the air to the eastward is constantly rushing towards the west to restore the equilibrium, or natural state of the atmosphere; and this occasions a perpetual east wind in those limits.

2d. The trade-winds near their northern limits blow between the north and east, and near the southern limits they blow between the south and east.

For as the air is expanded by the heat of the sun near the equator; therefore the air from the northward and southward will both tend towards the equator to restore the equilibrium. Now these motions from the north and south, joined with the foregoing easterly motion, will produce the motions observed near the said limits between the north and east, and between the south and west.

3d. These general motions of the wind are disturbed on the continents, and near their coasts.

For the nature of the soil may either cause the air to be heated or cooled; and hence will arise motions that may be contrary to the foregoing general one.

4th. In some parts of the Indian ocean there are periodical winds, which are called Monsoons; that is, such as blow half the year one way, and the other half-year the contrary way.

For air that is cool and dense, will force the warm and rarified air in a continual stream upwards, where it must spread itself to preserve the equilibrium: so that the upper course or current of the air shall be contrary to the under current; for the upper air must move from those parts where the greatest heat is; and so, by a kind of circulation, the N. E. trade-wind

* The swiftness of the wind in a great storm is not more than 50 or 60 miles in an hour; and a common brisk gale is about 15 miles an hour. Robertson's Navigation.
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below will be attended with a S. W. above; and a S. E. below with a N. W. above: And this is confirmed by the experience of seamen, who, as soon as they get out of the trade-winds, generally find a wind blowing from the opposite quarter.

5th. In the Atlantic ocean, near the coasts of Africa, at about 100 leagues from shore between the latitude of 28° and 10° north, seamen constantly meet with a fresh gale of wind blowing from the N. E.

6th. Those bound to the Caribbee islands, across the Atlantic ocean, find, as they approach the American side, that the said N. E. wind becomes easterly; or seldom blows more than a point from the east, either to the northward or southward.

These trade-winds, on the American side, are extended to 30, 31, or even to 32° of N. latitude; which is about 4° further than what they extend to on the African side: Also, to the southward of the equator, the trade-winds extend three or four degrees further towards the coast of Brazil on the American side, than they do near the Cape of Good Hope on the African side.

7th. Between the latitudes of 4° north and 4° south, the wind always blows between the south and east. On the African side the winds are nearest the south; and on the American side nearest the east. In these seas Dr. Halley observed, that when the wind was eastward, the weather was gloomy, dark, and rainy, with hard gales of wind; but when the wind veered to the southward, the weather generally became serene, with gentle breezes next to a calm.

These winds are somewhat changed by the seasons of the year; for when the sun is far northward, the Brazil S. E. wind gets to the south, and the N. E. wind to the east; and when the sun is far south, the S. E. wind gets to the east, and the N. E. winds on this side of the equator veer more to the north.

8th. Along the coast of Guinea, from Sierra Leone to the island of St. Thomas, (under the equator) which is above 500 leagues, the southerly and south-west winds blow perpetually: for the S. E. trade-wind having passed the equator, and approaching the Guinea coast within 80 or 100 leagues, inclines towards the shore, and becomes south, then S. E. and by degrees, as it approaches the land, it veers about to south, S. S. W. and when very near the land it is S. W. and sometimes W. S. W. This tract is troubled with frequent calms, and violent sudden gusts of wind, called tornadoes, blowing from all points of the horizon.

The reason of the wind setting in west on the coast of Guinea is, in all probability, owing to the nature of the coast, which, being greatly heated by the sun, rarifies the air exceedingly, and consequently the cool air from off the sea will keep rushing in to restore the equilibrium.

9th. Between the 4th and 10th degrees of north latitude, and between the longitude of Cape Verd, and the easternmost of the Cape Verd isles, there is a tract of sea which seems to be condemned to perpetual calms, attended with terrible thunder and lightnings, and such frequent rains, that this part of the sea is called the rains. In sailing through these fix degrees, ships are said to have been sometimes detained whole months.

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The cause of this is apparently, that the westerly winds setting in on this coast, and meeting the general easterly wind in this track, balance each other, and so produce the calms; and the vapours carried thither by each wind, meeting and condensing, occasion the almost constant rains.

The last three observations shew the reason of two things which mariners experience in sailing from Europe to India, and in the Guinea trade.

And first. The difficulty which ships in going to the southward, especially in the months of July and August, find in passing between the coast of Guinea and Brazil, notwithstanding the width of this sea is more than 500 leagues. This happens, because the S. E. winds at that time of the year, commonly extend some degrees beyond the ordinary limits of 4° N. latitude; and besides coming so much southerly, as to be sometimes southerly and sometimes a point or two to the west; it then only remains to ply to windward: And if, on the one side, they steer W. S. W. they get a wind more and more easterly; but then there is danger of falling in with the Braslian coast, or shoals: and if they steer E. S. E. they fall into the neighbourhood of the coast of Guinea, from whence they cannot depart without running easterly as far as the island of St. Thomas; and this is the constant practice of all the Guinea ships.

Secondly. All ships departing from Guinea for Europe, their direct course is northward; but on this course they cannot proceed, because the coast bending nearly east and west, the land is to the northward. Therefore, as the winds on this coast are generally between the S. and W. S. W. they are obliged to steer S. S. E. or south, and with these courses they run off the shore; but in so doing, they always find the winds more and more contrary; so that when near the shore, they can lie south; but at a greater distance they can make no better than S. E. and afterwards E. S. E. with which courses they commonly fetch the island of St. Thomas and Cape Lopez, where finding the winds to the eastward of the south, they sail westerly with it, till coming to the latitude of four degrees south, where they find the S. E. wind blowing perpetually.

On account of these general winds, all those that use the West India trade, and even those bound to Virginia, reckon it their best course to get as soon as they can to the southward, that so they may be certain of a fair and fresh gale to run before it to the westward: And for the same reason those homeward-bound from America endeavour to gain the latitude of 30 degrees, where they first find the winds begin to be variable; though the most ordinary winds in the north Atlantic ocean come from between the south and west.

10th. Between the southern latitudes of 10 and 30 degrees in the Indian ocean, the general trade-wind about the S. E. by S. is found to blow all the year long in the same manner as in the like latitudes in the Ethiopic ocean; and during the six months from May to December, these winds reach to within two degrees of the equator; but during the other six months, from November to June, a N. W. wind blows in the tract lying between the 3d and 10th degrees of southern latitude, in the meridian of the north end of Madagascar; and between the 2d and 12th degree of south latitude, near the longitude of Sumatra and Java.
11th. In the tract between Sumatra and the African coast, and from three
degrees of south latitude quite northward to the Asiatic coasts, including
the Arabian sea and the Gulf of Bengal, the Monsoons blow from Sep-
tember to April on the N. E. and from March to October on the S. W.
In the former half-year the wind is more steady and gentle, and the wea-
ther clearer, than in the latter six months: and the wind is more strong
and steady in the Arabian sea than in the Gulf of Bengal.

12th. Between the island of Madagascar and the coast of Africa, and
thence northward as far as the equator, there is a tract, wherein from
April to October there is a constant fresh S. S. W. wind; which to the
northward changes into the W. S. W. wind, blowing at times in the Ara-
bian sea.

13th. To the eastward of Sumatra and Malacca on the north of the equa-
tor, and along the coasts of Cambodia and China, quite through the Philip-
pines as far as Japan, the Monsoons blow northerly and southerly; the nor-
thern one setting in about October or November, and the southern about
May: These winds are not quite so certain as those in the Arabian seas.

14th. Between Sumatra and Java to the west, and New Guinea to the
east, the same northerly and southerly winds are observed; but the first half
year Monsoon inclines to the N. W. and the latter to the S. E. These
winds begin a month or six weeks after those in the Chinese seas set in, and
are quite as variable.

15th. These contrary winds do not shift from one point to its opposite
all at once; and in some places the time of the change is attended with
calms, in others by variable winds: and it often happens on the shores of
Coromandel and China, towards the end of the Monsoons, that there are
most violent storms, greatly resembling the hurricanes in the West Indies;
wherein the wind is so excessively strong, that hardly any thing can resist
its force.

All navigation in the Indian ocean must necessarily be regulated by these
winds; for if the mariners should delay their voyages till the contrary Mon-
soon begins, they must either sail back, or go into harbour, and wait for
the return of the trade-wind.

The relative force of the wind upon a ship's sails, and the epithets by
which it is distinguished, as fair, large, &c. according to the angle which
it makes with her course, are explained in the article Sailing.

Reigning Wind. See Reigning Wind.

To Wind a ship or boat, is to change her position, by bringing the stern
to lie in the situation of the head; or directly opposite to it's former situa-
tion.

To Windward, towards that part of the horizon from whence the wind
bloweth.

WINDAGE, the difference between the diameter of a piece of artillery,
and the diameter of the shot or shell corresponding thereto. See Cannon
and Mortar.

WINDING a CALL, the act of blowing or piping upon a boatswain's
whistle, so as to communicate the necessary orders of keeping, bearing, belay-
ing, slackening, &c. See the article CALL.
WINDING-TACKLE, a name usually given to a tackle formed of three fixed and two or three moveable sheaves. It is principally employed to hoist up any weighty materials into or out of a ship, in the exercises of lading and delivering. See Tackle.

WINDLAFS, (windas, Fr.) a machine used in merchant-ships to heave up the anchors from the bottom, &c.

The windlafs is a large cylindrical piece of timber, fig. 15, plate XII. formed on the principles of the axis in peritrochio. It is supported at the two ends by two frames of wood, a, b, placed on the opposite sides of the deck near the fore-mast, called knight-beads, and is turned about in this position as upon an axis, by levers called handspears, which are for this purpose thrust into holes bored through the body of the machine. See the article Heaving.

The lower part of the windlafs is usually about a foot above the deck. It is, like the capstern, furnished with strong pauls, c, d, to prevent it from turning backwards by the effort of the cable, when charged with the weight of the anchor, or strained by the violent jerking of the ship in a tempestuous sea. The pauls, which are formed of wood or iron, fall into notches, cut in the surface of the windlafs, and lined with plates of iron. Each of the pauls, being accordingly hung over a particular part of the windlafs, falls eight times into the notches at every revolution of the machine, because there are eight notches placed on it's circumference under the pauls. So if the windlafs is twenty inches in diameter, and purchaseth five feet of the cable at every revolution, it will be prevented from turning back, or losing any part thereof, at every seven inches nearly, which is heaved in upon it's surface.

As this machine is heaved about in a vertical direction, it is evident that the effort of an equal number of men acting upon it will be much more powerful than on the capstern; because their whole weight and strength are applied more readily to the end of the lever employed to turn it about. Whereas, in the horizontal movement of the capstern, the exertion of their force is considerably diminished. It requires, however, some dexterity and address to manage the handspere to the greatest advantage; and to perform this the sailors must all ride at once upon the windlafs, and, fixing their bars therein, give a sudden jerk at the same instant, in which movement they are regulated by a fort of long or howl pronounced by one of their number.

The most dexterous managers of the handspere in heaving at the windlafs are generally supposeth the colliers of Northumberland: and of all European mariners, the Dutch are certainly the most awkward and sluggish in this manoeuvre.

WINDSAIL, a sort of wide tube or funnel of canvas, employed to convey a stream of fresh air downward into the lower apartments of a ship.

This machine is usually extended by large hoops situated in different parts of it's height. It is let down perpendicularly through the hatches, being expanded at the lower end like the base of a cone; and having it's upper part open on the side which is placed to windward, so as to receive the full current of the wind, which, entering the cavity, fills the tube, and rushes downwards into the lower regions of the ship. There are generally
three or four of these in our capital ships of war, which, together with the
ventilators, contribute greatly to preserve the health of the crew.

WINGS, a name given to those parts of a ship’s hold which are nearest
to the sides, or furthest removed from the middle of her breadth.

This term is particularly used in the Stowage of the several materials con-
tained in the hold; as, Stow the large casks amidships, and the smaller bar-
rels in the wings. See Trim and Stowage.

Wings are also the skirts or extremities of a fleet when it is ranged into
a line a-breadth, or when bearing away upon two sides of an angle. Thus the
ships a, b, fig. 10. & 11. plate V. are in the wings of their fleet or squadron.

It is usual to extend the wings of a fleet in the day-time, in order to dis-
cover any enemy which may fall into their tract. To prevent separation, howev-
er, they are commonly summoned to draw nearer to the center of the
squadron before night, by a signal from the commander in chief, which is
afterwards repeated by ships in the intervals.

WOOLDING, (furlier, Fr. swoelen, Dutch) the act of winding a piece
of rope about a mast or yard, to support it in a place where it may have
been fisbed or scarfed; or when it is composed of several pieces united into
one solid. See Mast.

Woolding is also the rope employed in this service. Those which are
fixed on the lower masts, are represented in a, fig. 1, 2, & 3. plate VI.

To WORK, (manoeuvrer, Fr.) to direct the movements of a ship, by
adapting the sails to the force and direction of the wind.

A ship is also said to work, when she strains and labours heavily in a tem-
pestuous sea, so as to loosen her joints or timbers. See Pitching and
Rolling.

WORKING to windward, the operation by which a ship endeavours to
make a progress against the wind. See Beating, Plying, Turning and
Tacking.

WORMING, (emieller, Fr.) the act of winding a rope spirally about a
cable, so as to lie close along the interval between every two strands. It
is generally designed to support and strengthen the cable, that it may be
enabled to sustain a greater effort when the ship rides at anchor; and also
to preserve the surface of the cable, where it lies flat upon the ground,
near the station of the anchor; particularly in moderate weather.

WRECK, the ruins of a ship which has been stranded or dashed to pieces
on a shelf, rock, or lee-shore, by tempestuous weather.
**XEBEC**, a small three-masted vessel, navigated in the Mediterranean sea, and on the coasts of Spain, Portugal, and Barbary. See fig. 8. plate XII.

The sails of the xebec are in general similar to those of the polacre, but the hull is extremely different from that and almost every other vessel. It is furnished with a strong prow, and the extremity of the stern, which is nothing more than a fort of railed platform or gallery, projects further behind the counter and buttock than that of any European ship.

Being generally equipped as a corsair, the xebec is constructed with a narrow floor, to be more swift in pursuit of the enemy; and of a great breadth, to enable her to carry a great force of sail for this purpose, without danger of overturning. As these vessels are usually very low-built, their decks are formed with a great convexity from the middle of their breadth towards the sides, in order to carry off the water, which falls aboard, more readily by their scuppers. But as this extreme convexity would render it very difficult to walk thereon at sea, particularly when the vessel rocks by the agitation of the waves, there is a platform of grating extending along the deck from the sides of the vessel towards the middle, whereon the crew may walk dry-footed, whilst the water is conveyed through the grating to the scuppers.

When a xebec is equipped for war, she is occasionally navigated in three different methods, according to the force or direction of the wind.

Thus, when the wind is fair, and nearly astern, it is usual to extend square sails upon the main-mast; and indeed frequently on the fore-mast: and as these sails are rarely used in a scant wind, they are of an extraordinary breadth.

When the wind is unfavourable to the course, and yet continues moderate, the square yards and sails are removed from the masts, and laid by, in order to make way for the large lateen yards and sails, which soon after assume their place; but if the foul wind increases to a storm, these latter are also lowered down and displaced; and small lateen yards with proportional sails are extended on all the masts.

The xebecs, which are generally armed as vessels of war by the Algerines, mount from sixteen to twenty-four cannon, and carry from 300 to 450 men, two-thirds of whom are generally soldiers.

By the very complicated and inconvenient method of working these vessels, it will be readily believed, what one of their captains of Algiers acquainted the author, viz. That the crew of every xebec has at least the labour of three square-rigged ships, wherein the standing sails are calculated to answer every situation of the wind.
YACHT, a vessel of state, usually employed to convey princes, ambassa-
dors, or other great personages from one kingdom to another.

As the principal design of a yacht is to accommodate the passengers, it
is usually fitted with a variety of convenient apartments, with suitable fur-
niture, according to the quality or number of the persons contained therein.

The royal yachts are commonly rigged as ketches, except the principal
one reserved for the sovereign, which is equipped with three masts like a
ship. They are in general elegantly furnished, and richly ornamented with
sculpture; and always commanded by captains in his majesty's navy.

Besides these, there are many other yachts of a smaller kind, employed
by the commissioners of the excise, navy, and customs; or used as pleasure-boats by private gentlemen.

YARD, (vergue, Fr.) a long piece of timber suspended upon the masts
of a ship, to extend the sails to the wind. See Mast and Sail.

All yards are either square or lateen; the former of which are suspended
across the masts at right angles, and the latter obliquely.

The square yards, fig. 1. plate IX. are nearly of a cylindrical surface.
They taper from the middle, which is called the flings, towards the extre-
mities which are termed the yard-arms; and the distance between the flings
and the yard-arms on each side, is, by the artificers, divided into quarters,
which are distinguished into the first, second, third quarters, and yard-
arms. The middle quarters are formed into eight squares, and each of
the end parts is figured like the frustum of a cone. All the yards of a
ship are square except that of the mizen.

The proportions for the length of yards, according to the different classes
of ships in the British navy, are as follows:

\[
\begin{align*}
\text{Guns} & \\
1000 : \text{gun-deck} & : \begin{cases} 560 : \text{main yard expressed by } d, \text{fig. 1. plate IX.} & 100 \\ 570 : \text{Note, the figure reduced to } 90 \\ 576 : \text{presents the yards} & 80 \\ 575 : \text{and fails of a ship of} & 70 \\ 561 : \text{74 guns.} & 44 \\
\end{cases} \\
1000 : \text{main-yard} & : \begin{cases} 880 : \text{fore-yard.} & 100 \\ 874 : \text{all the rest.} & 80 \\
\end{cases} \\
1000 : \text{main-yard} & : \begin{cases} 820 : \text{mizen-yard.} & 90 \\ 847 : \text{60 44} & 70 \\ 840 : \text{60 24} & 100 \\
\end{cases}
\end{align*}
\]

To apply this rule to practice, suppose the gun-deck 144 feet. The
proportion for this length is, as 1000 is to 575, so is 144 to 83; which will
be the length of the main-yard in feet, and so of all the rest.
Y A R

1000 : main yard : { 726 : } main topsail-yard { 24 \\
{ 720 : } e, fig. 1. plate IX. \{ all the rest.

1000 : fore-yard : { 719 : } fore topsail-yard. \} 70
{ 726 : } all the rest.

1000 : main topsail-yard : 690 : main top-gall. yard \} all the rates.
1000 : fore topsail-yard : { 696 : } fore top-gall. yard \} 70
{ 690 : } f, fig. 1. plate IX. \} all the rest.

1000 : fore topsail-yard : { 768 : } mizen topsail-yard \} 70
{ 750 : } all the rest.

Cross-jack and sprit-sail yards equal to the fore topsail yard.
Sprit-topsail yard equal to the fore top gallant-yard.
The diameters of yards are in the following proportions to their length.
The main and fore yards five sevenths of an inch to a yard. The topsail, cross-jack, and sprit sail yards, nine fourteenths of an inch to one yard. The top gallant, mizen topsail, and spritsail topsail yards, eight thirteenths of an inch to one yard.
The mizen-yard five ninths of an inch to one yard.
All studding-sail booms and yards half an inch to one yard in length.
The lifts of the main-yard are exhibited in the above figure, by g; the horses and their stirrups, by b, i; the reef-tackles and their pendants, by k, l; and the braces and brace-pendants, by m, n.
The lateen-yards evidently derive their names from having been peculiar to the ancient Romans. They are usually composed of several pieces fastened together by wooldings, which also serve as steps whereby the sailors climb to the peek, or upper extremity, in order to furl or cast loose the sail.
The mizen-yard of a ship, and the main-yard of a bilander, are hung obliquely on the mast, almost in the same manner as the lateen-yard of a xebec, settee, or poleacre. See those articles.

To brace the Yards, (bresser, Fr.) is to traverse them about the masts, so as to form greater or lesser angles with the ship’s length. See Brace.

To square the Yards. See Lift and Square.

Dock-Yard. See the article Dock-yard.

YAW, a name given by seamen to the movement by which a ship deviates from the line of her course towards the right or left in steering.

YAWL, (bache, bachat, Fr.) a wherry or small ship’s boat, usually rowed by four or six oars. See Boat.

YEOMAN, an officer under the boatswain or gunner of a ship of war, usually charged with the stowage, account, and distribution of their respective stores.

YOKE, a name formerly given to the tiller, when communicating with two blocks or breeces affixed to the inner end of the tiller. It is now applied to a small board or bar which crosses the upper end of a boat’s rudder at right angles, and having two small cords extending from it’s opposite extremities to the stern-sheets of the boat, whereby she is steered as with a tiller.

T H E  E N D.
TRANSLATION
OF THE
PHRASES AND TERMS OF ART
IN THE
FRENCH MARINE.
The History of the United States

1607-1904

By...
A TRANSLATION
OF
French Sea-Terms and Phrases.

ABAT'TRE, or ABAT'TE, the movement of falling off to a certain point. It is particularly expressed of a ship when she lies by, with some of her sails abaft.

ABAT'TRE, to bear away; to drive; to edge further to leeward. Hence they say, Le vaisseau s'abat, the ship drives or falls, to leeward. This phrase is more peculiar to the motion of a ship when her anchor is loosened from the ground.

ABAT'TRE un vaisseau, to heave down or careen a ship.

ABORDAGE, the shock or concussion produced by two vessels striking each other in battle or otherwise; also the assault of boarding.

Aller à l'abordage, sauter à l'abordage, to board or enter an enemy's ship in an hostile manner.

ABORDER, to fall or drive aboard a ship, by accident, or neglect of the steersman; spoken of two vessels when one or both are under fail, or otherwise in motion.

Aborder un vaisseau de bout au corps, to lay a ship aboard, by running the bowsprit over her waft.

ABOUGRI, or Rabougrí, crooked-grained, or knotty; a term applied by shipwrights to timber, which, by this quality, is rendered unfit for ship-building.

ABOUT, the butt or end of any plank; also the place where the ends of two planks are joined on the ship's side, &c.

ABRAQUER. See Embracer.

ABRI, a cove, or place of anchorage under shelter of the weather-shore. Hence ABRIE', becalmed, or screened from the wind by an intervening shore.

ACASTILLAGE, or rather Encastril- lage, a general name for the quarter-deck, poop, and forecastle. Hence accastillé answers to deep-waisted.

ACCLAMPER, to fortify a mast or yard by the application of one or more fishes to it's surface.

ACCON, a small flat-bottomed boat, for catching shell-fish.

ACCORD, the order to pull together on a rope or tackle; also to row together with the oars of a ship or boat.

ACCORDS, or Accores, props or shores fixed under a ship's wales, &c. to keep her upright, and support her whilst building; or when she is brought into dock; or laid aground.

Accord droit, an upright shore or prop.

ACCORER, to prop or sustain any weighty body, as a ship on the ground.

ACCOSTE, come aboard, or come along-side; the order given to a small vessel or boat, to approach a ship.

ACCOSTER, or Accoter, to pull or thrust any thing near or close to some other, as the two blocks of a tackle, &c.

Accoster les bannières, ou les perroquets, to haul home the top-sail sheets; or top-gallant sheets.

ACCOTAR. See Plat-bord.
AGR

ACCOURSIE, a passage formed in a ship's hold, by a separation of her floors, cargo, or provisions, when she is laden, to go fore and aft, as occasion requires.

ACCRUCHER, to board and grapple an enemy's ship.

ACCUL, the depth of a bay, or small road.

ACCULEMENT, a name given to that part of a ship's bottom which becomes gradually narrower as it approaches the extremities at the stem and stern-post.

ACROTERE, a cape, head-land, or promontory.

AC TÉ de délai, an act by which a debtor loses all his effects by shipwreck.

ADIEU-VA, an expression of command, used by the master or pilot, to bid the ship's crew prepare for tacking, or veering, when the course is to be changed.

ADDONNÉ, to scant, or veer forward; expressed of the wind when it becomes unfavourable.

AFFALE, the order to lower or let down any thing.

AFFALE', to be embarked, or forced, by the violence of the wind, or current, too near a lee-shore.

AFFALE, to lower any thing by a tackle, as a yard, sail, cask, &c.

AFFINE, it clears away, or becomes fair. It is understood of the weather, after having been cloudy or over-cast for some time.

AFFOLE'É, erroneous or defective; spoken of a magnetic needle which has lost its virtue.

AFFOURCHER, to moor by the head.

AFFRANCHIR, to free the ship, or clear her hold of water by the pumps.

AFFRE'TEMENT, the freight of a merchant-ship. Hence

AFFRETER, to freight.

AFFUT de mer, the carriage of a ship-cannon.

AGITER, to swell, or run high; expressed of a turbulent sea.

AGRE'ER, to rig a ship, or equip her with yards, sails, rigging, &c.

AGRE'S. There is no sea-term in English which answers to this expression, in it's full extent; unless we adopt the obsolete word Tackling, which is now entirely diffused by our mariners. The French term comprehends the rigging, yards, sail, blocks, cables, and anchors; and is probably better translated, machinery or furniture.

AILÉE major, an officer whose duty resembles that of our adjutant of marines.

AILÉE de cannonier. See CANNONIER.

AILÉE, sharp or narrow towards the two ends, afore and abaft.

AILÉE, a watering-place for shipping; also the provision or quantity of fresh water necessary for a sea-voyage.

AILÉE, the prow or cut-water. See PERON.

AILÉE also implies a topmast, or such like piece of timber employed to support a lower mast, in the act of careening.

AILÉE de jumelage, an iron crank or brace, used to sustain the poop-lantern.

AILÉE aimantée, the magnetic needle.

AILÉES de tir, or de tiroir, fail needles, or bolt-rope needles.

AILÉLET. See PIRCHE.

AILURES. See ILLOIRES.

AILANT, the magnet or load-sole.

AILÉE de vent, a point of the compass.

Avoir de l'aire, to have fresh way through the water.

Prendre aire, to get under way.

Amortir l'aire, to lose head-way.

AILÉMENT, a place of convenience in the gallery or head of a ship.

AILÉE, that part of the poop where the ship's breadth begins to diminish as it approaches the stern.

AILÉE, close-hauled. See ALLER à la boulaine.

AILARGUER, to sheer off; to fail aloof from the shore or some contiguous object.

AILÉE, an exclamation pronounced by the sailors of the watch, at the striking of the watch-bell, every half-hour, to signify to the pilot that they keep a good look-out. See the English term Look-out.

AILÉDE, the index of a nocturnal or sea-quadrant. See OCTANT.

AILIZÉ, the reigning wind of a particular season or region.

AILÉE, a lighter or pram.

AILÉE un vaisseau, to lighten a ship by taking out a part of her lading.

AILER le cable, to buoy up the cable, by attaching barrels, or pieces of timber, to it lengthwise, so as to float it up from a rocky or foul ground: also to veer away the cable.

ALLER
ALLER à la bouline, to fail with a scant wind.
ALLER à griffe bouline, to fail with the wind upon the beam, or large.
ALLER à la derrière, to try under bare poles, or to try a hull. See Dr' rive.
ALLER au plus près du vent, to fail close-hauled, or as near the wind as possible.
ALLER de bout au vent, to go head-to-wind, or right in the wind's eye.
ALLER en course, to cruise against, or in search of, an enemy.
ALLER entre deux écoutes, to fail right afore the wind, or with both sheets ait.
ALLER vent large, to fail large, or with a large wind.
ALLER terre à terre, to coast, or fail along shore.
ALLONGE, a futtock, a general name given to the futtock timbers. See Couple and Varangue.
ALLONGE de revers, a top-timber.
ALLONGER un vaisseau, to lay a ship along-side of another.
ALLONGER le cable, to haul up a range of the cable upon deck.
ALLONGER le vergue de civadicre, to get the sprit-sail-yard fore and aft under the bowsprit.
ALLONGER la terre, to coast, or fail along shore.
ALMADIE, a small African canoe, formed of the bark of a tree.
AMARQUE, the beacon, or buoy, of a shoal, flat, or land-bank.
AMARRAGE, the ground-tackling, or furniture for mooring a ship.
Ligne d'AMARRAGE, a falling or lashing.
AMARRE, the order to fatten or belay a rope.
AMARRE de bout, the head-fall; the head-cable, or hawser with it's anchor.
AMARKER, to make fast, seize, or belay.
AMATELOTER, to mels together, to affulcate as comrades or mefs-mates.
AME d'un grand cordage, the middle flrand of a four-stranded rope.
AMENER, to lower or strike. Hence AMENE, the order to strike or lower away.
AMENER une terre, to make the land, &c.
AMIRAL, Admiral. Hence AMIRAUTE', the admiralty.
AMOILETTES or AMOILOTES, the bar-holes of any capstan or windlass.
AMORCER, to prime a cannon or other fire-arm.

AMPOULETTE, the watch-glass, kept in the binacle.
AMURE à bâbord, or à st'hord, failing on the larboard or starboard tack.
AMURER, to haul abound the main or fore-tack.
AMURER la grande voile, to bring aboard the main-tack. Hence
AMURER tout bas, implies to get the tacks close-aboard, or down as close as possible.
AMURES d'une voile, the tacks of boom-fails and stay-fails.
ANCETTES, the bowline-tringles in the bolt-robe of a fail.
ANCRAIGE, the duty of anchorage. See Mouillage.
ANCRE, an anchor.
ANCRE d'affourche, the small bower.
ANCRE second, the bft bower.
ANCRE à demeure, a large anchor sunk in a road or harbour, whereby to warp ships in and out, or secure them for a short time.
ANCRE à la veille, an anchor which is a cock-bill, or ready to be sunk from the ship.
ANCRE de fiet, the flood-anchor.
ANCRE de jussant, the ebb-anchor.
Maitrellé-ANCRE, the sheet-anchor.
ANCRE de terre, the shore-anchor, or that which lies towards the shore.
ANCRE du large, the sea-anchor, or that which lies towards the offing.
ANCRE de tout, the stream-anchor.
L'ANCRE a quitté, l'ANCRE est dérangée, the anchor is a-trip, or a-weigh.
L'ANCRE est au boffer, the anchor is at the cat-head.
A l'ANCRE. See VAISSEAU à l'ancre.
Boufer l'ANCRE. See Bosser.
Caponner l'ANCRE. See Capon.
Faire venir l'ANCRE à pic, or avier à pic, to heave a-peek upon the anchor.
Gouverner sur l'ANCRE, to sheer the ship to her anchor, when heaving a-head.
Lever l'ANCRE, to heave up the anchor, to weigh.
Chasser sur les Ancres, to drag the anchors, or bring them home.
Filer sur les Ancres. See Filer.
Lever l'ANCRE avec la chaloupe, to weigh the anchor with the long-boat.
Lever l'ANCRE d'affourche, the order to veer away one cable, and heave upon the other.
ANCER, or jetter l'ancre, Mouiller l'ancre, or simply Mouiller, Donner fond, Mater,
APP

Mettre, or Avoir le vaisseau sur le fer; Toucher, L’affer témber l’ancre. All these terms are synonymous, and signify to bring up, to anchor, to come to anchor, or to let go the anchor.

ANGE, chain-float.
ANGUILLERES, timber-holes.
ANNEAU pour attacher les vaisseaux, a mooring-ring on a wharf, buoy, &c.
ANNEAU de corde, a flapping-noose, a running-bowline-knot.
ANNEAUX d’écoutilles, or boucles, ring-bolts of the deck, &c.
ANNEAUX d’étau, the hanks of a stay-sail. See DAILLOTS.
ANNEAUX de sabords, the ring-bolts of the gun-ports.
ANORDIE, a northerly storm peculiar to the gulf of Mexico, and the adjacent coast, at certain feasons of the year, called by the English Creoles, a north.
ANSE, a cove, bight or small bay.
ANSPECT, a hand-peek or lever.
ANTENNE, a lateen sail-yard. See VERGUE.
ANTOIT, a crooked instrument of iron, used to bind the hide-planks round the timbers in ship-building. The English artificers perform this operation by wringing-bolts and staves.
A PIÇ, a-peck; or perpendicularly above the anchor, with an extended cable.
APIQUER une vergue, to top a sail-yard, or peek it up.
APLESTER, or APLESTRER, to unfurl, and for the sails, ready for putting to sea.
APOSTIS, the row-locks of a galley.
APOTRES, the hawse-pieces of a ship.
APPARAUX, the whole furniture of a ship, as the sails, yards, blocks, anchors, cables, helm, and artillery. This term is therefore more comprehensive than Agri, although less so than Equipement, which, besides the above, includes the seamen, soldiers, and their provisions.
APPARCELAADO, a flat, equal and uniform bottom of the sea.
APPARÉIL de carène, a general name for the machinery employed in careening a ship.
APPARÉIL de pompe, the pump-gear, as the boxes, brake, spars, &c.
APPARÉILLER, to make ready for falling, to get under sail.
APPARÈMENT, a birth, cabin, or store-room, in a ship.

ARG

APPOINTE', a mariner whose passage is paid by the state, and who is not obliged to work in the ship that carries him.
APPROCHER du vent. See ALLER à la bouline.
AQUE, or ACQUE, a sort of flat-bottomed lighter employed on the Rhine.
ARaignées, the crow-feet of the tops.
ARAMBER. See ACCROCHER.
ARBALETE, a cross-staff or fore-staff.
ARBALETRIERE, a platform or gangway, on which the soldiers stand to fire their musketry in a row-galley.
ARBORER un mât, to step, or set up a mast; to get any mast an-end.
ARBORER un pavillon, to hoist and display a flag or ensign.
ARIO. See MÂT.
ARC, or ligne courbe de l’éperon, the curve of the prow or cut-water.
ARCANNE, a sort of red chalk or oker, used by shipwrights in France, to mark the timber in hewing or forming it.
ARCASSE, the stern of a ship or counter; also the shell of a block.
ARCHOUTANT, a spear or small mast; more particularly, a boom to extend the bottom of a fludding-sail, square-sail, or driver. See BOUTE DEHORS.
ARCHOUTANT d’échafaud, any prop or shore of a scaffold used in ship-building.
ARCEAUX, a name formerly given to the rails of the head. See LISSè DE PONTAINE.
ARCENAL de marine, a royal dock-yard, together with its Warren or gun-wharf.
ARCHE, a thin covering of lath or shingle, and sometimes of rope, which covers the ship’s pump like a sheath, to preserve, and keep it tight.
ARCHIPOMPE, the pump-well.
ARCHITECTURE navale, the art of ship-building.
ARDENT, a corporal, or meteor, often seen at sea in a storm. See FEU St. Elme.
ARDENT, the quality of gripping in the steerage, or carrying a weatherly helm.
ARER, or Chasser, to chase. See-Chasser.
ARGANEAU, or ORGANEAU, a ring-bolt of the deck or sides of a ship.
ARGANEAU d’œuvre, the anchor-ring.
ARGOUSIN, a petty officer in the galleys, whose duty it is to fix on, or take off the shackles of the flaves; and to prevent them from escaping. It answers nearly to the corporal of a ship of war. See PREVÔT.
ARISER
ARRISER les vergues, to strike the lower yards down upon the gunnel.

ARMADILLE, a small squadron of Spanish frigates of war, usually employed to guard the coast of New Spain, and prevent illicit trade.

ARMATEUR, a privateer or cruiser. See CORSAIRE.

VAISSEAU ARME' EN GUERRE, a merchant-vessel fitted for war, and furnished with a letter of mart to cruise against the enemy.

ARME'E navale, a naval armament, a fleet of ships of war.

ARMEMENT, the equipment or fitting out of a ship of war, or merchantman, for a cruise or voyage.

Etat d'ARMEMENT, a list of the officers intended to serve in a squadron of men of war.

ARMER les avirons, to ship the oars ready for rowing.

ARMER un vaissel, to arm a ship for war, or equip her for a voyage.

ARMURIER, the armourer of a vessel of war.

ARONDELLES de mer, a general name for small vessels, as brigs, sottees, tartans, &c.

ARQUE', broken-backed or hogged; drooping at the stem and stern.

ARRET de vaissel et fermetures de port, a general or particular embargo laid on shipping.

ARRIER', abaft; the hind part of a ship.

FAIRE VENT ARRIERE, to bring the wind aft, or after.

ARRIERE-GARDE d'une armée navale, the rear division of a squadron of vessels of war.

TOMBER EN ARRIERE, to fall astern.

ARRIMAGE, the flowage or disposition of the cargo in the hold.

ARRIMER, to flow the hold, to trim the ship by her flowage. Whence

ARRIMEUR, a flower.

ARRISER, or AMENER. See AMENER.

ARRIVAGE, an arrival of merchandise in a port or haven.

ARRIVE, the order to put the helm a-weather, so as to bear away, or edge further to leeward.

ARRIVE tout, the order to put the helm hard a-weather.

N'ARRIVE pas! don't fall off! luff!

ARRIVEE, bearing up, or the movement of veering or bearing away; also the angle of falling-off in trying.

ARRIVER, to bear away before the wind.

Hence

ARRIVER sur un vaissel, to bear down on a ship.

ARRIVER beaucoup, to bear away large.

ARTILLE', or ARTILLEE, mounted with cannon: as, vaissel ARTILLE' de trente pieces, a ship mounting thirty guns.

ARTIMON, the mizen-mast, also the mizen itself.

ASPECT, the looming or perspective view of the land from the sea.

ASSECHER, être à sec, to appear dry, as a rock or shore when the tide of ebb has retreated from it.

ASSEMBLER, to unite the several pieces of a ship, as by rabbeting, scarfing, scoring, tenenting, &c.

ASSJETTIR, to fix a piece of timber firmly in its place, in ship-building.

ASSURANCE, a contract or policy of insurance.

Pavillon d'ASSURANCE, a flag or signal of peace.

ASSURER, to insure a vessel against the dangers of the sea, &c.

ASTROLABE, a nocturnal.

A TRAIT & à rame, to advance with oars.

ATTEINDRE, to join a ship at sea, either by accident or pursuit.

A'TELIER de Construction, a shed or store-house to contain shipwrights tools; also a loft or work-house near the dock; or a wharf, &c. for building sea-vessels. See CHANTIER.

ATTERAGE, a land-fall. Whence

ATTERIR, to make the land.

ATTERRISSEMENT, a mound or bank of earth thrown up near the margin of a river, by violent freshes or storms.

ATTOLONS, a cluster of keys or small islands, a chain of rocks.

ATTRAPE, pendant or guy of the relieving tackle used in careening a ship. See CORDE DE RETENUE.

AVAL. Se AVAL l'eau.

AVANT, forward, afore, ahead.

ÊTRE de l'AVANT, se mettre de l'AVANT, to be in the van of a fleet.

Le vaissel est trop sur l'AVANT, the vessel is too much by the head.

AVANTAGE, the head, with its cutwater or prow. See EPERON.

AVANTAGE du vent, to windward of some other ship.

AVEZ-
A V A N T - G A R D E , the van of a fleet of vessels of war.
A V A R I E , the damage or loss which a ship may have sustained, by accidents or bad weather, in her voyage; also the duty paid for anchoring in a port.
A V A S T E , away.
A V A U E à mariner, to sail with the tide, to tide it up or down a river.
A U B A L E ' T R I E R E S , a sort of ballustrade erected on the sides of a row-galley, to support the rails of the gang-way, &c.
A U B I E R , the sap of timber.
A U B I N E T , or Saint Aubinet, No man's land.
A U G E à gendron, a tar-bucket.
A V I R O N , an oar. See R A M E .
A V I T A I L L E M E N T , or A V I C T U A I L L E R , the sea-victualling or provision of a ship.
A U L I R E , awning of canvass over the decks, to preserve them from being cracked or split by the heat of the sun. It is supported by a range of stanchions. See T E N D E L E T .
A U L O F , luff. The order from the pilot to steer nearer the wind. See O L O F E .
A U M O N I E R , the sea-chaplain.
A V O C A T Fiscal. See F I S C A L .
A V O I E R , to rise, to freshen; expressed of the wind when it has changed.
A V O I R gagné, to have fore-reached, or gained upon; spoken of a vessel relatively to some other in sight.
A V O I R le pied marin, to wear sea-shoes; or to walk firm in a ship like a tailor.
A V O I R pratique, to have practic, or free intercourse with the natives, after having performed quarantine.
A V O I R vent arrière, to have the wind aft.
A V O I R vent de bout, to have the wind right abend, or a-head. See A L L E R de bout, &c.
A U plus près de vent, close upon a wind. See A L L E R au plus près, &c.
A U S S I E R E , or H A U S I E R E , a hawser or small cable.
A U T A N , a guft or squall of wind from the south.
A U T A R E L L E S , the thoulas or rowlock-pins of a galley.
A V U S T E , or A J U S T E , a bend, or knot by which the ends of two ropes are fastened together.
A V U S T E R , to bend, or tie two ends of rope together.

B.
B A B O R D . See B A S - B O R D .
B A C , a large flat-bottomed ferry-boat, for horses, carriages, &c. See C H A L A N D .
B A C d e n a v i g e r , a punt, or small boat, used by the shipwrights to carry pitch, tar, &c.
B A C A L A S , cleats of various kinds.
B A C A L I A U , a name given to dried salt cod-fish.
B A C A S S A S , a sort of lighter, somewhat resembling an American periagua.
B A C H E , or B A C H O T , a yawl or wherry.
B A C L A G E , a tier of boats moored alongside of each other.
B A C L E R l e s p o r t s , to fortify harbours by fixing chains or booms athwart their entrances; also to bar-in the gun-ports of a ship.
B A G U E , a small grommet, or wreath fixed in the eye-let hole in a sail.
B A I E . See B A Y E .
B A I L L E , an half-tub used to contain shot, grenades, matches, &c. also to hold water for cooling the guns in time of action, or to freshen the sail provisions.
B A J O U , or B A J O N , a fort of tiller.
B A I S S E R , to fall down with the tide; to drive or be carried along, according to the course of the stream.
B A I S S E R le pavillon. See A M E N E R .
B A I S S E R les voiles, to lower the sails.
B A L A I d u ciel, the sweeper of the sky; a name given by failors to the north-west winds of America, which always produce clear weather.
B A L A N C E R , to balance, that is, to contract, retrench, or fold up part of a sail at one corner. It is peculiar to the mizen, and to main-fails extended on a boom. See F A N O N .
B A L A N C I E R d e l a m p e , the rings by which the lamp is flung in the bisinacle.
B A L A N C I E R S
BAR

BALANCIERS de compos, or de bouffle, the gimbs of a sea-compass, by which it is hung in equilibrium.

BALANCINES, lifts of the yards.

Balancine de chaloupe, the topping-lift of a boat's boom.

BALANT, the height of a rope.

Belayeur d'une nature, the swabber or sweeper of a ship, usually called captain-swabber.

BALCONS, the galleries framed in the stern or quarter of a great ship.

BALISE, a sea-mark; the beacon or buoy of a hoal, or dangerous channel.

BALLAST. See lest.

BALON, a fort of galley or barge of Siam.

BANC, a sand-bank; also the bench, thwart, or beam of a boat.

Banc à s'assembler, the seats or benches placed in the stern-sheets of a boat or small vessel.

Banc à coucher, a fort of folding bedstead, or fettee-bed.

BANCS de ramiers, the 'thwarts or seats of the rowers in a galley or row-boat.

BANCHE, a ridge or reef of rocks, under the surface of the water.

BANDE, the side of a ship; also a coast, or the side of a river. Hence

Bande du nord, the northern shore, &c.

Vaisseau à la bande, a ship laid on the car-ree.

Bande de fards, a tier of gun-ports on one side of a ship.

BANDER une voile, to line a sail at the edges in order to strengthen it.

BANDIÈRES, the flag or colours in the language of the galleys.

BANDINS, a fort of stanchions or small pillars, ornamented with sculpture, and used to support the after-canopy or awning of a row-galley.

BANDOULIÈRE, a cartridge-box for musquetry, used by the marines or others who fight with small arms.

BANNÉAU. See Boué'e.

BANQUE, a banker, or vessel which fishes on the banks of Newfoundland, &c.

BANQUETTES, the stretchers of a galley or row-boat.

BAT'TEME, the ceremony of ducking a sailor the first time he pails the line, or tropics; from which he may be redeemed by paying a certain forfeit. Hence

BAPTISER, to duck, &c.

Baptiser un vaisseau, to give a ship her name at the time of launching.

BARAT, or Baraterie, the forfeiture or fine paid by the master of a ship and his crew, for embezzebling part of the cargo, or suffering it to be damaged by neglect of stowage, &c.

BARBE. See Sainte-Barbe.

BARBES d'un vaisseau, the entrance or fore-foot of a ship.

BARBEYER, to touch or shiver; expressed of a sail when shaking in the wind.

BARCES, short cannon, refembling a falconet, formerly used at sea.

BARCO-LONGO, a Spanish coasting-boat.

BARDIS, water-boards or weather-boards.

BARDIS also implies the partitions occasionally formed in the hold to separate different species of grain, when the ship is laden therewith, &c.

BARGE, an old word for skiff or yawl.

BARI, Barillage, Barique, small casks of different sizes.

BARIL de poudre, a powder-cask, containing an hundred pounds of gun-powder.

BARILLARD, the steward, or officer who has charge of the wine and water in the row-galleys.

BARQUES, à feu, or fondroyantes, thundering-barrels, or casks which contain the fire-pots in a fire-ship.

BARQUE, a fettee, or two-masted vessel with lateen sails.

BARQUE à eau, a watering-boat, or vessel employed for carrying water.

BARQUE d'avit, an advice-boat.

BARQUE de défense, a fort of lighter.

BARQUE, de vivandier, a provission-boat; a bum-boat.

BARQUE droite, the order to trim the boat upright, when the heels.

BARQUE en fagot, a boat in frame; an assemblage of all the pieces of a boat, ready formed and put on ship-board, in order to build her at the place where she may be required.

BARQUE longue, or double chaloupe, a fort of pinaces, or large long-boat.

BARQUEROIS, Barquette, or Barcanette, a fort of pilage-boats.

BARRE, the bar of a harbour; also a chain of rocks.

BARRE à bord, hard over; the order to put the helm close to the ship's side.

BARRE d'arcoffe, a transom. See Lisses.

Barre de gouvernail, the tiller of the helm.

Barre de gouvernail, toute à bord, the whole force of the helm when the tiller is hard a-starboard, or hard a-port.

See Change.
BAS

Change la Barre, the order to the steer-
man to shift the helm.
Pouffe la Barre à arriver, no nearer, put
the helm a-weather.
Pouffe la Barre à venir au vent, luff, or
keep your luff.
Barre de pompe, the pump-spear.
Barre de pont, the deck-tranfion, parallel
to the wing-tranfion.
BARRER, to feecure; as, BARRER en
port, to feecure or defend a harbour, by
fixing a boom acrofe the mouth of it.
BARRÉS, the booms or chains fixed acrofe
a harbour, to feecure it from the assaults
of an enemy. See ESTACCADF.
Barres de caboflan, the bars of the crab or
capftern.
Barres de contre-areffes, or sous barres
d'areffes, the lower tranfions.
Barres d'étoutille, the hatch-bars.
Barres de bume, barreaux, or teffaux, the
frames of the crofs-trees and treffle-trees.
Barres de panneaux d'étoutille, the carlings,
or ledges placed athwart under the covers
of the hatchways.
Barres de porte, the gun-port bars, by
which their covers are fastened in.
Barres de virevant, the hand-spces, or bars
of a windlafs.
BARRILLARD. See Barillard.
BARROTE, full to the beams; an ephefet
given to a vefBel which is laden up to the
beams of her deck. Whence
BARROTS, the beams of the higher decks.
BARROTINS, ledges, or small spars,
placed between the beams.
Barrotins de caillebotis, ledges of the grat-
ings.
Barrotins d'étoutilles, the spurs of the
beams, or the pieces which are joined to
the beams, to fortify the deck a-breath of
the hatchways.
BAS de fite, iron garters; a cant-term im-
plying bilboes or fetters.
BAS le pavillon, the orders to haul down the
colours.
BASBORD, the larboard or left fide of a
fhip.
Vajfeau de BASBORD, a low built vefBel,
whose deck extends not throughout her
whole length.
BASBORD tent, hard a-port; the order to
put the helm clofe to the larboard fide.
BASBORDES, or BASBORDUIS, the lar-
board-watch.
BASE des faboris, the plank between the
lower edges of the gun-ports and the wale.

BAT

BAS-FOND, a fhoal or shallow.
BASSE, or BATTURE, a ridge of rocks,
land-banks, &c. with breakers.
BASSE eau, low-water; the left of the ebb.
BASSES voiles, the courfes, or principal
lower fails of a fhip, viz. main-fail, fore-
fail, and mizen; and fometimes mizen
ftry-fail and fore-fail.
BASSIN, a bafin, or bafoon; also a small
harbour within a larger one.
BASTARD de racage, the parrel-rope.
BASTARDE, the largest fain of a galley,
which is only carried in fair weather and
light winds.
BASTARDES, or BATARDELLES, square-
headed row-galles.
BASTINGAGE, painted quarter-cloths,
or waifl-cloths; also the quarter net-
tings, &c.
BASTUDE, a peculiar fort of fishing-net.
BATAILLE navale, a general or particular
sea-fight.
BATARDEAU, a fort of dam.
BATAYOLLES, the quarter flanchions,
or the flanchions which fupport the rails
of the waifl and quarter.
BATAYOLETTES, small flanchions,
used to fustain the awnings.
BATEAU, a general name for feveral
kinds of boats; as,
BATEAU défeur, a ballaf-boat or lighter.
BATEAU pêcheur, a fishing-boat, &c.
BATELEE, the lading; or number of paflengers, to be carried in a boat.
BATELIERS, the boat-men; the wherry-
men.
BATIMENT, a vefBel or small fhip of any
kind.
BATON astronomique, Jacob's flaff; an
inftrument formerly used for taking alti-
itudes at sea.
BATON à meche, a lint-flock. See Boute-
feu.
BATON de flamme, the flick which spreads
the inner part of a pendent.
BATON de giroître, the fpindle or flag-flaff
upon which the vane turns, at the maff-
head.
BATON de juflice, a cobbing-board.
BATON de pavillon, or d'ensigne, the flag-
flaff, or en flav-flaff.
BATON de vendel, or de guifpon, the handle
of a long tar-brush or pitch-mop.
BATONNE d'eau, the quantity of wa-
ter thrown out by a fhip's pump at each
froke of the brake or handle.
BATTANT de pavillon, the fluttering or
waving
waving of an ensign, as it flies in the wind.

BATTANT, fly of the ensign.

BATTERIE, the whole range of cannon placed on both sides of any one deck in a vessel of war.

Batterie & demi, a deck and a half of cannon; spoken of a frigate which carries cannon on her upper-deck and quarter-deck only.

Mette la Batterie dehors, the order to run the guns out.

Mette la Batterie dedans, run in the guns.

BATTRE aux champs, to found a march or chase at sea.

Battre à Diane, to beat a reveille on the drum, as at day-break.

Battre la marche, to give the signal for failing.

BATTU, weather-beaten, shattered by a florn, or diabled in battle.

BATTURE. See Basses.

BAU, a beam of the lower-decks.

Bau de dale, the hindermost or aftmost beam.

Bau de los, the foremost beam in a ship.

Bau-maître, or Maître-Bau, the midship-beam, or the beam which is placed at the extreme breadth.

BAUX, strong pieces of timber, extending across a ship, from side to side, to support the decks, and retain the sides at their proper distances.

Baux-faux, or Faux-Baux, the beams of the orlop.

BAUDET, a lawyer's frame, horse, or trefle.

BAUQUIÈRES, the clamps, or inner planks, by which the beams of a ship rest upon her sides.

BAYE, a bay or bight.

BAYES, or Baies, d'un vaisseau, the holes in the deck through which the masts are let down, called also the partners.

BEAUPRÉ, the bowsprit. Whence Petit Beaupré, the jib-boom.

Beaupré fur poupe, close behind; spoken of one ship which is so near to the stern of another, in chase or otherwise, that the bowsprit of the former hangs over the stern of the latter.

BEC DE CORBIN, a caulker's sharp iron, or instrument, with which he cuts the old oakum out of a seam.

BELANDRE, a small vessel, carrying about eighty tons, and usually navigated by three or four men. This is nowise like the English bilander.

BELLE, the main-deck, or waist. See Embelle.

BERCEAUX. See Bigot.

BERCHE. See Barces.

BERGE, a bold shore; also an artificial mound, or rampire, on the banks of a river, to prevent it from overflowing.

BERNE, a waist of the ensign: hence Mettre le pavillon en Berne, to hoist the ensign with a waist.

BESSON, the arching or convexity of the beams and decks. See Tonture.

BESTION, the head, or ornamental figure, on the prow of a ship.

BIDON, or Canette, a can.

BIGOTS, the ribs of a parrel. See Ra-cage.

BIGUES, certain props, or shore, let into the ports of a ship, to bear her up when the reefs upon the ground; also the masts of a fleecer-hulk.

BILANDRE, a small merchant vessel with two masts, but differing from the British of that name.

BILLE, the becket of the tacks and sheets.

BILLER, to fasten a rope to a boom, in order to ride or tow a boat.

BILLOTS, dead-wood, or short pieces of timber laid upon the keel, between the crotches, afoare and abaft. See Contre-quille.

BISCUIT, biscuit, sea-bread.

BISE, vent de nord-nord-est, the north-north-east wind.

BISTORD, spun-yarn.

Bistord de trois fils, three-yarn spun-yarn:

BITTES, the bits. Whence, BITTER le cable, to bit the cable.

BITTON, a post fixed on a wharf, or pier, wherefo to fasten a cable.

BITTONS, or TACQUETs, the top-fall-feeet bits.

BITTURE, a range of the cable drawn upon the deck, as ready for bitting.

BILU, a temporary or acting officer, who performs the duty of another while the latter is sick or absent.

BLIN, a machine used to drive the wedges under a ship's bottom, when she is to be launched.

BLOUER, or Bloquier. See Ploc-quier.

BOÎTE du gouverneur, the rudder-case, or the box placed above the rudder-head, upon the deck, through which the tiller-palies.
BOMBARDE, a bomb-vehicle, a ketch.
See Galiote.
BOMBÉ', incurvated; an epithet given by shipwrights to crooked timber, fit for knees, crotchets, or standards.
BOMERIE, bottomy.
BON-FRAIS, a steady breeze, or fresh gale.
BONNACE, calm weather, with a smooth sea.
BONNE de nage, swift of rowing; a fine rower.
BONNE-VOLGIE, a volunteer-rower in the galleys.
BONNEAU, a buoy. See Boue’e and Orin.
BONNETTE, the bonnet of a sail; also a general name for flutting-fails.
BONNETTE lardée, a bag or basket charged with cinders, ashes, and chopped oakum, to be used in the act of FOTHERING, which see.
Laffer la Bonnette, to lace on the bonnet of a sail to its principal part.
BONNETTES, en étui, a general name for all flutting-fails.
BON-TOUR, a favourable swing or turn: expressed of a ship when she keeps her hawse clear by winding the right way.
BORD, the side of a ship.
Renverfer, tourner, changer le Bord, to veer or tack.
Rendre le Bord, to anchor, to come to an anchor.
Bord à bord, along-side; spoken of two ships lying near to each other.
Bord allonge, or qui allonge, a long board; understood of a vessel plying to windward.
Bord à terre, Bord au large, standing in, or off, shore.
Bord de la mer, the sea-coast, or shore.
Bord sur bord, tack for tack, hank for hank.
Faire un Bord, to make a tack.
Bon Bord, a good board.
Courir même Bord que l’ennemi, to stand on the same tack with the enemy.
BORDAGE, the planks of a ship’s side.
Hence
Français Bordage, the outside planks.
BORDAGES de fond, the planks of the bottom or floor.
Bordages pour recouvrir les ponts, the planks of the decks.
BORDE au vent, & BORDE sous le vent, haul aft the sheets.
BORDE', one board in tacking; also a watch of part of the crew.

Faire le grande BORDE'E, to set a watch of half the ship’s crew, when in any dangerous road, usually called the sea-watch.
Faire la petite BORDE'E, to set the quarter-watch.
BORDE'E de canon, all the guns on one side of a ship, usually called a broadside.
Envoyer une BORDE', donner la BORDE', to discharge the broadside upon an enemy.
Courir plusieurs BORDE'Es, to ply to windward by boards, or by tacking.
BORDER, to plank a ship, or lay on her out-side planks; also to stand towards, examine, or observe the motions of an enemy at sea.
BORDER & breffer au vent, to trim the falls by the wind.
BORDER à queue, to plank a ship with clench-work, or plank-over-plank.
BORDER en tendelle, to lay on the planks level, or with their surfaces even.
BORDER l’artimon, to haul the mizen sheet flat aft, or clove aft.
BORDER les avertis, to ship the oars ready for rowing.
BORDER les écoutes arriéres, to haul aft both sheets of a sail, for going a'fore the wind.
BORDER les écoutes tout plat, to tally the sheets flat aft.
BORDER au vaisseau, to board or enter a ship, either in a hoffile or friendly manner.
BORDER une voile, to trim a sail by the tacks and sheets.
BORDIER, lap-sid’d; expressed of a ship which is stronger on one side than the other.
BORDS, leeches; borders or edges of a sail, which are either sloping or perpendicular.
BORE’AL, vent BOREAL, the northern wind.
BORNAGER, a method of shoving a great boat off from the shore, in a river, by fixing one end of the setting-pole against her side, whilst the other bears upon the ground.
BOSPHERE, a freight, or narrow channel; as the Thracian Bosphorus.
BOSSAGE, a name given by shipwrights to crooked timber, fit for knees, &c.
BOSSE, a powder-flask, used by privateers, in naval engagements.
Serre-Bosse, the thack-painter.
BOSSEMAN, or second contre maître, the boatswain’s mate.

BOSSER
BOSSER l'ancre, to flow the anchor upon the bow, &c. to hoist it up thereon by the cat and fish-tackles.

BOSSER le Cable, to stopper the cable. From BOSSES, stoppers of the shrouds or stays.

BOSSES à aiguillettes, or à rubans, stoppers of the cable.

BOSSES de chaloupe, or de canot, the boat's painter or mooring-ropes.

BOSSOIRS, the cat-heads of a ship.

BÔT, a boat, of several kinds. Whence Paquet-Boî, a packet, or packet-boat.

BOUCHE, the mouth of a river. Bouchaut is also sometimes used in this sense.

BOUCHE de canon, the bore or caliber of a piece of ordnance.

BOUCHIN, the extreme breadth of a ship, from outside to outside.

BOUCHON d'épice, de foin, ou de paillle, the wad of a cannon, formed of oakum, hay, &c.

BOUCHOTS, small, pens, or places inclosed by hurdles, for fishing on the sea-coast.

BOUCLE, shackles or bilboes. Mettre un matelot sous Boucle, to confine afailor, or put him in irons.

En port Boucle, a harbour which is land-locked.

BOUDINURE de l'arganeau, the puddening of the anchor. See Embodinure.

BÔUE'E, a buoy; a close caulk, or block of wood, fastened by a rope to an anchor, to ascertain its situation with respect to the ship, or over banks, shallows, and rocks, as a warning to passing ships to avoid them.

BÔUE'E de bout de mât, a wooden-buoy, formed of an end of a mast.

BÔUE'E de bâroil, a can-buoy, or nun-buoy.

BOUGE, incurved; spoked of a piece of timber; also of the rounding or convexity of the decks and beams. See Tonnure.

BOUILLAR, a squall, a cloud charged with wind and rain.

BOUILLONEMENT, the rippling of a river, as it is discharged into the ocean.

BOULETS, balls or bullets of a cannon. Whence

BOULETS rouge, red-hot bullets.

BOULETS à chaîne, chain-shot.

BOULETS à branches, or à deux têtes, bar-shot, or double-headed shot.

BOUILLER, a sort of fishng-net.

BOULINE, the bowline of a fail.

BOULINE de la grand voile, the main bowline.

BOULINE de recors, the lee-bowline.

Faire courir la Bouline, to sentence a criminal to run the gauntlet.

BOULINER. See ALLER à la bouline.

BOULINGUE, the royal-fail.

BOULINIER, a ship that fails close-hauled. Hence bon Boulinier signifies a ship that plies well to windward.

BOULON, an iron bolt. See CHEVILLE.

BOULONS d'offit, the bolts of the gun-carriages.

BOUQUE, an entrance or channel between islands, or in narrow seas.

BOUQUETS, the fore-thwarts, or forecastles of a boat.

BOURCIER un voile, to carry a sail clewed up, or hauled up in the brails. See CARGUER.

BOURCET, a name given to the fore-fail and fore-maft of small vessels in the English Channel.

BOURGEOIS, the proprietor or owner of a ship.

Bourgeois is also the person who bargains with a shipwright to build a ship, called the contractor or ship's husband.

BOURGUIGNON, an island of ice.

BOURRASQUE, a violent squall of wind.

BOURRE, the wadding of a charge in artillery.

BOURRELET, or Boùrelet, the puddenings of the yards.

BOURSE, or Bourse, the exchange, or place of resort for merchants, mariners, &c. in a commercial sea-port.

BOUSSOLE, or COMPAS de route, the sea-compas.

BOUSSOLE offéc, an erroneous or defective compass. See Affolleé.

BOUSSOLE de cadran, an horizontal dial, with a magnetic needle.

BOUT de beaupré, a boom used for a bow-sprit in small vessels.

BOUT de corde, a rope's end, a short piece of rope.

BOUT de cable, piece of junk, or old cable.

BOUTS de corde, a cat of nine tails, colt or rope's end for punishment.

BOUT de vergue, the yard-arm, but more particularly that part of it which reaches beyond the upper corners of its respective fail, to extend the reef.

BOUTÉ DEHORS, the fludding-fail booms: this name is also given to a small mast.
maft crested in the tops, to hoist up and
fix the caps on the maft-head.
Boute dehors, is likewise a boom to push
off some contiguous ship, particularly
when the approaches for any hostile pur-
pole, as to board, &c. in which fence it
is usually called fire-boom.
Boute de luf, or Boute-lof, the bumkin,
or boom of the fore-tack.
Boute-feu, a lint-flock; also the name
of an officer who is appointed to fire the
cannon.
Bouti-lof. See Bouter de luf.
Bouter le cable au cabesfian, &c. vire l'ancre,
to bring the cable to the capstern, or to
bring to the cable, and heave towards
the anchor.
BOUTELLIES, the quarter-badges of a
ship. See Balcons.
Bouteilles de callebofle, bundles of buoy-
vant rushes, used in the exercise of learn-
ing to swim.
BOUTER, to bear off, to push, to join,
&c.
Bouter à l'eau, to launch into the water,
to put to sea.
Bouter au large, to stand out into the
offing.
Bouter de luf, to haul the wind; to trim
sharp.
BOUTES, large casks, which hold fresh
water for the use of a sea-voyage.
BOUTEUX, or Bout de quere, a sort of
fishing-rod.
BOUTONNER la boute. See Bon-
nette.
BOYE. See Boue're or Balise.
BOYER, a kind of Dutch hoop.
BRAGUE, the breaching of a cannon used
at sea.
BRAI, pitch. Hence braier un vaisseau, is
to pay the seams of a ship with hot melt-
ed pitch, after they are caulked with
oakum. It is sometimes mixed with
other compositions, to nourish the tim-
ber, and is then called Brai gras.
BRANCHE de ciprés, beaconage; a small
duty paid by shipping in France, for
keeping the beacons in repair.
BRANCHE superficielle d'une courbe, the upper
part of a knee or standard.
BRANCHE d'embas, the lower arm of a
knee, &c.

* This manœuvre, according to the best of my
information, is very little known amongst our ma-
iners; it is performed by lining, or doubling, the
flakes of an anchor, with two pieces of plank, to
strengthen and prevent them from turning in a soft
and oozy ground.

BRIEU,
CAB

BRIEUX, a term used in Brittany to express the salute of striking the flag, or top-sails, to an admiral, &c. Also a duty paid for entering a harbour.

BRIGANTINE, a small light vessel, navigated by oars and sails; but differing extremely from the vessel known in England by the name of brig or briggantine.

BRIMBALE, the brake or handle of a ship’s pump.

BRION, the fore-foot, placed at the extremity of the keel forward.

BRIS, a duty formerly paid to the lord of the manor, by those who suffered shipwreck thereon. This unjust exaction is now totally abolished. See DEBRIS.

BRISANT, or Brisans, a shelf or ridge of rocks near the surface of the water, and distinguished by the breakers that burst over it; it is also applied to the breakers themselves.

BRISE, a fresh gale or breeze; also the trade-winds, or sea-breezes between the tropics.

BRISE carabinée, a violent wind or squall.

BRISER, to split, or dash forcibly against a rock or shelf; expressed of a ship when she is stranded.

BRISES, the land-winds which blow during the night in the West-Indies, &c.

BROCHETER, to give the scantlings of the several pieces of a ship’s frame.

BROU, the bark of the cocoa, of which the Indians form the cordage used in their shipping.

BRUINE, small drizzling rain.

BRULOT, a fire-ship.

BRUME, a mist or fog at sea.

Temps embrume, or couvert de brouillard, thick misty weather.

BUCENTAURE, a sort of galley used by the state of Venice, when the doge performs the annual ceremony of espousing the sea.

BUCHE, a herring-buys, or small fly-boat used in the herring-fishery.

BULLETIN, a certificate given to sea-officers and failors, when they are registered in a port, to testify their qualities, age, privileges, and time of service.

BURINS. See TAPPE.

BUTIN, the pillage or plunder of a prize taken from an enemy.

CABANE, a flat-bottomed passage-boat, with a deck, navigated on the river Loire.

CABANES, the cabins or apartments wherein the officers and failors sleep or mefs aboard a ship. See TEUGUE.

CABESTAN, the capstern or crab of a ship.

Vire au CABESTAN, to heave at the capstern.

CABILLOT, a toggle; also a wooden pin for belaying ropes.

CABLE, the cable; also a measure of 120 fathoms, called by the English seamens a cable’s length.

Cable à pip, the situation of the cable when the ship is close a-peek upon her anchor.

Cable de toue, a stream-cable, or large hawser.

Cable tourné, or qui a un tour, or demi-tour a foul hawse; a cross or elbow in the hawse.

CABOTER,
CAL

CABOTER, to coast, or fail along the shore between cape and cape.
CABOTIERE, a barge; also a large flat-bottomed lighter with a long rudder.
CABRE, a fort of gin, or machine resembling the fleers of a ship, and used to heave up pieces of timber on the wharf of a river.
CABRIONS, certain wedges fixed under the train of a gun-carriage, to secure the cannon when the sea is very high.
CADENES de haubans, the chains of the throuds, the chain-plates.
CADRE, a bed-frame, resembling the frame of a cot, wherein the sea-officers sleep; these are usually bounded with small cords by the French, and flung by the corners without a cot, or cover of canvas.
CAGE. See Hone.
CAGOUILLE, a fort of volute or ornament fixed on the extremity of the prow of palaces, xebecks, tartans, as exhibited in fig. 12. plate XII.
CALC, the yawl or skiff of a galley; also a small Polifh vessel, navigated on the Black Sea.
CAIES, a ridge of rocks, or sand-banks; called in the West Indies, keys.
CAILEBOTIS, the gratings of the hatches.
CAJOLER, to ply to windward with the tide; to work by short tacks.
CAISSE de poule. See Arcasse and Mouffle.
CAJUTES, the cabins or bed-places, which are ranged along the inside of a merchant-ship, for the common sailors, &c.
CALANGE, or CALE, a small harbour behind a hill, or rising ground, on the sea-coast.
CALCETS, the cheeks or hounds of the mast, which support the brazen blocks in a galley.
CALE, the hold of a ship; likewise the lead of a fishing-line used to sink the bait.
Douver la CALE, to duck or plunge an offender from the yard-arm into the sea, by way of punishment.
Douver la grand CALE, to keel-haul; a punishment peculiar to the Dutch.
CALE-BAS, a down-haul, or down-haul tackle.

CANE

CALE-HAUBAN, a breast back-flay for the top-maft or top-gallant-maft.
CALER, to sink down in the water; also to founder at sea.
CALER les voiles. See Amener.
Caler also signifies to quoin or wedge up any thing.
CALE-TOUT, the order to let go anmain, or at once.
CALS, or rather Calfat, caulking.
Calfat, or Calfateur, a caulker.
Calfat also signifies a caulking-iron.
CALFAT double, a caulker’s making-iron.
CALFATER, to caulk a ship or boat.
Calfatine, a caulker’s boy, who spins or twiffs his oakum.
CALIBRE, the bore of a cannon or other fire-arm.
CALIBRE de vaisseau, the model of a ship.
CALIORNE, a winding-tackle; a tackle formed by a rope palling through two three-fold blocks.
CALME, calm, a cessation of wind.
Calme tout plat, a dead calm, or a flat calm. Whence
CALMER, to become calm.
CAMBRER, to bend the planks or boards of a ship to their proper curve, by floves, &c.
CAMPAGNE fur mer, a voyage, a cruise at sea during a season, or limited space of time.
CANAL, a canal, freights, or channel.
Canal de l’étroite, the concavity in the top of the item, wherein the bowspirit rests.
Canal, or Creux autour d’une poule, the channel of a block through which the rope plass, over the heave or wheel.
Candelette, the fore-tackle. See Capion.
CANEFAS, canvas or sail-cloth. See Toile.
CANON, a cannon, or piece of ordnance.
Canon à la ferre, a gun houfed athwart, with the top of its muzzle bearing against the upper edge of the port.
Canon allongé contre le bord, a gun houfed fore-and-aft, close to the ship’s side, a-breast of its own port.
Canon aux sabords, a gun levelled to the point-blank range.
Canon de courfier, the bow-chace of a row-galley.
Canon démardé, a cannon drawn in to be charged.

Canon,
CAR

CAP

Canon détapé, a cannon with its tompion taken out.
Canon moindre, a cannon whose calibre is not proportioned to the thickness of the metal.
Canon renforcé, a cannon whose breech is reinforced, i.e. thicker than the calibre, which is the usual dimension.
Canonnier, to cannonade; to fire a broadside.
Canonnier de vaisseau, the gunner of a ship.
Second maître Canonnier, the gunner's mate.
Canonniers, the quarter-gunniers or artillery-men of a ship.
Canot, a ship's boat, cutter, or yawl.
Canot de bois, a canoe.
Canut jaloux, a crank-boat.
Canots, Indian canoes of various kinds.
Cantannettes, the light-ports in the stern of a galley.
Cantibai, a name given by shipwrights to timber which is full of cracks, or shakes, &c.
Cantimaron. See Catimaron.
Cap, the head or prow of a ship.
Porter le cap sur l'ennemi, to bear towards the enemy.
Qu'est le cap? how is the head? how does the ship wind?
Cap, a cape, head-land, or promontory.
Doublé le cap, to double, or fail round, a cape.
Cap de morn. See Chouquet.
Cap de mouton, the dead-eye of a shroud or lany.
Cap de mouton à croc, an iron-bound dead-eye, with a hook.
Cap de mouton de mariniére, the dead-eye of a crow-foot. See Moque.
Capacité d'un vaisseau, the burthen or tonnage of a ship.
Cape, or Grand Pacifi, the mainfall.
Capeyer, or Étre à la Cape, to try under the mainfall, or some other of the course, when all the topfalls, &c. are furled.
Capelage, the eye or collar of a pair of shrouds or backstays.
Capler les hautains, to fix the shrouds on the maff-head.
Capion, the stern-polt of a galley. See Rode.
Capion de proue, the stem of a galley.
Capion à capion, from stem to stern.

CAPTAIN d'un vaisseau de guerre, the captain of a ship of war.
CAPTAIN d'armes, a captain of marines.
CAPTAIN du hautbord, the captain of a ship of the line.
CAPTAIN du petit état, a master and commander.
CAPTAIN de ports, the commandant of a detachment of marines, appointed to guard a dock-yard, and the shipping in the harbour.
CAPTAIN des mateots, an officer resembling our captain of the fore-castle.
CAPTAIN en seconde, the second captain, or first lieutenant of a ship of war.
CAPTAIN garde-côte, a captain of the militia appointed to guard the coasts.
CAPITANE, or CAPITAINESSE, a name formerly given to the principal galley of France.
CAPLANIER, a cod-fisher, a vessel appointed to fish and cure cod; also the men employed in this service.
CAPON, the cat-tackle.
CAPONNE, the order to cast the anchor.
CAPONNER l'ancre, to cast the anchor, or draw it up at the cat-head.
CAPONER, to bring a ship to, with her helm a-lee.
Faire capot, to cant, over-set, or turn top'y-turvy.
CAPRE, a vessel of war, or armed ship.
CAQUE de poudre, a powder-cask; also a herring-barrel; whence CAQUEURS, sailors appointed to cure and barrel the herring.
CARACORE, an Indian vessel, peculiar to the island of Bornco.
Caramoussail, a merchant-ship of Turkey, constructed with a very high stern.
CARAQUE, a name given by the Portuguese to ships employed in the Brazil and the East-India trade.
CARAVELLE, a small square-ferned Portuguese vessel, navigated with lateeen sails; and esteemed very expeditious.
CARCASSE, the casse or ribs of a ship, before the planks are laid on, or after they are ripped off.
CARENAGE, a carking wharf.
CARENNE, the outside of a ship's bottom. This word is sometimes used for the keel.
CARENNE entier, a thorough careen, by which a ship is heaved keel-out.
Demie Carene, a parliment-heel, or boot-topping.

Y y

CARENER,
CARENER, donner la carene à un vaisseau, to careen or heave down a ship with careening tackles to a wharf or pontoon.

CARGADOR, the person who procures a freight or voyage for a merchant ship.

CARGAISON, the cargo, or articles of a ship's lading.

CARGUE à vein, a flab-line.

CARGUER, to cluel up a fail, or haul it up in the brails.

CARGUER l'artimon, to brail up the mizen.

CARGUER le point de la voile qui est sous le vent, to haul up the lee-clue-garnet, or goafe-quill of a fail.

CARGUES, a general name for the brails of a fail, comprehending the clue-lines, bunt-lines, leech-lines, &c.

CARGUES d'artimon, the brails of the mizen.

Mettre les bafses voiles sur les CARGUES, to haul-up the courses, or haul the couries up in the brails.

Mettre les banniers sur les CARGUES, to cluel-up the top-fails.

CARGUES-boulines, the leech-lines.

CARGUES de fond, the bunt-lines.

CARGUES de bune. See RETRAITE de bune.

CARGUES dehors le vent, the lee-brails, &c.

CARGUES du vent, the brails to windward, or weather-brails.

CARGUES point, the clue-garnets, or clue-lines.

CARGUEUR, the top-block of a top-gallant-mast.

CARLINGUE, or contre quille, the kelson.

CARLINGUE de caboftan, the flop of the captern.

CARLINGUE de pied de mat, the flop of a mast.

CARNAU, the lateen foresail of a settee or polacre.

CARREAU. See LISSE de platbord.

CARTAHU, gilt-line, or gurt-line.

CARTE marine, a chart or map of the sea, representing it's banks, rocks, shoals, bays, havens, &c.

CARTE plate, or au point commun, the plain chart.

CARTEL, a ship employed to exchange the prisoners of any two hostile powers; or to carry requisits and proposals from one to the other.

CARTON, a book containing a collection of charts in folio.

CARTOUCH, a cartridge to contain a charge of powder for a cannon or other fire-arm.

CATARACTES, water-falls.

CATIMARON, a catamaran, or Indian raft.

CATURES, armed vessels of Bantam.

CAYES, keys, or chains of rocks, nearly even with the surface of the sea.

CEDRE, cedar-wood, which is esteemed excellent for ship-building.

CEINTES, a name formerly given to the wales. See PRECEINTES and LISSES.

CEINTRE, to strap a ship, or pass turns of a cable round the middle of the hull of a ship, to support her in a storm.

CENTRE de peintre, the center of gravity.

CERCLE d'estambrage, or de caboftan, an iron hoop that lines the hole of the deck, within which the captern turns upon its spindle.

CERCLES de boute-bors, the fludding-fail boom-irons.

CERCLES de bune, the top-rails, which formerly surrounded the tops, when circular.

CERCLES de pompe, the iron hoops fixed on the top of the pump to strengthen it.

CHABLEAU, a tow-line, a large warp.

CHABLEUR, a water-officer, who has the care of the wherries.

CHAINES de port, the boom or chain of a harbour. See BARRE.

CHAINES de vergues, the top-chains.

CHALAND, or BAC, a fort of lighter used on the Loire.

CHALINGUE, a light high-built Indian vessel, formed without nails.

CHANDELIER de fanal, the iron brace, or crank, with it's foot, which supports the poop-lanthorn.

CHANDELIER de pierrier, the iron crutch of a swivel-gun; also the wooden flock, hooped with iron, that contains the socket wherein it refts and traveries.

CHANDELIERS de chalume, the crutches of a boat, which sustain the main-boom, or the malt and fail, when they are lowered, for the conveniency of rowing.

CHANDELIERS d'échelle, the flanchions which support the entering ropes at the gangway.

CHANDELIERS de listes, the iron crutches, or double flanchions, of the quarters, &c. fixed in a vessel of war, to extend the double nettings. See PILARET.

CHANDELIERS, de petit batiment, the crutches fixed on the stern or quarter of a boom-fail vessel. See CHANDELIERS de chalume.
CHANGER, in a naval sense, generally implies to tack, shift, or relieve; as, CHANGER de bord, to tack or veer. See VIRE de bord.

CHANGER l'artimon, to shift over the mizen to the other side.

CHANGER le quart, to change or relieve the watch.

CHANGER les voiles, to shift the sails; to brace about; to jibe.

CHANGER les voiles, d'avant, et les mettre sur le mât, to brace the head-sails to the wind, to lay the head-sails to the masts.

CHANTIER, the flocks upon which a ship is laid down to be built.

CHANTIER, or ATTELIER, also signifies a shipwright's yard or wharf.

CHAVRE, hemp employed to make the sails and cordage of a ship.

CHAPE, the inner box of a sea-compas.

CHAPEAU de maître, a gratuity or due, required by the master of a ship for each ton of goods which his vessel carries.

CHAPELLE, the act of chapeling of a ship.

Faire, or prendre CHAPELLE, to chapel a ship; to build a chapel at sea.

CHARGE, the cargo, burthen, or lading of a ship. This is also called chargement.

Être CHARGE à la côte, to be upon or near a lee-shore.

CHARGEoir, or lanterne à charger, a gunner's ladle.

CHARGER, to load a ship, or take in her cargo.

CHARGER en grenier, to load a ship in bulk.

CHARGER la pompe, to fetch the pump.

CHARGEUR—MARCHAND, or MARChand-CHARGEUR, the merchant who loads a ship, or freights her to convey a cargo to some distant place.

CHARNIER, a fluttet' cafe, used to contain water for the ship's crew to drink on the upper deck.

CHAROÎ. See Charroi.

CHARPENTIER de navire, a shipwright; also the carpenter of a ship.

CHARTE-PARTIE, a charter-party; also a convention made by a company of merchants who trade together.

CHASSE, a chase at sea, or flight of one vessel from another who pursues her.

Prendre CHASSE, to stand away from; to fly from.

Donner CHASSE, or CHASSER, to give chase, to pursue.

Soutenir CHASSE, to make a running fight; to fight in retreat.

CHASSE de proue, the head-chace, or bow-chace. See Piece de chasse.

CHASSE, a present of money, or wine, given by the merchant to the master of a trading-vessel, partly for himself, and partly to be distributed amongst the ship's crew on a proper occasion.

CHASSER fur sa ancre, to drag the anchor; to bring the anchor home.

CHAT, a cat, or ship so called.

CHATEAU, a general name for the forecastle and quarter-deck of a deep-waisted vessel.

CHATEAU d'arrière, or de pouppé, the quarter-deck and poop.

CHATEAU d'avant, or de proue, the forecastle.

CHATTE, a small two-masted vessell, formed like a cat or Norwegian pink.

CHAUDERON de pompe, a plate of lead or copper, perforated with holes, to cover the bottom of a pump.

CHAUDIERE, the great copper, or kettle, in which the provisions for the sailors are boiled.

CHAUDIERE à brai, ou à goudron, a pitch-kettle.

CHAUFFAGE, breaming-fuel, furze, or faggots, used to burn the dirt from off a ship's bottom at the time of breaming.

CHAUFFER, to bream a ship, or burn the filth from off her bottom.

CHAUFFER les foutes, to dry or season the bread-room, in order the better to preserve the biscuit during a sea-voyage.

CHAUFFER un bordage, to bend a plank, or make it pliant by heating it.

CHAVIRER, or TREVIRER, to overfl, capsize, or turn any thing topily turvy.

CHEBEC, or CHABEC, a xebec.

CHEF, the stem or head of a boat.

CHEF is also a junk, or end of a cable, used as a headstaff to a ship, when she is ready to be launched, and which is to retain her after the floats, till her anchor is either carried out, or let fall from the bow.

CHEF d'eau, high-water. See HAUTE marée.

CHEF d'esca'dre, a commodore.

CHEMIN, a range of skeeds laid by sea-
men, whereon to roll full casks either afloat or aboard.
CHEMIN du halage, a path on the side of a river, or canal, for horses to track boats and vehicls along the stream.
CHEMISE à feu, or SOUFFRÉE, a curtain, or piece of old canvas, dipped in a composition of oil, petrol, camphire, and other combustable materials, and nailed to the planks of an enemy's ship, when it is intended to set her on fire. See Fire-ship.
CHENALER, to find out a channel by the help of buoys, or of sounding, where the water is shallow.
CHENETS, a sort of iron claws used to bend the planks of a ship by fire.
CHERSONESE, a peninsula.
CHEVALET, a roller for passing the cables from one place to another.
CHEVAUCHER, to ride, or be fayed upon; a term in ship-building.
CHEVET, small cusion or bags, filled with tarred ropes, to prevent the stays from galling the masts.
CHEVET de traversin des bitres, the lining or doubling of the bits, which is employed to prevent the cable from galling them when the ship rides with a great strain.
CHEVILLE, an iron bolt, of which there are several forts used in the construction of a ship: as,
CHEVILLE à boucle, a ring-bolt.
CHEVILLE à boucles & à goupilles, a ring-bolt which is secured by a forelock.
CHEVILLE à croc, a hook-bolt for the gunports.
CHEVILLE à goupilles, a forelock-bolt, or bolt fitted to receive a forelock.
CHEVILLE à grille & à boucles. See Goujon.
CHEVILLE à œillettes d'affût, the eye-bolts of the gun carriages.
CHEVILLE à tête de diamant, or à tête ronde, a round-headed bolt.
CHEVILLE à tête perdue, a bolt whose head is sunk into the timber where it is driven.
CHEVILLE d'affût, a gun-carriage bolt.
CHEVILLE de fer à charger le canon, language-hot.
CHEVILLE de pompe, the short pump-bolt, or bolt which connects the brake with the spear.
CHEVILLE de potence de pompe, a long pump-bolt, or bolt which fastens the brake to the cheeks or ears of the pump.
CLAN, or Clamp de battrepre. See COUSSIN.

CLAN is also a sort of breast-hook in a larger lighter.

CLAPET de pompe, the clapper of a pump-box.

CLAPETS, leathern flaps nailed on the outside of the scuppers, instead of scupper-holes.

CLASSE, a division of pilots, gunners, seamen, &c. engaged to serve in any naval armament during a limited time, after which they are relieved by another division sent from the shore.

CLAVETTE, or Gouille, a forelock.

CLEF. See CHEF.

CLEF de battrepre, or Barrot de coltis, the collar-beam, which is raised a little above the second deck, to fortify the bowsprit.

CLEF de perrier, the forelock of a pedero or swivel-gun.

CLEF de pompe. See CHEVILLE de potence.

CLEF de ton du mat, or CLEF de mat de bane, the iron or wooden fid of a topmast.

CLEES de guindas, the checks of the windlas.

CLERC de guet, the clerk who assembles and musters the militia appointed to guard the sea-coast.

CLERCS de secretaire, or de greffe de l'ami-

CLÉNÇAR, a sort of flat-bottomed clinker-built pram, or lighter, of Sweden and Denmark.

CLOISSON, a range of slanting lines used to support the bulk-heads, or partitions, which separate one cabin from another.

CLOPOTÉUSE, turbulent or agitated; an epithet given to the sea when it runs high.

CLOU, an iron spike, or nail, of any size.

CLOUS à rivet, a rivet, or riveting-nail to be clenched at both ends.

CLOUS des fabords, doubling-nails, to line the gun-ports.

CO-BOURGEOS, a copartner in, or part-owner of, a ship.

COCHES d'affut de bord, the notches or steps of the carriage of a ship-cannon.

COEFFET, laid aback.

Mettez tout à COEFFER, to lay all flat aback.

COEFFER, to back a sail, to lay it to the mast.

COFFRE à feu, a powder-cheet, fixed on the deck or side of a ship, to be discharged upon a boarding enemy.

COFFRE à gargaroufier, a cartridge chest, which contains the filled cartridges in a ship's magazine.

COFFRE de bord, a sea-cheet, a sailor's chest.

COINS d'arrimage, the quoins or coins used in the stowage of a ship's hold, &c.

COINS de chantier, the wedges driven between the blocks and the keel, when a ship is building.

COINS de mat, the wedges of a mast, by which it is confined in the cap or partners.

COITES, the ways, or cradles, upon which a ship gradually descends, when she is first launched into the water.

COITES du guindas, the checks or bits of the windlas. See CLEF du guindas.

COLLET d'étoil, the eye of a stay placed over a mast-head.

COLLIER d'étoil, the collar or lower part of a stay.

COLLIER du ton, or du choquet, the iron clamp of a French cap. As the caps of English vessels are formed wholly of wood, this clamp is not in use amongst our shipping.

COLLIERS de défense, the pudding of a ship's stem.

COLOMBIERS, two shores employed to launch a ship into the water.

COLONNE, a rank of ships; one of the ranks of a fleet or squadron of ships when ranged in the usual order of failing.

COLTIS, the beak-head bulk-head, which is comprehended between the two car-

heads athwart, and descends from the top of the fore-castle to the platform of the head. See BEAK-HEAD.

COMBAT naval, a general or particular sea-fight.

COMBUGER les fuitailles, to fill the water-casks of a ship with fresh water.

COMITE, an under officer of a galley, who commands the slaves.

COMMANDANT, a commodore. See CHEF d'espace.

COMMANDE, holloa! the answer given by the sailors to the master, boatswain, or other officer, when he calls to them by the name of the place where they are employed or stationed at that instant, as, "Fore-castle, there! main-top, there! "main-top, hoa!" &c.

COMMANDEMENT, the order or command to do any thing relative to the working of a ship.
COMMANDER à la route, to order or direct the course of a ship.

COMMANDEUR, the master or commander of any trading merchant-ship.

COMMIS, the supercargo of a merchant-vessel.

COMMIS des bureaux des douaniers, the surveyors of the customs who visit shipping.

COMMIS du munitionnaire, or COMMIS à la distribution des vivres, a clerk or layward to the commissary or purser of a ship of war.

COMMIS général des convoy et congés, an overseer or inspector of the customs with regard to shipping.

COMMIS de la marine imports in general a civil officer, or commissioner of the marine, of which there are several:

COMMIS général à la suite des armées navales, an officer who receives the orders and instructions of the intendant of a fleet of men of war, and performs his duty when he is absent. See INTENDANT des armées navales.

COMMIS général de la marine, the principal officer under the intendant de marine, in his department. It is his duty, 1. To execute the orders of the admiral, or commissioners of the admiralty, with regard to the number of ships which are ordered to be taken into the service of the fleet; to take care that they are properly equipped, manned, and victualled, for the expedition on which they are destined; to impress the masters and mates who refuse to serve; and to break or disband and return, those who will not do their duty. 2. To measure the ships which are appointed to attend any fleet; to give them orders, either to fail with the said fleet, or to join it according to the regulations which have been made; to keep account of those who have been discharged from duty, and fend them back in due time to the appointed place. 3. To attend the affairs of the dock-yards and harbours, and control the clerks, artificers, and ordinary-men; to administer the oath of allegiance to them; to review the shipping, and take an inventory of the prizes. 4. To take care that the oldfet and best-seasoned timber is first used; and that the bolts, nails, and other iron-works, have their due proportions, and conform to their dimensions. 5. To examine, once every fortnight, the muster-roll of the artificers, signed by the clerks. 6. To observe that the master-shipwrights do in no ways depart from the draught which has been establisbed by the council of construction, of which he is always possessed of a copy. 7. To inspect whatever concerns the port, and to take care that the ordinances relative thereto are faithfully executed; and to see that the ships are properly situated, and each one moored in the birth previously assigned.

It is also the office of the commissaire général to keep a lift of the sea-officers and sailors, able and ordinary; and to minute the ships in which they have served, and upon what footing they have been paid. With respect to the youths, officers servants, and other boys, their names, privileges, and time of service, are enrolled in a particular lift; and each of them is furnished with a certificate representing these articles.

The commissaire générale is not, however, always charged with those several employments himself. There are other commissaries, according to the circumstances of time or place, who share such services with him. Such are the COMMIS-MAIRE ordinaire de la marine; COMMIS-MAIRE ayant inspection sur les vivres d’un port, an agent victualler; COMMIS-MAIRE préposé pour l’enrôlement des matelots, an officer answering to our clerk of the cheque; COMMIS-MAIRE pour les constructions des vaisseaux, and COMMIS-MAIRE des ports, master-attendant.

COMMIS-MAIRE général de la marine ambulant, an officer whose duty resembles that of the former, but who has no particular residence, being intended to visit any one port or harbour occasionally.

COMMIS-MAIRE de l’artillerie de la marine, an officer who, under the orders of the intendant, has the charge of the foundery, the proof of cannon and mortars, and of all other arms, gun-powder, ammunition, instruments, and implements of war. He has also the command of the gunners, matrofles, and bombardiers, maintained in a royal port, who are divided into squads, commanded by lieutenants de marine, or lieutenants of bomb-ketches. There are two of these COMMIS-MAIRES généraux, one for the western ports.
ports of France, and the other for Provence, or the eastern ports.

**Commissaire ordinaire de la marine**, an officer whose duty it is to superintend the ordinary, the several clerks in a dockyard, the store-keepers accounts in a port, and the outfitter and return of stores of a fleet.

**Commissaire ordinaire de l'artillerie de la marine**, an officer who performs the duty of the **Commissaire général de l'artillerie de la marine**, when he is absent. He keeps the keys of the naval magazine and artillery stores jointly with the **garde-magasin**. He has also a key of the arsenal, wherein the fire-arms are disposed according to their length and calibre; and he keeps a register of all the artillery within the arsenal where he resides. This register contains principally the matter and fabric of such artillery.

**Commission**, an order given by the king to an admiral, vice-admiral, or other superior officer, to cruise against, and seize, the enemy's ships, &c.

**Compagnie**, the cabin of theeward of a row-galley.

**Compagnie de navires**, or **Conserve**, a convoy or fleet of vessels.

**Compagnons**, a general name for sailors, mariners, or whoever forms a part of a ship's crew.

**Compas azimutal**, an azimuth-compass.

**Compas de carte**, or **Compas marin**, a pair of compasses, used to prick a chart, or discover courses and distances thereon.

**Compas de route**, or **de mer**, a common sea-compass.

**Compas de variation**, an amplitude-compass.

**Compas mort**, a compass whose needle has lost its magnetic virtue.

**Compas reversé**, a hanging compass whose face is turned downwards; it is usually hung over-head in the great cabin, to show the ship's course to the captain.

**Compas**. See *Pointer la carte*.

**Compas**. See *Compost*.

**Compost**, a tide-duty, or revenue, arising from shipping.

**Confluent**, the place where two rivers are united.

**Congé**, a pass, or permission, granted to the master of a merchant-ship, by the office of admiralty, when he is ready to sail.

**Connaissance**, the skill and intelligence of a pilot; also a prospect of the land and sea-coasts.

**Connoissemement**, a ship's bill of lading, or the manifest of her cargo.

**Conseil de construction**, a council held in any of the king's ports, consisting of the intendant (or commissioner), the commissaire général, and the principal officers, for the construction or repairing of ships of war. These last are usually styled the builders, and sometimes les charpentiers-constrateurs, the shipwrights.

**Conseil de guerre**, a council of war.

**Conseil de l'amirauté**, a jurisdiction exercised under the name and authority of the lord-admiral, who has certain claims called the dues of the admiralty. The officers of the admiralty have their patents from the king, but they are nominated by the lord-admiral. The admiralty of France consists of a lieutenant-general, who is president, a lieutenant particulier, three councillors, an advocate, and a royal proctor; of a registrar in chief, and two sergeants or bailiffs.

**Conseil de marine**, a secret council held by the king and his ministers, to which he usually summons the princes and the chief officers of his fleet, to deliberate with them about the affairs of naval war.

**Conserve**, a fleet or convoy of ships, associated for their mutual defence and safety. See *Compagnie*.

**Console**, a bracket, or part where two pieces of timber are united by a bracket.

**Consommation**, the consumption of a ship during a sea-voyage, comprehending whatever has been expended, as cordage, canvas, ammunition, &c.

**Construction des voiles**, the art of ship-building, or the practical part of naval architecture.

**Consul**, a consul established in foreign parts, for the protection of the commerce of his country.

**Continent**, a continent, a vast tract of land.

**Contrat à la greffe**. See *Bomerie*.

**Contré-Amiral**, the rear admiral of France.

**Contré-Bande**, prohibited goods.

**Contré-Bitres**, the standards which support the cable bits.

**Contré-Brasser**, to brace about the yards.
COQ

Contre-capion de pouppe, the upper part of the false-post of a row-galley, which is a crooked piece of timber placed on the fore-side of the stern-post to support it. See Contre-rodé de pouppe.

Contre-capion de proue, the upper part of the stemson of a galley. See Contre-rodé de proue.

Contre-carene, the keelson of a galley. See Carlingue.

Contre-tambot, the knee of the stern-post, by which it is attached to the keel.

Contre-tambot, or Faux-tambot, is also the false stern-post.

Contre-trave, the apron; a piece of timber which supports the scraf of the stem.

Contre-maitre, the boatswain of a ship.

Contre-marche, the general tacking of a division of ships, arranged on the same line, so as to preserve its former disposition on the opposite tack.

Contre-mare, a spring-tide.

Contre-queue, the dead-wood placed on the keel afloat and abaft. See Fausse-queue.

Contre-rodé de pouppe, the lower part of the false-post, or counter-stern-post of a row-galley. See Contre-capion de pouppe.

Contre-rodé de proue, the lower part of the stemson of a galley. See Contre-capion de proue.

Contre-sabords. See Mantelets.

Contre-salut, the return of a salut at sea.

Controleur de la marine, an officer of the marine, who attends and controls all the purchases and sales held in a royal dock-yard; assists at the general muf ters, reviews the artificers, and keeps a register of their names.

Converso, the waft, or main-deck, of a ship.

Convoi, the convoy or escort of ships of war, used to guard a fleet of merchantmen.

Convoyer, to convoy or accompany a fleet of merchant-men as their escort.

Coq, the cook of a ship.

Coque, a kink, or round twist, in a new rope.

Coqueron, the cook-room, forecastle, or cuddy, of a lighter or hoy.

Coquet, a cock-boat; a fort of small boat which passes between Normandy and Paris.

COQUETER, to navigate or manage a boat by paddling, or rowing in the boat's stern with a paddle.

CORADOUX. See Couradoux.

Coraline, a light small long-boat, or lanch, employed in the Levant, to fish coral.

Corbeau, a fort of sheer-hook, or fire-grapling.

Corbeillon, or Corbillon, a small kid, or tub, to contain the biscuit or sea-bread daily distributed to the several messes.

Cordage, cordage, a general name for all the ropes employed to rig or work a ship: the cables, or ground-tackling, are sometimes comprehended in this term. See Cable, and Manoeuvres.

Cordage blanc, white, or untarred cordage.

Cordage étuve, cordage which has passed through a flrove, to discharge its moisture or watery humour.

Cordage goudronné, tarred cordage.

Cordage raqué, or raqué, cordage which has been well rubbed, in order to take off the husks, straw, or roughness of the hemp from the surface.

Cordage refait, twice-laid cordage.

Cordages de rechange, spare-ropes, spare-cordage.

Corde, a rope of any kind.

Corde de retenue, a guy, used to steady a heavy bale, cask, &c. when hoisted into a ship.

Corde de retenue is also the pendent of a relieving tackle, employed to prevent a ship from over-settling, or falling down more than is necessary in the careen; as also to right her, when the careen is finished. See Attape.

Corde de retenue likewise implies a head-fall, or large rope used to eafe a ship gradually off the flocks, or to prevent her from launching too hastily.

Cordes de défense, fenders of junk or old cable.

Cordelle, a warp or tow-line.

Corderie, a ropeery or rope-walk; the rope-yard of a dock.

Cordier, a rope-maker, or roper.

Cordon, a strand of rope-yarns. See Toron.

CORNE
CORNE de vergue, the crutch or checks fixed on the inner end of a gaff, or boom which embraces, and slides along the mail of a small vessel, as the sail is hoisted or lowered.

CORNET de mail, a flap and partners peculiar to the masts of some small vessels, being open at the after-part, so that the mast may occasionally be lowered over the stern. See CARLINGUE.

CORNETTE, a broad pendent, displayed at the mast-head of a commodore.

CORPS de bataille, the center division of a fleet of ships of war.

CORPS de garde d'un vaisseau, the half-deck; that part of a ship which is under the quarter-deck and before the bulkhead of the after-sternage.

CORPS de pompe, the chamber of a pump.

CORPS d'un vaisseau, the hull of a ship, without her rigging.

CORRECTIONS, the methods of correcting the errors of a dead reckoning, by observations and allowances, as prescribed by the rules of navigation.

COSSE, a thimble; also a bull's eye, or traveller. See MARGOUILLET.

COTE, the sea coast, the shore.

COTE en écre, a bluff or bold shore.

CÔTE qui court nord-sud, or est-ouest, a coast which lies north and south, or east and west.

CÔTE faîte, a safe coast, where there is neither rocks or sand-banks, that may render the access dangerous to shipping.

DÉSNER à la CÔTE, ranger la CÔTE. See DONNER and Ranger.

CÔTE du vaisseau, the side of a ship.

Préserver la CÔTE, mettre le CÔTE du vaisseau en travers, to bring the broadside to bear upon an enemy. See EFFACER.

Mettre un vaisseau sur le CÔTE, to lay a ship on the carven. See ABATTRE.

Façon-CÔTE, lap-sided.

CÔTE du vent, the weather-side; to windward.

CÔTE sous le vent, to leeward; the lee-side.

CÔTES, or MEMBRES, d'un vaisseau, the timbers, or ribs of a ship, from the keel, upwards.

CÔTIER, a coafler, or coasting vessel.

CÔTONNINNE, a species of thick sail-cloth, used in gallies, and vessels of the Levant; it is formed by a mixture of hemp and cotton, the wool being of the former, and the warp of the latter.

CÔTONS, filies of the mast. See JUMELLE.

CÔTTIMO, a duty or excision of so much per cent, which the consuls, by order of their courts, or by the consent of merchants, demand of the shipping of their nation, when they enter a port where such consuls are established.

COULAIJS, a barge or galley of Japan, greatly ornamented, and rowed with forty oars.

COUCHE, the pillow of a sail, or the piece of wood upon which it rests.

COUDRAN, a mixture of tar and some other ingredients, used to prevent ropes from rotting. See Goudron.

COUETS, the tacks of the main-sail and fore-sail. See Amures.

COUETS à queue de rat, tacks which taper to the point.

COUILLARD, an old term signifying the clue of a sail.

COULADOUS, throud-tackles, which are used in the gallies, and some other vessels in the Mediterranean, in the place of dead-eyes and laniards.

COULANTES, or COURANTES, the running-rigging. See MANOEUVRES courantes.

COUILLÉ, that part of a ship's bottom which lies between the fore-heads and the keel, which is somewhat concave on the outside, and called a hollow floor.

COULER à fond, to sink at sea. See also SANCER.

COULER bas d'eau, to sink deeper in the water; expressed of a ship when her leaks gain upon the pump, or when she receives more water than the pumps can discharge.

COULOIRS, certain gangways fixed on the sides of undocked vessels; also the grating-gangways on the sides of such vessels as have their decks arched very high in the middle, as xebecs, &c.

COULOIRS likewise import the pallages that lead to the several cabins or staterooms of a ship.

COUP d'affuransce, a gun fired by a ship on her entrance into a port, when the display her colours, as a sign of peace. See ASSURANCE.
Coup de gouvernail, the whole force of the helm.

Coup de mer, the shock of a wave of the sea, striking a ship violently, and rushing over her deck.

Coup de portence, a farewell gun; a gun fired as a signal for failing.

Coup de vent, a sudden squall or gust of wind.

Coup de canon à l'eau, shot received under water, or between wind and water.

Coup de canon en bois, shot received in the upper works of a ship.

Coupé la lame, to cut the sea; to divide the waves.

Coupé le cable, ou les mâts, to cut the cable, or cut away the masts.

Coupé l'ennemi, to thwart or cross the enemy's course, in giving chase to him.

Coupled de bâbants, a pair of shrouds.

Couple du los, or du balancement, the loof-frame or loof-timbers.

Couples d'un vaisseau, the frame-timbers of a ship. See Gabari.

Couradoux, between-decks; the space between any two decks of a ship; also the place where the soldiers sleep in a galley. See Entre-pont.

Courant, a current or stream at sea.

Courbatons, small knees, fixed in the upper part of a ship, for the same purposed as the courbes are, in the lower parts.

Courbatons de l'éperon. See Herpes de poulaine and Montans.

Courbe capucine, the standard which fastens the cut-water to the stem.

Courbes, a general name for the larger knees of a ship.

Courbes d'arcâfle, the tranfom-knees, or sleepers.

Courbes de bite, the standards of the cable-bits. See Contre-bites.

Courbes d'écuibier, the checks of the head. See Jotterdeaux.

Courbes d'équerre, or à fauffe équerre, knees which are right-angular; and knees which are within, or without a square.

Courcive, or Courcite, a half-deck, formed in a vessel which is not wholly decked.

Courcée, a small yawl of the Garonne.

Courcée or Courci, a composition, or stuff, used to pay a ship's bottom at the time of docking or beaming.

Courir, import, in general, to sail, to advance at sea, to stand onward; as,

Courir à l'ouvré bord, to stand upon the other tack.

Courir au large, to stand off. See Tirer à la mer.

Courir au plus près, to run close upon a wind.

Courir en latitude, to run down latitude.

Courir en longitude, to run down longitude.

Courir la bouline, to run the gauntlet.

Courir la mer, to infest or scour the sea; to cruise up and down therein.

Courir le bon bord, to make a lucky cruise; a cant phrase peculiar to cruisers or pirates, and alluding to the capture or plunder of merchant-ships.

Courir même bord, to stand upon the same tack as some other ship in sight.

Courir nord, sud, &c., to stand to the northward, southward, &c.

Courir sur la terre, to stand in shore, or on shore.

Courir sur un vaisseau, to chase or pursue a ship.

Courir sur son ancre, to run over, or foul of the anchor.

Courir terre à terre. See Ranger la cote.

Courir une bordée, or bord sur bord. See Louvier.

Couronnement, the after-part of a ship's taffarel, which is usually ornamented with sculpture.

Courroi. See Courcée.

Cours, or Course, a cruise at sea. Hence faire Cours, to go upon a cruise.

Cours du vaisseau, the course or run of a ship; also the wake, or track marked on the surface of the water behind her. See Ouachie.

Coursiere, a bow-chace, or great brass cannon in the head of a row-galley.

Coursiere, or Coursie, a fore-and-aft passageway between the banks of a row-galley, where the comité, or boatswain, walks, to see that the slaves manage their oars, and row with application.

Coursiere, a spar-deck, or grating-deck, reaching from the quarter-deck to the fore-castle.

Courtage, a tax or duty levied on all merchandise which passes by sea from one port to another.

Coursée. See Corvete.

Cousin
COUSSIN de beaupré, the pillow of the bowspirit.

COUSSIN de bittes, the sir-lining or doubling of the bits. See Chevet.

COUSSIN de canon, the bed of a cannon which supports the breech.

COUSSINS, the mats of the top-rims, used to prevent the top-falls from being fretted by striking the edges of the tops.

COUSSINS d'amures, the mats nailed over the chefs-tree, to prevent the clue of the main-fall from being galled when the tack is aboard.

COUTIÈRES, the thrauds of a galley, which are usually formed of runners and tackles. See Couladoux.

COUT d'assurance. See Prime assurance.

COUTELAS. See Bonnettes en étai.

COUTURE, a beam between the planks of the deck or side of a ship.

COUTURE, de cuille de voile, the seam of a sail.

COUTURE ouverte, an open seam, or one from which the oakum has been expelled by the straining of the ship, &c.

COVERTE, the deck of a ship, in the dialect of Provence.

COUVERTES de l'isîsîcle de poux, the forecastle, or fore-deck, of a galley, together with the space beneath it, where the cannon are planted.

COUVERTURES de fanaux, a fort of tubs to cover the top and poop-lanthorns, in order to preserve them when they are not in use.

CRAIE, a small Swedish ship, without top-masts or top-falls.

CRAMP, a cramp-iron; also the hook of a block.

CRAQUER, to crack or strain; expressed of a ship that labours greatly in a turbulent sea.

CRAVAN, a barnacle, or small shell-fish, of a disagreeable taste, which fastens to a ship's bottom in a long voyage.

CREUX, the depth of the hold from the lower-deck beams to the floor.

CREUX d'une voile, the belly or cavity of a sail, which retains the wind.

CRIJÈLE, pierced with holes; expressed of a ship that has been much damaged by worms or cannon-shot.

Une voile CRIJÈLE, a sail much damaged by shot.

CRIQUE, a creek, or small natural harbour.

CROC, a boat-hook, or setting-pole.

Croc de candelette, the hook of the fore-tackle. See Capon.

Croc de pompe, the pump-hook.

CROCS de palans, the tackle-hooks.

CROCHETS d'armes, certain crutches, or hooks, to support the small-arms in the cabins of a ship of war.

CROCHETS de retraite, the eye-bolts, in the train of a gun-carriage, wherein are hooked the relieving tackles.

CROISEE de l'ancre, the crofs of the anchor; or that part where the shank terminates at the arms.

CROISER, to cruise in any particular station.

CROISER à la lame. See De bout à la lame.

CROISETTE, the pin or bolt used as a staff to any flag-staff.

CROISEUR, a cruizer; a vessel employed to guard a coast; also a pirate, or seacatcher.

CROISEURS, ou vaisseaux en croisier, ships cruizing in an appointed station or latitude.

CROISIERE, a rendezvous or latitude for cruizers.

CROIJRE, to rise or flow; expressed of the tide.

CROIX sur les cables, a crofs in the hawse.

CRONE, a wheel-crane, built on a wharf.

CROQUER, to hook or grapple anything.

CROQUER le croê de palan, to hook the cat to the anchor.

CROUCHANTS, the croches, or floor timbers fore and aft in a boat.

CROULER. See RDoler.

CROUler en bâtiment, to shake a ship by jumping on her decks, in order to launch her from the flocks.

CROUPIARDE. See Mouiller en croupière.

CROUPIAT. See Embrossure.

CROUPIERE, or CROUPIAS, a stern-fall; a stern cable or hawser.

CUEILLE, one of the cloths of a sail.

CUEILLETTE, a measure or weight of any merchandise, which is equal to a quintal, or 100 lb.

CUILLER à brai, a pitch-ladle, to pay the seams of a deck.

CUILLER à canon, or CHARGEUR, a gunner's ladle. See also Lanterne.

CUILLER de pompe, a pump-borer.
DEB

CURS werdz, raw hides used to cover the ropes, or the yards, or serve the cables, &c. to prevent them from being fretted.
CULISINE, the galley or cook-room of a ship.
CUL de lampes, the lower finishing, an ornament of sculpture resembling the bottom of a lamp, and placed in several parts of the stern or galleries, to terminate the carved-work.
CUL de petit, de jen, or de port, a double or single wall-knot, wrought on the end of a thick, flopper, or other rope.
CUL de jen, a name given by the inhabitants of America to a harbour formed by nature without the assistance of art.
CUL de maîtreau. See ARRIERE.

CULASSE, the breech of a cannon; also the flock of a musquet.
CULEE, the flock which a ship feels when striking the ground, on a rock or sand-bank.
CULER, to go after; to have stern-way.
CURATEUR de la marine, an officer who formerly assigned to the several TRIE-RAQUES the duties of their respective departments. See TRIE'RAQUE.
CURETTE, a pump-scrapers, fastened to a staff, or pole, of ten or twelve feet long, to clean the inside of a pump.
CUSEFORNE, a small, long, and sharp rowing-boat of Japan, without decks, and employed to fish whales.

D.

DAGUE de prêvi, the colt or cat used by the prêvi to punish criminals.
DAILLOTS, or ANDAILLOTS, the hanks or gymnus of a flay.
DALE, the trough or channel in which the train is laid in a fire-ship.
DALE de pompe, the pump-dale.
DALATS, the fupper-holes of a ship. See GOUTTIERE.
DAME-JEANNE, a demijan, or large bottle, containing about four or five gallons, covered with basket-work, and much used in merchant-ships.
DAMELOPRE, a vessel navigated in the canals of Holland.
DANGERS civil, the duty, fine, or excitation, formerly demanded by the lord of the manor for any merchant, or master, who had suffered shipwreck on his coast. See BRI.
DANGERS naturels, a general name for the dangers of a coast or bank, as rocks, or shelves of mud, sand, &c. which the officers of the adjacent ports are charged to distinguish by buoys or beacons.
DARD À FEU, a fire-arrow, used to burn the tails of an enemy's ship.
DE'BACLE, or DE'BABLEGE, the act of clearing or opening an harbour, by removing the lightened vessels to make room for such as are laden.
DE'BACLEUR, an officer whose duty it is to regulate the mooring of light and laden ships in a harbour, and to keep the passage, or fair-way, open and clear.
DE'BARCADOUR, a wharf, or flophouse, to receive goods discharged from a ship.
DE'BARDAGE, the act of unloading in general; it is more particularly applied to the discharge of fire-wood.
DE'BARDER, to unload wood, &c. Hence
DE'BARDEUR, a lighter-man. See GA-BARRIER and PORTE-FAIX.
DE'BARQUEMENT, a return of the artillery, stores, rigging, &c. of a ship of war into the dock-yard; also the discharging of the officers and crew.
DE'BARQUEMENT likewise implies disembarking, or landing and discharging the cargo of a merchant-ship.
DE'BARQUER, to unload or discharge a ship; to disembark; to return to the shore.
DE'BACHE, an irregular tide.
DE'BILLER, to take off or dismiss the horses that track vessels up and down a canal.
DE'BITTER LE CABLE, to unhitch the cable.
DE'BORD À BORD, upright on the water.
DE'BORDE, put off, sneer off! the order given by some officer of a ship, to a boat lying near her, to remove further off.
DE'BORDER, to sneer off from some other ship, particularly from an enemy who
who attempts to board: also to over-haul the tacks and sheets, in order to haul a sail up in the brails.

DE'TOSSEI le cable, to take the floppers off from the cable.

DE'BOUCLE', a term opposed to BOUCLE', which fce.

DE BOUQUIMENT, the arrival into open sea, after having been amongst islands, or in narrow channels.

DE BOUT, an-end, or perpendicular.

DE BOUT â la main, head to the sea.

DE BOUT â terre, head to the shore; standing in-shore. See DONNER de bout à terre.

DE BOUT au corps. See ABORDAGE.

DE BOUT au vent. See ALLER de bout au vent.

DE BOUTONNER la bonnette. See DÉLACER.

DE'BRI, the effects which remain in a shipwrecked vessel. By the ordonnances of the marine in France, all persons who shall have found, or drawn such effects from the bottom of the sea, are to place them in safety, and in twenty-four hours afterwards, at furthest, to make proclamation thereof, under pain of being punished as felons: and by the fame ordonnance, it is permitted to the proprietors of the said effects to demand them in a year and a day after such publication, upon paying the salvage-money. It is to be wished that this laudable decree was established in England.

DE CHARGE, the act of unlading or discharging a merchant-ship.

DE'CHARGE le petit bateau, the order to fill the fore-top-fall!

DE CHARGEMENT. See DE CHARGE. Se DE CHARGER, to lose water; expressed of the ship's pump.

DECHARGER les voiles, to fill the sails, after they had lain aback.

DE'CHIEUR. See ABATTRE.

DE'CHET. See DERIVE.

DE CHIRAGE, the act of breaking up an old ship, or of ripping off her planks.

DE'CHIRER, to rip up an old vessel.

DE'CHOUER, to get a ship aloft, or off from the ground, into deep water.

DE CLINAIISON, the variation of the compasses, or of the magnetic needle.

DE CLINAIISON d'un astre, the declination of a fixed star, &c.

DE COLEMENT, the forming of a te-

non upon the end of a piece of timber.

DECOMBRES, the chips and useless pieces of timber which are left on a shipwright's wharf, after a vessel is built and launched.

DE COUDRE, to rip off planks from any part of a ship's side, in order to examine her timbers, &c.

DE COUVERTE, a look-out at the maff-head.

DE COUVRII les terres, to make, or discover, the land.

DE DANS, when expressed of the sails, imports furled or flowed: as, Mettre les voiles DE DANS, to take in the sails.

DE FEND, keep off, keep at a distance; the order given by the pilot, or officer of the watch, to the helmsman, to steer off further from some adjacent object, which may damage the ship.

DE FENDRE la côte, to defend the seacoast, and prevent an enemy from landing thereon.

DE FENSES, the screens of a ship's side; also booms to fend-off another ship which is near.

DE FENSES de bous de cable. See CORDES de d'infis.

DE FENSES pour chaloupes, loose screens hung over a ship's sides occasionally, to preserve the boats from being damaged when they are hoisted into, or out of, the vessel.

DE FERLER, to loose or heave out the sails. See DE'PLOYER.

DE FIE du vent, you are all in the wind; keep her full! an information or caution to the helmsman, that the ship is too near the wind; implying that he should keep her further off, or more to leeward, to as to fill the sails.

DE FIE l'anne du bord, bear off the anchor! the order to keep the fluke or bill of the anchor off from the side, to prevent it from tearing the planks at the time of hoisting the fluke up, in order to be secured by the fluke painter.

DE FIER, to bear off, as a ship from a wharf, or one vessel from another, to prevent either from being bruised or damaged by rubbing, or striking against each other.

DE FUNER, to unrig a ship, to ship a mail, &c.

DE GAGER au maître, to rescue a ship from
from the possession, attack, or purfuit, of an enemy.

DE GARNIR le cabeffeau, to unrig the cap tenant, by taking off the voyol, and unshipping the bars.

DE GARNIR un vaisseau, to unrig or dismantle a ship. See DEGRE.ER.

DE GAUCHER, to bevel or form a piece of timber, so as to fit exactly to the place for which it is designed.

DE GORGEOIR, the bit or priming-iron of a cannon.

DE GRADER un vaisseau, to lay by a ship; also to quit or abandon a ship at sea, after having taken out the rigging, flores, &c. when she is become fo old and crazy as to be useless or dangerous.

DE GRAPINER, to warp a ship off from the ice by the means of grappling lines, when she had approached too near it.

DEGRE, the division of a degree upon a quadrant, nocturnal, &c.

DEGRE de latitude, a degree of latitude.

DEGRE de longitude, a degree of longitude.

DE GRE'R, to unrig a ship; also to loose the rigging in a storm. See DESAGNE'R.

DEHORS, the offing, the outside, or road, of a harbour.

DE JOUER, to fly out, to flutter, or turn in the wind, expresfed of flags, pendants, &c.

DE LACER la bonnette, to unlace or take off the bonnet from the foot of a fail.

DE LAISSEMENT, an instrument, or draft, by which the lös of a ship is announced by the master or merchant to an infurer, suiting him to pay the stipulated insurance.

DE LESTAGE, the discharging of ballast from a ship.

DE LESTEUR, an officer appointed to receive the ballast of ships; also a ballast lighter.

DELOT, or rather Cosse. See Cosse.

DE'MAILLER. See DE LACER.

DE MANDE, the scantlings or proportions required in every piece of timber which enters into the construction of a ship of war; also the dimensions of every piece, without regard to such demand.

DE'MARAGE, or DE'MARRAGE, the breaking adrift from the mowing; or parting the cables.

DE'MARRE, the order to cast off, or let go a cable, hawser, or other rope.

DE'MARRER, to unmoor; to weigh anchor; to put to sea.

DE'MATE', dismasted by a storm or battle; also without the masts, when they have been hoisted out.

DE MATER, to take out the masts of a ship.

DE MEURER, to remain, or be left, in some road, bay, or harbour.

DEMI-BARRES. See Barres de câblef tain.

DEMI-CLEF, a half-hitch on a rope, &c.

DEMI-PIQUE, a half-pike, sometimes used to oppose the boarders in a sea-fight.

DEMI-PONT, the half-deck. See Corps de garde.

DE MOISELLES. See Lisse de porte bouhants.

DEMONTER de gouvernail, to unhang the rudder.

DE PARTEMENT, a marine arsenal, or dock-yard with its gun-wharf; also the extent of the district and jurisdiction of an Intendant de la marine.

DE PASSER, to be ahead of one's reckoning; to fail beyond the place intended, as by mistake.

DE PASSER la tournevire, to shift the voyol, or change it to the other side of the stern.

DE PASSER un vaisseau, to fore-reach, gain ground upon, or pass by another ship when falling in company with her.

DE PECER un bâtiment. See DE'CHI RER.

DE PENCE, the steward-room in a ship of war.

DE PENCIER, or DE PENSERIer d'un vaisseau, the ship's steward. See MAITRE VALET.

DE PENDANT. Aller en DE PENDANT, to fail in company; to follow.

Tomber en DE PENDANT, to bear up; or to shorten sail in order to veer.

DE PLOIER le pavillon, to let fly, or display the ensign.

DE PLOIER une veile, to heave out, or let a sail.

DE'REDE', goods plundered or robbed from a wreck, contrary to law.

DE'RADER, to drive with the anchors ahead; to be driven from the anchors and forced out to sea, by the violence of a storm.
DERALINGUER, to be blown from the bolt-ropes, in a storm; spoken of a sail.

DERANGE/E. See Ancre and Trevor.

DERAPIER, to loosen from the ground; underfoot of the anchor when it is almost aweigh.

DERIVATION, the yawing, or deviation from the line of the course.

DERIVE, the angle of lee-way, or drift.

DERIVE is also the frey-line, or allowance made for frey-line, occasioned by a ship's falling to leeward, when founding, in deep water.

DERIVE is likewise used for a lee-board. See SEMELLE.

DERIVE qui veut la route, a drift favourable to the course.

Belle DERIVE, a good offing, or sea-room.

DERIVER, to drive, to be driven to leeward by a tempest or foul wind.

DEROBER, to becalm.

DEROBER le vent d'un vaisseau, to becalm a ship; also to becalm some of the sails with others.

DE SAFOURCHER, to unmoor.

DE SAGREER, to have the rigging, or a part of it, blown away or lost by a storm, &c.

DE SANCRER, to weigh anchor, and depart from a port or road.

DE SARBORER, to strike the top-mast and haul down the colours.

DE SARMEMENT. See DE CHARGE-MENT and DE BARQUEMENT.

DE SARRIMER, to alter or shift the closer to the hold, in order to change the ship's trim.

DESCENDRE, to maroon. See DESERTER.

DESCENDRE une riviere, to fall down a river with the tide.

DESCENTE, a descent or landing upon an enemy's country.

DE SEMIBARQUER. See DEBARQUEMENT.

Vaisseau DE SEMIPARE', a ship disabled, as in a tempest or battle.

DE SEMIPARER un vaisseau, to disable a ship in battle, by dismasting her and destroying her sails, &c.

DESERTER quelqu'un, to maroon a sailor, or leave him afloat in a foreign country contrary to his inclination.

DESSUS du vent. See AVANTAGE du vent.

Vingt hommes là—DESSUS, clap on here twenty hands! the order from an officer for twenty men to be employed on some particular duty.

DESTINATION, the place whither a ship is bound.

DE TACHER, to select some ships from a fleet or squadron, for a particular service.

DE TACHER, to quit or abandon the fleet.

DE TALINGUER, to unbend the cable, or take it off from the anchor.

DE TREMPEUR de viandes faires & de poissons, the cook's flatterer.

DE TROIT, a freight or narrow channel between two lands; also an isthmus between two seas.

DE VENTER les goélettes, to shiver the sails, or brace them so as to shiver in the wind.

DEVENGUIER, to unbend the sails from their yards.

DEVERS, the moulding of any piece of timber, amongst shipwrights, by incurvation, circular, elliptical, or otherwise.

Whence,

Marquer le bois suivant son DEVERS, to mould the timber according to its compass or inclination.

DEVIRER le cable, to surge the cable about the capstern or windlass, in order to prevent it from riding, with one part over another.

DEVIS, a scheme containing the general dimensions of a ship, from which the shipwright is to form a draught for constructing her.

DSEXTRIBORD, or rather STIBORD, the starboard side of a ship. See STIBORD.

DIABLOTIN, the mizen top-mast fuy-fail.

DIGON, or DIGUON, the flock or fluff of a vane or pendent; also a piece of the ship's cut-water.

DIGUE, a wall, mound, or pier, of earth or floue, and sometimes of timber, built on the margin of a river, to confine it within its banks, so that it may not overflow the adjacent country.

DILIGENCE, a swift-failing wherry, or paffage-boat.

DISPUTER le vent, to strive for the weather-gage, or endeavour to get to windward of some ship, or fleet in sight.

DISTANCE de ports, &c. the line of distance, in navigation, between any two given places, whose latitude and longitude are known.
DOU DRO

DISTANCE de fadors, the distance, or interval, between two gun-ports in a ship's side.

DIVISION d'une armée navale, one division of a fleet of ships of war.

DIEXIE, an additional cafe allowed by an agent-victualler to every ten cafs of tea provisions, to answer for waste or leakage.

DOGRE, or DOGRE-lot, a Dutch dogger.

DOGUES d'ensure, the holes in the chittrees. See TAQUIT.

DONNER à la côte, sur un banc, ou sur un vent, to run aground, strike, or be stranded on any coast, shoal, or rock.

DONNER de bout à terre, to run right in for the land.

DONNER dehors, to enter a port, road, &c.

DONNER le bas de fée. See BAS de fée.

DONNER les calefs, to strike repeatedly on a shelf or rock.

DONNER le fend. See MOUILLER.

DONNER la cale. See CALE.

DONNER la chaifte. See CHASSEUR.

DONNER le côté. See PRINTER le côté.

DONNER la feï à un vaiffaut, to bream a ship.

DONNER le faif, to pay a ship's bottom after she is breamed.

DONNER vent devant, to throw a ship up in the wind, or in flays; to bring the wind a-head, by putting the helm a-hke.

DONNER un grand biviier, to spare a main top-fail to some other ship in company; implying, that such ship falls lower by as much, as the force of a main top-fail affists her velocity.

DONNEUR a la greffe, the insurer of a ship and her cargo.

DORER un vaiffaut, to pay a ship's bottom. See ESPALMER.

DORMANT, the flanding part of a tackle, brace, or other running rope.

DORMANTE, l'eau DORMANTE, flanding water, or water where there is no tide or current.

Bateau fait à DOS d'une, a sharp-bottomed boat.

Le DOSSIER d'un bateau, back-board of a boat.

D'OU est la navire? whence came the ship? where belongs the ship to?

DOUBLAGE, the sheathing applied to the bottom of a ship.

DOUBLE d'une manœuvre, the bight of a rope. See BALANT.

DOUBLER, to double, or double upon, in a sea-light.

DOUBLER le fillage, to make a crooked wake; to run over more space of water than is necessary, by bad flying.

DOUBLER un cap, pour un cap, to double, or pass beyond a cape, and leave it behind.

DOUBLER un vaiffaut, to bream a ship's bottom.

DOUCIN, a name given by seamen to brackish water.

DRAGAN, the ornamented part of the stern of a row-galley.

DRAGON, a whiffpool, or vortex of water.

DRAGON de vent, a sudden gust or violent squall of wind.

DRAGUE, a drag, or instrument to clean the bottoms of rivers and canals; also to catch oysters.

DRAGUE de canen. See BRAGUE.

DRAGUER, to clean the bottom of a river or canal with a drag.

DRAGUER l'ancre, to drag, or sweep the bottom, for an anchor which is lost.

DREGUE, a sort of net for catching foles and turbot.

DRESSE la chaloupe l trim the boat! See BARQUE droit.

DRESSER les vergues, to brace the yards to the wind, when the sails are furled at sea.

DRESSER un piece de bois, to trim or prepare any piece of timber for it's use.

DRISSE, or ISSAS, the haliards of any sail or yard.

Sou de DRISSE, knight-heads.

DRISSE de pavillon, the ensign-haliards.

Aller la DRISSE, the order to man the haliards, of any sail, or to stretch them along to be manned.

DROGUERIE, the herring-fishery, or the catching and preparation of herrings, on the Northern Banks.

DROIT d'amarge. See ACSRAGE.

Droit de Congé. See CONGE.

Droit de varech, en vare. See CHOISUS de la mer, and DE BRIS.

Aller en DROITURE, or faire sa vent en DROITURE, to make a strait course; to make a voyage without touching at any intermediate port.

DROSSE, or DROUSSE, the tiller-rove, formed of white hemp, and wound about the barrel of a ship's wheel.

DROSSE
ECH

DROSE de canon, a gun-tackle.
DROSE de racage, a parcel-robe, or truss-robe.
DUNES, downs or heights on the sea-coast.

ECO

DUNETTE, the poop of a ship of war.
DUNETTE sur DUNETTE, the poop-royal. See TEUGUE.

E.

EAU échangée, foul water; or water whose colour is changed by approaching the shore, or otherwise.
EAU du vaisseau. See SILLAGE.
EAU haute, high-water. See HAUTEMARE.
EAU maigre, or MAIGRE-EAU, shoal-water. This phrase is peculiar to the common sailors.
EAU plate & courtoise, very smooth water; the state of the water in a dead calm.
EAU premiere & EAU seconde, the first and second floods after a neap-tide.
EAUX formées, water inclosed with ice.
EAUX ouvertes, an open channel, after the ice has melted or separated.
EBAROUI, abounding with shakes or rents; expressed of the planks of a ship when they are split, and her seams opened by the wind or wind, for want of being sluiced over with water, in the evenings and mornings.
EBE, or JUSSANT, the ebb-tide.
Il y à EBE, the tide ebbs, or falls.
EBRANLEMENT, the cracking or straining of a ship, as she labours in a high sea.
ECALE, the touching, or anchoring, at any port, in the course of a voyage.
ECARLINGUE. See CARLINGUE.
ECART double, a scarf of two ends of timber laid over each other.
ECART simple ou carré, butt and butt; the joining of the butt-ends of two planks.
ECHAFAUD, a flake, or light flage, used in Newfoundland to dry cod-filth; also a flage hung over a ship's side, to caulk or repair any breach.
ECHANDOLE. See ESCANDOLE.
ECHANTILLONS, the cantlings or dimensions of the different pieces of timber used in ship-building.
ECHARPE, the shell of a block or pulley. See ARCASSE and MOUFFLE.
ECHARS, a wind that veers and hauls; a light and variable wind; a cat's paw.

ECHELLE, a scale of equal parts; also a sea-port town, in the dialect of Provence.
ECHELLE de poupée, the stern or quarter-ladder, formed of ropes.
ECHELLES, the gangway and ladder, which serve to ascend or descend the ship's side; likewise the several ladders between-decks.
ECHELLES de latitude croissante. See CARTE réduite.
ECHILON, a water-splout. See TROMPE de mer.
ECHOME, a thole-pin. See AUTRELLES.
ECHOUÉ, ashore, run aground.
ECHOUEMENT, the state of being stranded or wrecked on a coast.
ECHOUER sur la rivage, to run aground; to be stranded.
ECLAIRCIE, a clear spot in a cloudy sky. See CLAIRON.
ECLAT de bois, a splinter, or chip, torn from any piece of timber, by the force of a cannon-bal, or by the stroke of an ax.
ECLUSE, a sluice, or dam.
ECOLE, the school, or academy, in a dock-yard, where navigation, arithmetic, and fortification are taught.
ECOPE, a boat's scoop, or skeet.
ECORÉ, the edge or extremity of a sand-bank. See COTE.
ECORES. See ACCORES.
ECOUES, the tacks of the main-sail and fore-sail.
ECOUE, or ECOUE'è, a swab. See FAUBER.
ECOUTES, the sheets of a sail.
ECOUTE de bonnet en étui, the tack or guy of a studding-sail boom.
Avoir les ECOUTES largues, to fail with a flowing sheet.
Entre deux ECOUTES, both sheets ast, or right before the wind.
Larguer ou filer l'ECOUTE, to ease off the sheet.
A a a

Border
Border les Ecoutes, to haul aft the sheets.
Border plat les Ecoutes, to haul the sheets flat aft, or close aft.
ECOUTILLE qui s’emboîte, a hatchway with a scuttle which covers its border.
ECOUTILLÉS, the hatchways and scuttles in a ship’s deck.
ECOUTILLES à huit pans, EcOUTILLES du mât, the holes and partners of the masts, which are usually in the form of an octagon.
ECOUTILLON, a scuttle, or small hatchway; also it’s cover.
ECOUVILLON, the sponge of a cannon.
ECOUVILLONNER, to spunge a cannon; also to clean or cool it with a wet sponge.
ECRITURES, the papers of a ship, comprehending journals, registers, passports, &c.
ECRIVAIN, the clerk of a ship of war; also the supercargo of a merchant-ship.
ECRIVAIN de la corderie. See Commissaire.
ECUBIERS, the hawse-holes; also the hawse-pieces, through which those holes are cut.
ECUEIL, a dangerous rock or shoal.
ECUELLE de cabestan, the iron socket or fawyer of the capstern.
ECUME, the froth or foam of a breaking sea.
ECUMER la mer, to scour or infleet the sea, as a pirate.
ECUSSON, Ecu des armes, a compartment or scuttle on upon the stern, forecastle, or belfry, upon which the arms of the ship’s owner, or of the province or city from which her name is derived, are painted or carved. These are more peculiar to the French and Dutch than to English vessels. See fig. 3. plate X. wherein the escullion is represented.
EFFACER, to bring the broadside to bear upon some adjacent object; as by clapping a spring upon the cable.
EFFLOTER, to part company, or separate at sea, as from a fleet or some other vessel.
ÉGOUTTOIR, a grating, or drain wherein to lay cordage after it is tarred.
ÉGUILLES de tyé. See AIGUILLES.
ÉGUILLETTES, or rather AIGUILLETTES, the futtock-riders.

ÉGUILLETTES, knittles, or small robands; also the loops or buttons of a bonnet.
ÉGUILLETTES de mâts. See ENTENNES.
ÉGUILLETTES de pontons, the cleats, or timber-headers on the gunnel of a pontoon, whereto the relieving-tackles are hooked in the act of carncing a ship.
ELANCEMENT, or QUÊTE, the rake of a ship: the former of these terms is always applied to the stem, and the latter to the sternpost. See QUÊTE.
ELARGIR, to give chace; also to fly from a pursuing enemy.
S’ÉLEVER, to stand out to sea; also to claw off from a lee-bow.
S’ÉLEVER en latitude. See HAUTEUR.
ELINGUER, to sling a cask, bale, or box.
ELINGUES, slings of any kind.
ELINGUES à pattes, can-hooks.
ELINGUET, the paul of a capstern or windlas.
ELME. See Feu Saint-Elme.
EMBANQUE', to be upon a fishing-bank, as those of Newfoundland, &c.
EMBARDER, to sheer on one side or the other; to yaw, or steer obliquely. See ELANCER.
EMBARGO. See ARRET.
EMBARQUEMENT, an embarkation.
EMBARQUER, to ship; to put goods, stores, &c. on ship-board.
S’EMBARQUER, to embark, or enter a ship.
EMBELLE, the gangway, or that part of the gunnel which is in the waft of a ship from the gangway to the chefs-tree or fore-castle.
EMBODINURE, or EMBOUINURE, the puddening of an anchor.
EMBOSSER, to anchor, or moor a ship.
EMBOSSURE, a knot formed on the end of a rope, to which a laniard is fastened; also a bend, by which one rope is fastened to another.
EMBOSSURES, a general name for moorings, floppers, laughings, and laniards.
EMBOUCHURE, the mouth of a river; also the entrance or opening of a bay or gulph.
EMBOUFFETE', clinch-work.
EMBOUQUER, to enter into a freight or passage, as through several islands, &c.
EMBRAQUER, to haul, or rowse any.
rope into a ship; to haul aboard a
rope.

EMBROUILLER *les voiles*, to brail up or
close up, any of the sails.

EMBRUME', foggy weather.

EMMARINE', hardened to the sea; as, *Matelet EMMARINE', a cafe-hardened or
weather-beaten tar; a veteran sailor.

EMMARINER *un vaisseau*, to man a ship,
or furnish her with seamen.

EMMEILLER *un étai*, to worm a flap.

EMMORTOISER, to fill up a mortise
with it's tenon.

EMPANNE. See *Mettre en panne*.

EMPATER, to make a scarf; to scarf
two pieces of timber together.

EMPATURE, the scarf of two ends of
plank or timber.

EMPECHE', foul, or entangled; an epithet applied to a rope, or tackle, when in
that situation.

EMPENNELLE, a small anchor sunk
ahead of a larger one, to which it is fast-
tened by a small hawser, or tow-line, to
prevent the large anchor from loofening,
or coming home to the ship.

EMPENNELLER, to back an anchor, or
carry out the *empennelle*.

EMPESER *la voile, la mouiller*, to wet the
sails, that they may be enabled to retain
the wind more steadily.

EMPIRANCE, the deficiency of a ship's
cargo at the time of delivery; happening
either by waste, decay, damage, &c.

EMPORTER, to carry away a maff; as,
*le grand mat fut emporté*, the main-mast
was carried away, or broken by tempestu-
ous weather, &c.

EMPFOLETTE. See *Horloge*.

ENCABANEMENT, the tumbling-home of
a ship's side from the lower-deck-beam
upwards, to the gunnel.

ENCAPÉ', embayed, or entered between
two capes.

ENCASTILLAGE, the elevation of the
fore-castle and quarter-deck, together
with all the height of a ship above the
gunnel of her waft.

ENCASSTILLE', deep-wafted, or frigate-
built; as opposed to galley-built.

ENCLAVER, to let into a rabbet; as the
garboard-freak is let into the keel.

ENCOCUNE, the elbow or angle of a
knee or flandart.

ENCOREMENat, any cumbersome or unweildy goods, which embarras the
stowage of a merchant-ship.

ENCOQUER, to fasten upon; as an iron
ring, block-frop, or the eye of a brace-
pendent is fixed upon a yard-arm.

ENCOQUURE, the situation of an eye
of a pendent, or fludding-sail boom-iron,
&c. fixed on a yard-arm.

ENCORANAIL, the sheave-hole in a top-
maft-head, through which the top-sail-
tye is reeved, to hoist or lower the top-
fail along the mast. See also *Clan*.

ENCOUTURE', clinch-work. See also
*Embouffette*.

ENDENTE', dove-tailed, indented.

ENDORMI, out of the failing-trim; spoke-
of a ship which has lost her usual ve-
locity or trim. See *Erre*.

ENFILER *les cables en virant*, to heave-in
the cables by the captern.

ENFLECHURES, the rattlings of the
shouds.

ENFLEMENT, a swell; a rough or
swelling sea, produced by a storm, &c.

ENFONCEMENT, beveling, in ship-
building, hewing timber in a proper and
regular curve, according to a mould laid
on its surface.

ENGAGE', an indented servant, who
engages to serve a limited time, in order
to defray the expence of his voyage to a
distant country.

ENGAGEMENT, the contract, or arti-
cles of agreement between the feamen
and the commander of a merchant-ship.

ENGIN. See *Frigate*.

ENGRAISSEMENT, a tenon fixed in a
mortise: hence, *joindre de bois par En-
graissement*, to drive forcibly into a
mortise; or fit a piece of wood so exactly
therein, that no vacancy shall be left on
any side.

ENGRENER *la pompe*, to pump the water
out of a ship's bottom.

ENJALE *une ancre*, to stock, or fix the
stock upon, an anchor.

ENLACURE, the bolting of a tenon into
it's mortise, by boring a hole and driving
a bolt through both, to unite them more
securely.

ENMANCHE', arrived, or entered, into
the channel.

ENSEIGNE de *vaisseau*, an officer under
the lieutenant, who executes the duty of
the latter in his absence; also the ensign
of a ship.

ENTENNES, the props, or out-riggers,
fixed on the side of a sheer-hulk, to sup-
port the sheers.
ENTRE-PONT. See Pont.
ENTERRER les futailes, to flow the water-casks of a ship in the ballast.
ENTRE'E d'une riviere. See Embouchure.
ENTREMISES, small wedges, or chocks, placed between the whelps of a caphtern, to keep them firm in their places.
ENTREPOT, a commercial harbour, where a magazine or storehouse is established, for the reception and exportation of goods; also a factory, or society of merchants, in a trading sea-port.
ENTREPRENEUR, a contractor for building and furnishing a ship, compleatly fitted according to flated dimensions.
ENTRER dans le port, to fall into the harbour.
ENTRE-SABORDS, the planks which form the intervals between the ports of a ship's side.
ENTRE-TOISE, the tranfoms of a gun-carriage, used as sea.
ENVERGUEUR, to bend a fail to it's yard: this phrase is also frequently used for bending a stay-fail to it's stay.
ENVERGURE, the dimensions of the fails with regard to the extent upon the yards: hence une grande envergure implies very square fails.
ENVOI, the order to the helmman to put the helm a-lee, in order to bring the ship head-to-wind.
EPARS du pavillon, the flag-staff, or ensign-staff.
EPAVES. See Choses de la mer.
EPAULES d'un vaisseau, the bows of a ship.
EPAULEMENT d'un tonn, the shoulder of a tonn, which enters a mortife.
EPAURES, or Epaves, the leddes or spars, upon which the fore-sheets and stern-sheets of a boat are framed.
EPE'ES, handipecs. See Barres de vire-vant.
EPERON, or Poulaine, the cut-water, or knee of the head, which is composed of several pieces, as la gorgere, le digon, les jottereaux, la courbe capucine, & les herbes. See Gorgere, &c.
EPINEUX, rocky above water; full of rocks and breakers.
EPISSER, to splice a rope.
EPISSOIR, or Cornet d'épisse, a marble-spake, or splicing fid of hard wood.
EPISSURE, a splice of any kind.

ÉPICURE courte, a short splice.
ÉPissure longue, a long splice.
ÉPITE, a small pin or wedge, driven into the end of a tree-nail, to swell it.
ÉPITIE', a shot-garland fixed between the guns, on the ship's side.
ÉPONTILLE, a fhanchion. See also BATAVOLLES.
ÉPONTILLES d'entre-pont, the fhanchions between decks.
ÉQUIPAGE, the crew of a ship of war, comprehending the officers, sailors, feetmen, marines, ordinary men, fervants, and boys; but exclusive of the captain, lieutenants, and ensign.
ÉQUIPAGE d'attelier, a general name for the machinery and furniture of a dock-yard, or shipwright's wharf, as cranes, gins, fcrews, &c.
ÉQUIPAGE de pompe, the pump-gear, or furniture of the pumps.
ÉQUIPE, the number or set of boats belonging to one waterman or wherry-man.
ÉQUIPEMENT, the fitting out of a ship, or furnishing her with men, provifions, ftores, &c.
ÉQUIPER, to man, arm, and provide a ship with whatever is necessary to profecute war, or commerce; exclusive, howevver, of the cargo itself.
ÉRISSON, a grappling, or anchor with four claws, used in low-built vessels, particularly galleys.
ERRE, the failing trim of a ship, or the slate by which the fhe is best qualified for the purpoftes of failing.
ERSE de poule. See Estrope.
ERSES, or E'Tropes d'affût, the frops or eye-bolts in the train of a gun-carriage, to which the train-tackles are hooked.
ESCADRE, a squadron of ships of war.
ESCALE. See Écale.
ESCANDOLA, the cabin of the argoufn of a row-galley.
ESCARBITE, a caulker's oil-box; or the cafe which contains the thrums steeped in oil, to clean his irons when he is at work.
ESCARPE, steep-to; express'd of a shore which may be approached without danger.
ESCARPINE, a fort of musketeon used by privateers and pirates.
ESCHILON. See Échilon.
ESCOPE, or rather Écope, a fkeet to wet
wet the sails, or the ship's side. See Écope.
ESCOT, the utmost lower corner of a lateen-sail.
ESPALE, the utmost bank or thwart of a row-galley.
ESPALIèR, the person who rows with the handle of the oar, or who is at the inner extremity, and rises at every stroke to guide it.
ESPALMER, to pay the bottom of a vessel with hope, &c. after having dreamed her.
ESPOIR, a small piece of artillery, formed of brafs, and mounted on the deck of a ship, more particularly the caraques of Portugal.
ESPONTON, a sort of half-pike, employed to defend a ship from the assault of boarding.
ESPOULÉTTE, a tin canteen, or cafe, to carry fine powder to the cannon, in the time of battle.
ESQUAINS, the firpikeing of the quarter-deck and fore-castle.
ESQUIF, a skiff, yawl, or small boat belonging to a ship.
ESSÉS, the forelocks which are driven through the axletrees of the gun-carriages, to confine the wheels in their proper places.
ESSIEU, or rather Aissieu, d'affût de bord, the axis of a gun-carriage, by which it refts upon the wheels.
ESSUIEUX. See Écouvillon.
ESTACADE, a boom, strong chain or cable, laid across the mouth of a harbour, to prevent an enemy's entering it.
ESTAINS, the fashion-pieces of the stern.
ESTANCE à taquets, a Samfon's-post.
See ais Pie'droit.
ESTANCES. See Epontilles d'entrepont. 
ESTERRE, a small haven or creek.
ESTIME, the dead-reckoning: whence, Erreur dans l'Estime, the errors of a dead-reckoning.
ESTIVE, the trim or disposition of the cargo, in a ship's hold.
ESTOUPIN, ÉTOUPIN, or VALET, the vent of a cannon, formed of oakum.
ESTRAN, a name sometimes given to a flat and sandy sea-coast.
ESTRAPADÉ marine, a naval punishment. See Calé.
ESTRAPONTIN, an Indian hammoc. See Hamac.
ESTRIBORD, or Stribord. See STRIBORD.
Capitaine du petit État, a master and commander.
ETENDARD, the royal standard, carried by the principal galley of France.
ÉTÉ/SIES, or vents, ÉTÉ/SIENS, trade-winds, or monfoons.
ÉTOUPE, oakum, or oakham.
ÉTOUPE blanche, white oakum, or that which is formed of untarred ropes.
ÉTOUPE goudronnée, black oakum, which is made of tarred ropes.
ÉTRAQUE, the limited breadth of a forecast, or plank, used in ship-building.
ÉTRAQUE de gòbord, the garboard-forecast, or the breadth of the forecast next to the keel.
ÉTRAVE, the stem of a ship.
ÉTRE à flott, the state of being buoyed up by the water.
ÉTRE à la gamelle, to moor with the common sailors.
ÉTRE au deflus du vent. See Avantage du vent.
ÉTRE banqué, or débanqué, to be upon, or off, the grand bank of Newfoundland.
ÉTRE dans les caux d’un voifseau, to be in the wake of a ship.
ÉTRE de bout au vent. See Aller de bout au vent.
ÉTRE flanc à flanc. See Prolonger.
ÉTRE à sec, to be under bare poles.
ÉTRE pratique de la mer, to be accustomed, or inured to the sea.
ÉTRIER, the lower link of the chains of a shroud, which is bolted to the wales.

ETRIERS, strops formed of a piece of rope. See Estropes.
ETUVE, a stove in a dock-yard, fitted with furnaces and cauldrons, for tarring cordage, &c.
EVENT, the windage of a cannon, or the difference between the diameter of the bore and the diameter of the shot.
EVENTER les voiles, to fill the sails. See Servir.
EVITE'É, the channel of a river, or the breadth of a channel.
EVITE'É, a birth, or sufficient space where-in a ship may swing round at the length of her moorings.
EVITE'É is also the birth or space between two ships at anchor, or between one ship and some neighbouring object; likewise the sweep or lifting of a ship round her anchor, at the length of her cable.
EVITER à marée, to stem the tide or current.
EVITER au vent, to carry the head to windward, to stem the wind.
EVOLUTIONS, the movements of a fleet in forming the line of battle, or the orders of retreat, or failing.
EXERCICE, the naval exerpise, or the preparatory practice of unmooring, setting fail, flowing the anchors, &c.
EXERCICE de canon, the exercise of the great guns.
EXPEDITION maritime, a cruise or long voyage at sea.

FABRIQUE, the particular built or structure of a ship, either with regard to her figure, or to the place where she was fabricated.
FABRIQUER, to build or construct a ship.
FAÇONS, the narrowing of a ship's floor afore and abaft.
FAGOT. See Barque.
FAIRE abattre. See ABATRE.
FAIRE abordage. See ABORDAGE.
FAIRE aiguade, or FAIRE de l'eau, to water a ship, or procure the provision of water necessary for a voyage, &c.
FAIRE bon bord, or bonne bordée, to make a good board or tack, when turning to windward.
FAIRE canal, to sail through a strait or narrow channel. This phrase is more peculiar to the gallies than to other vessels.
FAIRE capot, to overset, or overturn, at sea.
FAIRE chapelle. See Chapelle.
FAIRE chaudiere, to cook and prepare the seamen's victuals.
FAIRE courir, or recourir, to let run, or over-haul any rope. It is more particularly applied to the bowlines.
FAIRE dégrat, to quit a station, on the banks
FAI

banks of Newfoundland, where there are few fish, in order to search for a better fishing-place.

FAIre des feux, to hang out lanterns, as signals of distress, in different places of a ship, in the night.

FAIre de bois, de biscuit, de vin, de la farine, &c. to furnish a ship with the provision of wood, bread, wine, flour, &c.

FAIre eau, to leak; to make water.

FAIre escale, to touch at any intermediate port in the course of a voyage.

FAIre feux des deux bords, to cannonade, or fire on an enemy, from both sides of a ship.

FAIre filer un cable, to pay out a larger scope of cable.

FAIre force des voiles & rames, to crowd fail; to crowd fail.

FAIre gouverner, to run the ship, or to superintend and direct the helmsman.

FAIre bonheur. See HOnNEUR.

FAIre la course. See AIIER en course.

FAIre la grande bordée, to set the half-watch, or the watch of half the ship's crew, as at sea.

FAIre la petite bordée. See BORDE' E.

FAIre le nord, le sud, &c. to stand to the northward, southward, &c.

FAIre pavillon, to carry a broad pendant, as the commodore or commander in chief of a squadron, &c.

FAIre pavillon, ou barrière d'une nation, to hoist or throw the colours.

FAIre pavillon blanc, to display a flag of truce.

FAIre petites voiles, to be under small sail; to carry little sail.

FAIre plus des voiles, to make sail; to make more sail.

FAIre quarantaine, to perform quarantine.

FAIre route, to stand onward on the course.

FAIre fu route en droiture. See AIIER en droiture.

FAIre servir, to fill the sails; to make sail, after having lain-by for some time.

FAIre fou quart. See QUART.

FAIre tête, to carry the head to a current or wind.

FAIre une descente, to invade, or make a descent upon, an enemy's country.

FAU

FAIre voiles, to depart and set sail; to get under fail.

FAIS COURIR, keep her full! the order to the helmsman to steer the ship so as not to shake in the wind when close hauled. See also DE' FIE du vent.

FAIT, fixed, or set in; an epithet applied to the wind, when it is supposed to be settled for a considerable period of time.

FAIX, or FAIX de pont. See ILOIRES.

FALAISE, a steep and bold shore.

FALAISeR, to break or burst over the rocks, &c. understood of the waves upon a sea-coast.

FANAL, a light-house on the sea-coast. See PHARE.

FANAL is also the poop or quarter-lanthorn of a ship.

FANAL de bune, the top-lanthorn.

FANAL de feute, the light-room of a ship's magazine.

FANAUX de combat, the lanterns used between the guns, in time of battle.

FANAUX pour signaux, signal-lanthorns.

FANON, the balance of the mizen.

FARAILLON, a small sand-bank.

FARAILIS, a sort of nets for fishing of coral.

FARDAGE, the dunnage laid in a ship's hold, when she is to be laden in-bulk; as with corn, salt, &c.

FARGUES, or FARDES, the sides of a ship's waist, from the main-deck upwards to the gunnel.

FASIER, to shiver the sails. See BARBEYER.

FAUBER, a swab. Whence

FAUBERTER, to swab a ship's decks, &c.

FAUSSÉ écoute. See ÉCOUTES de bonnetes en étoile.

FAUSSÉ étrave, or rather CONTRE étrave, the stemson.

FAUSSÉ galerie. See GALERIE.

FAUSSÉ quille, a piece of timber placed on the top of the keel, in the interval between the dead-wood aforesaid and abaft: also the false keel.

FAUSSÉS lances, wooden guns, fixed on a ship's side to deceive an enemy in time of war.

FAUX côté, the side of a ship which heels most, when she is lapped, or not trimmed upright by her cargo.

FAU
FEU

Faux étai, a preventer-stay. It is also a general name for the stay-fail-stays.
Faux tambot, the back of the stern-post.
Faux feux, signals made by false fires.
Faux pont, the orlop-deck, or platform.
Faux racage, a preventer-parrel, used to confine the yard to the mast, in case the parrel should be shot away in battle. This machine is never used in English shipping.
Faux ringent. See Safran.
Faux fabords, false ports, painted in a ship's side, to deceive an enemy. See Fausses lances.
Fayfena, a sort of Japonefe galley, which usually rows with about thirty oars.
Felouque, an Italian felucca.
Femelles, the goongings used to hang the rudder on the stern-post.
Femelots, the goongings of a boat's rudder, &c.
Fe, a name given to the anchors of a row-galley.
Fe de chandelier de pierrier, the iron-socket in which the swivel of a pedrero refts and travaferes.
Fe de girouette, the spindle which supports the vane at the maff-head.
Ferler, to furl, hand, or flow the fails.
Fermeture. See the subsequent article.
Fermures, the planks of a ship's fide in the intervals between the wales.
Ferrure, the iron-work of a ship, as chains, bolts, spikes, nails, &c.
Ferrure de chaloupe, the iron-work employed to fit the maft, boom, and rudder of a long-boat.
Ferrure de gouvernail, the pinnles and goongings of a ship's rudder.
Ferrure de fabords, the hinges of the gunports.
Fers d'artihauts, or de boute dehors, the goose-neck of a fludding-fail-boom; also the fork of a fire-boom.
Fers pour les criminels, bilboes, or setters, to confine criminals.
Fesses, a name usually given to the buttocks, or prominent quarters, of a Dutch flight or cat.
Feu grégeois, an artificial fire, or inflammable composition, used sometimes to burn an enemy's ship in battle.
Feu saint-Elme, a corporant, sometimes called Caffor and Pollux.

FLA

Feux d'artifices, artificial fires used at fea.
Fichure, a fish-gig, or staff with several grains or prongs, used to strike fish at fea, and called also Foesne, which see.
Figale, an Indian vessel with one mast, and usually rowed with oars, or paddles.
Figules, or Figures. See Enflemures.
Fil de carret, a rope-yarn.
Fil de voiles, de tré, or de trévoir, twine for sail-making.
Fildièr, a small flat-bottomed boat used on the Garonne.
Filandres, sea-weeds which adhere to a ship's bottom that has been long upon the sea.
Filarets, rails used to extend the nettings on a ship's quarter, waist, or forecast.
File bouline, check the bowline! the order to ease-off, or let go the bowline, when the ship veers before the wind.
Ne file plus amare! keep fast the cable! stopper the cable! veer no more!
Filer, to slacken, or lower gradually.
Filer du cable, to veer out, or veer away the cable.
Filer d'écouté, to ease-off a sheet. See also Largeur.
Filer le cable bout par bout, to veer away the cable to the end, to veer out the cable end-for-end.
Filer fur ses ancre, to pay out more cable to the anchors.
Filer toute l'écouté, to let fly a sheet, as in a squall of wind which endangers the ship.
Filet, a sort of moulding on a ship's side.
Filet de merlin, marline; a small line so called. See Merlin.
Fileux, or Taquet. See Taquet.
Fin de voiles, swift of falling.
Fiscal, or Avocat-Fiscal, an officer whose duty is similar to that of the judge-advocate of a court-martial at sea.
Fisolle, or Ficelle, whipping-twine; also a fox, formed of a single rope-yarn.
Flamme, a broad-pendent, displayed as a mark of distinction, ornament, or signal.
Flanc de voile, the side of a ship.
Etre Flanc à Flanc, to lie alongside of; to be broadside and broadside.
Flasques,
FLASQUES, the cheeks or sides of a gun-carriage.

FLECHE de Péperon. See HERPES and LISSES de poulaire.

FLETTRE, a sort of punt, or flat-bottomed boat, used in the passage of a river, or for carrying goods, &c.

A FLEUR d'eau, level with the surface of the water.

FLEURS, the rising-line of the floor-timbers.

FLIBOT, a small Dutch vessel, which usually carries about one hundred tons, and has a main-mast and fore-mast, without any top-mast.

FLIBUSTIERS, or CORSAIRES, free-booters or buccaneers.

FLORER un vaisseau, or lui donner les FLEURS, to pay a ship's bottom; to give her a clean bottom by careening, &c.

FLOT, the flood-tide.

Demi-FLOT, half-flod.

Il y a FLOT, the tide flows, it is flowing water.

Etre à FLOT, to float, to be afloat, upon the water.

FLOT, or FLOTS, the surge or waves of the sea. As, Abandonner un vaisseau à la merci des FLOTS, to let a ship drive at the mercy of the waves and winds.

Ligne de FLOT'TAISON, the water-line. See LIGNE d'eau.

FLOTTE, a fleet of ships.

FLOTTER, to swim or float upon the surface of the water.

FLOT'TILLE, a small squadron of Spanish ships, usually stationed in America.

FLUTE, a light, or fly-boat, called also PINQUE, but differing in shape from the English ship so called.

FLUX and REFLUX, the tides of flood and ebb.

FOC, a jib.

Le grand Foc, the standing jib.

FOESNE, a fish-gig or forked instrument used to strike fish withal. See FIGURE.

FOGONE, a sort of box to cover the chimney of a merchant vessel.

FOIT de mât, the height of a mast, expressed by a very tall or high mast.

FONCER, a long flat-bottomed barge, for carrying goods in a river, &c.

FOND, the ground or bottom of the sea.

FOND d'affût, the sole or bottom of a gun-carriage.

FOND de cale, the hold of a ship.

FOND de bonne tenue, good holding-ground, or good anchoring-ground.

FOND de coeur, or cœur, a bottom of fine sand.

FOND de la hune, the platform or flooring of a top.

FOND de mauvaise tenue, bad anchoring-ground.

FOND de roche, rocky ground.

FOND de fond, a bottom where the sand appears like bran.

FOND de voile, the bunt of a sail.

Point de FOND, out of soundings.

FOND d'aiguilletes, a bottom or ground abounding with pointed shells.

FOND-bateau, or bateau-FOND, a shoal, or sand-bank, with shallow water.

FOND d'une baffe voile, the foot of a lower sail.

Prendre FOND, toucher, relâcher, to anchor, or touch at a port or road in the course of a voyage.

Aller à FOND, to sink; to go to the bottom.

Plat-FOND d'un vaisseau, the floor or bottom of a ship.

FOQUE de beaupré. See FOC.

FORBAN, a pirate. See PIRATE.

FORCE de voiles, faire FORCE de voiles, to make sail, to crowd sail.

FORCER de rames, to row strongly, so as to redouble the efforts of the oars.

FORCER des voiles, to crowd sail; to carry a press of sail. See also FAIRE force, &c.

FORCHETTE, a pair of shears, or machine to maff or di masse a ship.

FORME, a wet dock.

FORME en talus, a slip, or declivity on the banks of a river, where ships are built.

FORMES de vaisseaux. See BALOIR.

FORT devirer, a term amongst the French common sailors, which answers to, astern-heaving.

FORTUNE de mer, a name given to any unfortunate accidents or disasters of the sea.

FORTUNE de vent, a tempest or violent storm, in the dialect of Provence.

Voile de Fortune, the square or lug-sail of a galley or tartane, in the Mediterranean. See TREVOU.

FOSSE, a creek or small haven on the seacoast, where ships may come to anchor.

Fosse is also a place cut of soundings on the edge of a bank.

Fosse au lion, the boatswain's store-room, in the fore part of a ship.
Fosse aux cables, the cable-stage, or cable-tier, in the orlop, &c.
Fosse aux mâts, a mast-pond, or place where the masts are kept afloat in salt water, in a dock-yard.

FOUETTER, to strike or flap back against the mast; expressed of the fails of a ship, when they are first taken aback.

FOUGON, the cobbe, grate, or fire-place of a ship, in the language of Provence.

FOUGUE, mât de Fougue. See Artion.

Veugue de Fougue, the cross-jack-yard. See Vergue-seche.
Perroquet de Fougue, the mizen-top-sail.

FOULOIR, an instrument which serves as a rammer and frunge of a cannon.

FOUR, a sort of breast-hook or knee used to strengthen the bows of a boat.

FOURCATS, the crotchets, or floor-timbers, placed in the after and fore hold.

FOURCHE de potence de pone, the ears of a common pump.

FOURCHES de carene, breaming-hooks, or forks used to hold the flaming furze or faggots to a ship's bottom when graving.

FOURRER, to serve the cables as with plat, rounding, keckling, &c.

FOURRURE, a general name for service of leather, plat, canvas, or ropes.

FOYER, a light-house; a light or fire on the sea-coast, to direct shipping in the night. See Phare.

FRAIECHER, a fresh wind or steady breeze.

FRAICHER, to freshen, or blow stronger; expressed of an increasing gale.

FRAIS, a light or small breeze.

FRANC d'eau, pumped-out, or free of water. As,
Rendre le navire FRANC d'eau, to pump the water out of a ship's bottom; to free her by the pumps.

FRANC-funique, a white hawser, or large untailed rope, used for several purposes.

FRANCHE-boulme. See AU plus près.

FRANCHIR la lance, to head the sea; to fail against the setting of the sea.

FRANCHIR l'eau. See Rendre le navire FRANC, &c.

FRANCHIR une rocce, to pass over, or forge off from a rock, after having struck, touched, or rolled upon it.

FRAPPET, to fix-on upon their mast-heads, &c.

FREGATE, a frigate of war; according to the arrangement of the French navy, this class comprehends all vessels of war from 50 to 20 guns.

FREGATE d'avis, a frigate of war, packet-boat, or tender.

FREGATE ligere, a light or small frigate, carrying from 30 to 20 guns.

FREGATE, frigate-built, or formed with a deep waist.

FREGATON, a fort of Venetian ketch.

FERENS. See REFREINS.

FRELER, to fur, or hand any sail. See Ferler.

FREQUENTER un port, to trade often to one harbour.

FRET, the freight or hire of a ship; called also fretement.

FRETER, to freight or hire a ship.

FRETEUR, the proprietor or owner of a ship, to whom the freight for any voyage is paid.

FRIBUSTIER. See FLIBUSTIERS.

FRISER les sabords, to line the gun-ports with baize or kersey, so as to prevent the water from entering at sea.

FRISONS, cans or jugs.

FRONTEAU, the breast-work, a moulding, ornamented with sculpture, and sometimes a fort of balustrade, reaching a thwart the ship from one side to the other, and serving to terminate the quarter-deck and poop at the fore-end, and the fore-castle both afore and abaft.

FRONTON. See Ecusson and Miroir.

FUNER un mât, to fix the standing rigging on the mast-head.

FUNIN, cordage of a certain size, which is particularly used for the running-ropes, and sometimes for the standing rigging. See FRANC-funique.

FURIN, the offing; the high sea; deep water; as,
Mettre un vaisseau en Furin, to carry, or conduct a ship out to sea, or over the bar, &c. of a harbour into deep water.

FUSEAUX, or TAQUETS de ebeblan. See TAQUETS.

FUSE' dans un breflet, the assemblage of troughs wherein the train of a fire-ship is laid.

FUSE' d'aviron, a mouse raised on the middle of an ear, to confine it in the crop or grommet.

FUSE'
FUSEÉ de vindas, or de cabezon volant, the barrel or body of the windlafs, in which the handieps are lodged to turn it about.
FUSEES de tournevire, the mouses of the voyol.

G

GABARE, Gabarre, a sort of flat-bottomed lighter or barge, used in the river Loire, to lade and unlade shipping.
GABARIER, a lighter-man, or the person who conducts the gabare.
GABARI, a sort of model to represent the outline and thicknes of the frames of a ship's timbers. See couple.
Premier Gabari, or rather maître Gabari, the midship-frame.
GABARIS de l'arriere, the after-frames.
GABARIS de l'avant, the fore-timbers or frames.
GABIE, the top, in the dialect of Provence.
GABIER, the captain of the main, or fore-top.
GABORD, the garboard-break, or plank next to the keel in a ship's bottom.
GABURONS. See Jumelles.
GACHER. See Ramé.
GAFFE, a boat-hook. See Croc.
GAFFER, to hook and draw any thing near with a boat-hook.
GAGNER le vent, or Gagner au vent, &c. to gain the wind of; to get to windward of. See Avantage du vent.
Gagner sur un vaisseau, to fore-reach, or gain ground of some ship in company.
Gagner un port, un havre, un degré de latitude, to secure a harbour, or arrive at a rendezvous, without interruption.
GAILLARD, or Chateau, the elevation of the quarter-deck or fore-castle.
GAILLARD d'avant, the fore-castle.
GAILLARDELETTE, or Galan, the flag of the fore-mast.
GAILLARDET, a sort of broad pendent displayed at the fore-mast-head.
GAINÉ de flannes, the canvas edging fixed on the head of a pendent, to contain the stock.

GALAUBANS, the back-flays of the top-masts and top-gallant-masts.
GALÉASSE, a galleasse, or great galley of Venice.
GALERIE, a row-galley.
GALERE patrone, the second of the galleys of France, Tuscany and Malta.
GALERIE, the gallery or balcony of a ship's stern, or quarter.
GALERIES du fond de cale, certain passages formed close to the ceiling in the hold of a ship of war, for the discovery of leaks. See ACCOURSIE.
Fausse Galerries, the badges of the quarters in a small ship.
GALET, a sea-coast abounding with flints.
GALETTE, round and flat sea-biscuit.
GALION, a galleon, or Spanish ship of war of the Indian fleet.
GALIOTE, a halg-galley; also a Dutch fishing vessel.
GALIOIÉ à bombes, a bomb-ketch.
GALIOETE forçant de yaché d'avís, a packet or advice-boat.
GALOCHE, a snatch-block; also a hole made in the coamings of a hatchway, wherein the cable lies when the hatches are laid.
GALOCHE likewise implies the stock or frame into which the feet of the fleet-keels are fixed upon the ship's side.
GAMIES de bune, the futtock-shrouds.
GAMELLE, a bowl or platter to hold the sailor's victuals; also a maw or company of seamen who eat together.
Faire à la Gamelle. See FTF, &c.
GANTERIAS. See Barres de bune.
GARANT, a tackle-fall, or the part upon which the labourers pull in hoisting, &c.
GARBIN, the south-west wind, in the dialect of Provence.
GARCETTES, a general name for all sorts of plated cordage; as, Maitrepays-Garcetti, the butt-gasket, or middle-gasket of a yard.

Garcettes de bennettes, the keys or buttons of the bonnets.

Garcettes de fourrures de cables, plates for serving the cables.

Garcettes de ris, the reef-points of a sail.

Garcettes de tournoire, the nippers of the cable, by which it is attached to the vysol.

Garcettes de voiles, the gaskets which are used to furled the sails.

Garçons de bord, the ordinary seaman in a ship of war or merchantman.

Garde, or Quarter, the watch.

Garde au mâts, a person who looks out at the mast-head.

Garde-corps, the side-nettings, or quarter-nettings of a ship.

Garde-côte, a ship of war which cruises on the coast of a nation, to protect it from the insults of enemies, or pirates.

Garde des côtes, a military guard, employed to defend the coasts in time of war.

Garde-feux, powder-chefts, or cartridge-chefts.

Garde de la marine, a midshipman, or naval cadet.

Garde-magasin, an officer similar to the store-keeper of a dock-yard.

Garde-ménagerie, a ship's poulterer, or person who takes care of the beasts, fowls, &c. in a ship.

Garder un vaisseau, to dog, pursue, or watch the motion of an enemy's ship, so as to prevent her from escaping: also to guard and protect a ship.

Gardien de la foîse à lion, the boat-swain's yeoman.

Gardiennerie, or Chambre des canons, the gun-room. See Sainte-Barbe.

Gardiens, matheus-Gardiens, the ordinary men of a dock-yard, under the command of the master attendant.

Gares, certain small docks or retreats, formed on the side of a narrow canal, to contain boats, that others may pass the more safely.

Gargousse, or Gargouche, the cartridge of a cannon or other fire-arm.

Gargoussiere, a cartridge-box, or cartouch-box, for small arms.

Garttes, the top-brims, or top-rims.

Garnir, or rather Greer. See Greer.

Garnir le cabestan, to rig the capstern, by fixing the volys, bars, pins, and swifter, so as to be ready for heaving.

Garniture, the standing and running-rigging of a ship, together with the services of the yards.

Gatte, the manger of a ship.

Gavittiau, a buoy, in the dialect of Provence. See Bouëf.

Genou de la rame, the loom of an oar.

Genoux de fond, the lower futtocks of the timbers.

Genoux de poupoques, the lower futtock-riders.

Gens de l'équipage. See Equipage.

Gens de mer, a general name for mariners.

Gens de munitionnaire, the steward's crew or assistants.

Gerseau, a block-trop. See Estrop.

Gibeot, the standard which fastens the cut-water to the stem; called also, and more properly, Courbe capucine.

Gindant. See Guindant.

Girouettes, the vanes of the mast-heads.

Girouettes quarées, very broad vanes.

Gisement, the bearings of coasts or latitudes, with respect to each other, or to some distant object.

Glacons, or bânes de glace, flakes, or islands of ice.

Golfe, a gulf of the sea, as of Mexico, of Lyons, &c.

Gonds, the gudgeons, by which the rudder is hung to the stern-post. See Ferrure de gouvernail.

Gondolet, a gondola of Venice.

Gondoliers, the master and crew of a gondola.

Gonne, a sea-cafet somewhat larger than a barrel.

Goret, or Gorret, a hog, or large brustih to scrub the ship's bottom under water.

Goreter, to hog a vessel; to apply the hog to her bottom.

Gorgere, or Taillemer, the foremost and lowest part of the cut-water, or knee of the head.

Gourdon,
GOUDE', or GOUFRAN, tar.
GOUDE', to tar a ship, or pay her sides with tar.
GOUDE', a schooner.
GOUDE, a gulf, race, or whirlpool; as the race of Portland, &c.
GOUJERE, the notch or channel cut round the outside of a block or dead-eye, to receive the strop or rope which is fixed therein.
GOUJERE de bouquets, the hole in a cap, through which the hiliaris of a sail is sometimes received.
GOULET, the strait entrance of a harbour.
GOUPELLE, the forelock of a bolt. See CLAVETTE.
GOURDIN, a cobbing-board, used to punish the slaves in the galleys.
GOURMETTE, a ship-boy, servant, or apprentice, in the dialect of Provence; also a watchman appointed by the merchants to take care of the goods in a lighter till they are shipped or landed.
GOURNABLES, tree-nails.
GOURNABLE en vaisselle, to drive the tree-nails into a ship's sides, or bottom.
GOUZIERE, or TIRE-POINT, the water ways of the decks.
GOUVERNAIL, the helm or rudder of a ship.
GOUVERNAIL ouvrait, alse, slate of the helm when pushed to the ship's lee-side, in order to put her about.
GOUVERNE où tu as le coup, or à tel air de vent, thus boy, thus! or, steady as you go! the order to steer the ship exactly as the flem's, or carries her head.
GOUVERNEMENT, the navigation or freage of a ship.
GOUVERNEMENT, or rigging, or the main-boat or foresail.
GOUVERNANT, or TIMONNIER, the helmsman or freeman.
GRAIN de vent, a sudden squall of wind or rain, or of both.
GRAIN pesant, a heavy or violent squall.
GRAND mat, the main-mast of a ship or boat.
GRAPIN, a grapling or grapnel.
GRAPIN à main, or GRAPIN d'abordage, a fire-grapling, or grapling of the yard-arm.
GRAPINER, to warp a vessel towards a fluke of ice, by grapplings and ropes.

GRAS de mer, foul water, discoloured water at the mouth of a river, &c.
GRASSE-bordine. See BOULINE.
GRATTER un vaisselle, to scrape a ship; whence.
GRATOIR, a scraper.
GRAVE, a platform of flints, &c. whereon to dry fish in Newfoundland.
GRE'EMENT, a general name for the rigging, comprehending also the masts, yards, and the sails when they are bent.
GREER, to rig a ship, or fit her with rigging, blocks, yards, sails, &c.
GRÉLIN, a hauler, or stream cable.
GRENADINE à main, a grenade; also a powder-flask.
GRENIER, the floor-ceiling of a ship, or a ceiling which reaches only from the kelson to the floor heads.
Charger en GRENIER. See Charger, &c.
GREVE, a flat, low, and sandy shore.
GRIJABAN, a small vessel navigated on the coast of Normandy, and carrying a main-mast and fore-mast, without any tops.
GRIGNON, sea bread called rufs, common in Holland and Denmark.
GRIP, a small vessel resembling a schooner or salllop.
GROS d'un vaisselle, the breadth, or extreme breadth of a ship.
GROS temps, a hard gale of wind; blowing weather; foul or equally weather.
GROSSE avanture, bottomry.
GRUE, a crane with a wheel, used on wharfs and keys.
GUERLANDÉS. See GUIRLANDE.
GUET de la mer. See GARDENS des cété.
GUI, the main-boat of a floop; also the fore-boat of a schooner.
GUINDAGE, the act of hoisting with tackles in general, but more particularly when they are applied to the lading or unlading of a ship; it also implies the money paid to those who are employed in such exercises.
GUINDAGES likewise imply the tackles, and other machines used in lading, &c.
GUINDANT d'un pavillon, the hoist or height of an ensign or flag.
GUINDAS, the windlasses. See VIRE-VAUT.
GUINDE, to sway up a top-mast.
GUINDE, a top-rope, used to sway up, or lower the top-mast.

GUERLANDÉS,
HAUTS, the breast-hooks in a ship's bow.
GUISPON, a brush used to pay the ship's bottom with foap, tar, &c.
GUATERNE, a prop or shore, used to support the sheers which are employed to maff a ship, or take out her masts.

HAUTRAN, a sort of bitumen, or pitch, used to pay a ship's bottom.
GUES, or GUMERS, a general name given in Provence to all large ropes; as hawlers, cables, &c.

HAUT, sea-clothes, as jackets, trowsers, &c.
HABITACLE, the binacle.
HACHE, an ax or hatchet, used by shipwrights, &c.
HACHE d'armes, a pole-ax or battle-ax.
HACHER, to hew or chop with an ax.
HALAGE, the tracing or towing a ship from one place to another.
HALE à bord, the boat-rope, or guefs-rope of a boat's moorings.
HALE-har, a down-haul, or down-haul tackle.
HALE-beline, a fresh-water sailor.
HALET, to haul or pull upon any rope.
HALET le vent, to haul the wind, or come nearer to its direction.
HALET à la cordelle, to warp a ship from one place to another.
HALEUR, a person who tracks a boat by a rope reaching ahore and fastened round his waist.
HAMAC, a hammock.
HANCHE, the quarter of a ship.
HANGARD, a shed or store-house in a dock-yard, wherein the masts and pieces of timber are covered from the weather, and ranged in order.
HANSIERE. See Aussiere.
HARPIN, a boat-hook. See Croc.
HARPON, a harpoon, used in striking of whales, &c. whence.
HARPONNEUR, an harpioneer, employed in the service above mentioned.
HARPONS, are also sharp cutting-hooks, lashed to the yard-arms to destroy the enemies rigging, in the act of boarding.
HAUBAN de voile d'etui, the guy of a lower fludding-sail boom, or of the main-boom of a brig, sloop, or schooner.
HAUTS d'un vaïfseau, the height or eminences of a ship.

Mettre les mâts de hune HAUTS, to sway-up the topmasts; to get the topmasts on-end.

HAUTURIER, or pilote-HAUTURIER, a pilot who directs the ship's course by celestial observations.

HAYE, HAIE, a ridge of rocks, a chain of rocks under water, or near the surface of the water.

HEAUME, the tiller, or bar of the helm in small vessels.

HELER un vaïfseau, to hail or accost a ship at a distance.

HERPE de plat-bord, the drift-rails on the bow quarter of a ship.

HERPES de poulaine, the rails of the head. See Liffes de Poulaine.

HERPES marines, a general name for whatever is thrown upon the sea-coasts of value, as coral, amber, &c.

HERSE de poulie. See Estrope.

HERSES d'attir. See Éras.

HERSILIERES, certain knees placed horizontally on the quarters or bows of a ship, close to the gunnel.

HEU, a large hoy, a failing lighter.

HEUSE, the spear of a pump, together with its box.

HILOIRIES. See Illoires.

HISSE, HISSE, hoist away! hoist heartily!

HISSER, Isser, to hoist or pull up anything by a tackle.

HISser en deuxems, to hoist handomely, or gradually.

HIVERNER, to winter, to lie up in a port during the winter season.

HOIRIN. See Orin.

HOLA, hoa the ship a hoy! an acclamation to hail or accost a ship at a distance.

HOLA-HO, a cry which answers to yee-hoe.

HOMME, a name frequently given as a token of distinction to an able or expert seaman.

HONNEUR, faire honneur à une eauïl, &c., to give a good birth to, or keep aloft from any rock, or shoal, or other ob

jeet which might intercept a ship's course.

HOPITAL, an hospital-ship, that attends on a fleet to receive the sick.

HORLOGE, an half-hour glass for regulating the watch.

HOUACHE, or SILLAGE, the wake or track of a ship in the sea, made by her passage through it.

HOUCRE. See Hourque.

HOULES, or lames de mer, the waves of a swelling or breaking sea.

HOULEUX, a rolling and turbulent sea.

HOUPPE', the rise or swell of a wave; whence

Prendre la Houpe', to watch the swell, as in mounting from a boat into a ship, when the boat rises.

HOURAGAN. See Ouragan.

HOURSE, or Ource, the vangs of a mizen-gaff or yard.

HOURD1. See Liffé de Hourdi.

HOURQUE, a Dutch howker; a particular fort of hoy.

HOUVARI, a strong land-wind in the West-Indies, accompanied with rain, thunder, and lightning.

HUNE, the top.

HUNES de perroquet, the topmast cross-trees.

HUNIER, a topail.

Le grand Hunier, the main-topail.

Le petit Hunier, the fore-topail.

Avoir les Huniers à mi-mat, to have the topails half-maft up.

Avoir les Huniers dehors, to have the topails let.

Mettre le vent sur les Huniers, to brace the topails to the wind, or to lay them aback on the mast.

Ameurer les Huniers sur le ton, to lower the topails down upon the cap.

HUTTER, to lower the lower yards down a port-laft, and seek them up so as to hold less wind, as when a ship rides at anchor in a form.

HYDROGRAPHE, an hydrographer, employed by the State to teach navigation in the sea-ports.
JAC, or JACHT. See YACHT.
JACQ, the jack of the bowsprit. See Pavillon.
JALOUX, a name given in Provence to the quality of rolling violently at sea; or of being crank.
JAMBES de bune. See Gambes de bune.
JARDEN, a name sometimes given to the gallery or balcony of a ship.
JARLOT, the rabbet, or channel, cut in the stem afore, and in the stern-post abaft, &c., and into the keel, to receive the ends or edges of the planks enveloping the sides and bottom of a ship.
JAS, or JOUAIS d'ancre, the anchor-flock; or the two pieces of which it is composed.
JATTE, the manger of a ship. See Gatte.
JAVEAU, a bank, or small island, formed in a river by a mass of gravel or mud.
JAUGE, the tonnage or burthen of a vessel.
JAUGER, to measure, or take the dimensions of a ship, in order to discover her burthen.
JAUMIERE, the hole in a ship's counter or stern, which contains the rudder-head, and in which it is turned by the tiller; the lower part of it is usually covered with a piece of tarred canvas nailed to the rudder, to prevent the entrance of the water.
JET de voiles, a complete suit of sails for all the masts, yards, flaps, &c.
JET also implies any part of the cargo, &c., thrown over-board in a storm.
Faire le JET, to throw overboard the cargo, or any part of it, in a dangerous storm, in order to lighten the vessel, so as to prevent shipwreck or foundering; on which occasion the master usually draws up a protest against the weather, &c., on his arrival in port.
JETTE, a pier, or mole-head, formed by a heap of stones funk at, or near, the entrance of a harbour. Also a great wharf or key.

JETTER à la mer, to throw any thing over-board.
JETTER dehors le fond du hunier, to foot the topsail out of the top.
JETTER du bled, ou autres grains à la haute, to trim the corn, sail, or such like materials, to the other side of the ship, on any particular occasion.
JETTER l'ancre, to let go the anchor; to drop anchor.
JETTER la fonde, ou le plomb, to sound, or heave the lead.
JETTER un navire sur un banc, ou sur un rocher, ou à la côte, to run a ship ashore, upon a bank, rock, or coast, to avoid an enemy.
JEU du gouvernail, the play of the helm or rudder.

ILLOIRES, two ranges of planks running fore and aft in a French ship, throughout the whole length of the deck on each side of the hatches, in the same place where the carlings are fixed in an English ship of war.

INCOMMODE, disabled by the loss of masts, sails, or rigging. See De' sempare.

INGENIEUR de la marine, an officer who constructs the fortifications of a seaport, either for attack or defence; also a person employed to survey coasts, draw sea-charts, and teach the theory of navigation.

INONDER, to overflow a country, as by an inundation of the sea.

INSPECTEUR des constructions, an officer whose duty is nearly similar to that of our surveyors of the navy.

INTENDANT de marine, an officer who, by his duty and authority, refumbles our resident commissioner of a dock-yard. See Commissaire général de la marine, where his office is particularly described.

INTENDANT des armées navales, an officer appointed to regulate the justice, police, and finances of a naval armament.
LAN

TENDANT général de la marine, a com-
mmissioner-general of all the royal dock-
yards and ports of the kingdom.
INTERLOPRES, smugglers, or contra-
band traders.
INTERRESSES. See CHARGEURS.
INVESTIR, to touch, or flop at any port
in a voyage; also to be driven into a road
or harbour.
JOL, a Danish yawl.
JONCTION de deux flottes, ou de deux ar-
mées navales, the conjunction of two
fleets of ships of war, or merchantmen.
JONQUE, a Chinese junk.
JOTTES, the fore-part of a ship's bow,
contained between the cat-head and the
stem.
JOTTEREAUX, the cheeks of the head.
JOTTEREAUX de mât, the cheeks of the
mât.
JOUER le gouvernail, to play the helm,
or traverse it from side to side, as in light
winds.
JOUER, to fetch way; as,
Le mât JOUE, the mât fetches way.
JOUES de virevolt, the cheeks of the
windlass.
JOUETS, certain clamps, or plates of
iron, used to prevent the bolt-heads from
cutting the timber into which they are
driven; as,

JOUETS de pompe, the iron clamps nailed
on the checks or ears of the pump, thro'
which the bolts are introduced.
JOUETS de fêp de drisse, plates of iron nail-
ed on the knight-heads of the jeurs, to
prevent them from the iron pins of the
jeur-block.
JOUR, a light-port; also the interval left
between any two pieces of timber, to
prevent them from chafing each other.
JOURS. See SEJOURS.
ÎLES d'œuv le vent, the Leeward Islands
of the West Indies.
ÎLES du vent, the Windward Islands of
the West Indies.
ISSAS. See DRISSE.
ISSER. See Hisser.
ISSONS, thick white ropes, occasionally
employed as jeurs to the lower yards.
ISSOP, or ISSOP, hoist away! Sway a-
way!
ITAQUE is in general the tye of any
yard, but more particularly a top-sail
tye.
ITAQUE de palan, the runner of a tackle.
JUMELLER un mât, to fish a mât, or
fatten thes upon it.
JUMELLES, the fihes of the lower mât.
JUSSANT, the ebb-tide.

L.

LABOURER, to raise, or harrow the
surface of the ground with the ship's
keel, in passing over a shallow.
L'amere LABOURÊ, the anchor comes home,
thifts, or loosens from it's hold.
LAC, a great lake of fresh water.
LAGAN. See CHOSES de la mer.
LAGON, a fort of bay.
LAGUE d'un vaisseau, the path, track, or
wake of a ship. See Sillage.
LAISSES & relais, a fort of bank thrown
up by the waves of the sea, upon any
coast.
LAMANAGE, coaUing pilottage, or the
act of piloting a vessel into, or out of
any harbour or river.
LAMANEUR, a harbour or river pilot.
LAMES de la mer, the waves or billows of
the sea.

La LAME vient de l'avant, the sea comes
a-head.
La LAME vient de l'arrière, the sea comes
aft, the sea follows the ship.
La LAME prend par le travers, the sea
strikes the ship upon the broadside; ex-
prefled of a ship when he lies in the
trough of the sea.
Courir au devant de la LAME, to sead before
the sea.
LAMPES d'habitation, the lamps of the bi-
chacle.
LAMPION, a small lamp, used to enter
the ship's magazine.
LANCER, to sheer or yaw to the right or
left of the ship's course.
LANCER un vaisseau à l'eau, to launch a
ship from the flocks into the water.
C c c LANCER
Lancer une manœuvre, to belay a rope to a clear, or timber-head.

LANGUE de voile, the goring of a sail, or that part which is next to the leelee.

LANTERNE à gourouilles, a cartridge-case, to carry the cartridges from the ship’s magazine to the artillery, in the time of battle.

LANTERNE à mitrailleuse, a case, box, or cannister, filled with case-shot, or langrage, whereunto charge a cannon.

LANTIONE, a fort of row-galley, navigated on the coast of China.

LARDER la bonette. See Bonette lardée.

Au LARGE, sheer off ! the order given by the sentinel on a ship’s gangway to any adjacent boat, to keep aloof.

Courir au LARGE, se mettre au LARGE, to stand off to sea; to bear out from the coast towards the offing.

LARGEUR, the measure of a ship from side to side, in any place.

LARGUE, the offing; sea-room; out at sea.

Lent LARGE, a large, or quartering wind.

LARGUER, to relax, or loosen; expressed of a ship that strains violently in a high sea, so as to open in several places.

LARGUER une amarre, to cast off, or let go a belayed rope.

LASSER, or Lacer une voile, to reef a course with a reef-line.

Voile LATINE, a latten sail.

LATITUDE, latitude.

LATTES à baux, the ledges placed in the intervals between the deck-beams.

LATTES de castellunis, the battens or laths of the gratings.

LATTES de galère, a sort of broad thin beams, used to support the decks of a gallery.

LAZARET, a lazaretto, or building to receive persons while performing quarantine, &c.

LE, the fair way of a channel, harbour, or river.

LEBESCHE, the south-west wind, in the dialect of Provence.

LEGE, light; without a cargo of any kind: understood also of a ship which is not sufficiently ballasted.

LEST, a general name for any sort of ballast.

LEST bon, or bon LEST, good ballast; or such as lies firmly in the hold, without incommoding the pumps; as shingle, gravel, &c.

LEST de plongeurs, a weight used by the divers in the coral-fishery. It is fastened securely to their waists, to balance them in the water, and keep them steady, that they may traverse the waves easily, without being tossed about.

LEST gros, or gros LEST, heavy ballast, composed of large stones, or pigs of iron.

LEST lavé, washed shingle ballast.

LEST maures, bad ballast, as sand, silt, &c. which is apt to melt or penetrate through the ceiling, and choak the timbers and pumps.

LE LEST route, the ballast shifts.

Veiles à LEST, port-fails, or pieces of canvas, depending from the port-hole of the ship, into which the ballast is thrown, to the side of the ballast-lighter, in order to prevent the ballast from falling into the water.

LESTAGE, the ballasting of a ship, or furnishing her with ballast.

LESTER, to ballast a vessel, or furnish her with ballast.

LESTEUR, a ballast-lighter.

LETTRES de reprisaillees, letters of mart.

LETTRÉ de mer, a passport.

LEVÉE, a swelling sea.

Il y a de la Levée, the sea rises; there is a broken or boiling sea.

LEVÉE-rame! unship the oars! the order to the rowers to lay in their oars.

LEVER l’amure, to tack, or shift the tack; to put about.

LEVER l’ancre, to weigh the anchor.

lever l’ancre avec la chaînette, to weigh the anchor by the buoy-rope in the long-boat. See ANCRE.

LEVER la fourniture du câble, to take the plat, or other service, off from the cable.

LEVER le loft de grand voile, to haul up the weather clew-garnet of the main-sail.

LEVER les terres, to survey the coasts, in order to draw a chart thereof.

LEVER un objet avec la boule, to set a distant object by the compass, in order to discover the bearing thereof.

LEVIER, a lever formed of a hand-spec or crow.

LEVIER à croc, a clawed-hand spec.

LIAISON, the connexion or fastening together.
together the several members or pieces of timber of which a ship is composed.

LHBOURET, a line or staff for fishing of mackarel.

LIEU, a league, or measure of three miles, common in navigation.

LIEURLES, the lower futtocks of a boat.

See GENOUX.

LIEUTENANT-amiral. See VICE-Amiral.

LIEUTENANT-général des armées navales, a rear-admiral in the French navy.

LIEUTENANT de vaisseau, the lieutenant of a ship of war.

LIGNE, a line of battle.

Marcher en Ligne, to sail in a line.

Ligne d'eau, a water-line.

Ligne d'eau de vaisseau chargé, the load water-line.

Un coup de canon, à la Ligne de l'eau, or à fleur d'eau, a shot between wind and water.

Ligne de fond, a sounding-line, or lead-line.

Ligne de fort, the extreme breadth of a ship.

LINGES, small cords or lines, used on several occasions at sea.

LIGNES d'amarrage, stelings, or lashings: allo the cable-bends.

LINGUET, the paul of a capstern.

LIOUBE, the feari by which a jury-mast is attached to the flump of a mall that has been carried away.

LISSE, or CARREAUX, a general name for the sheer-rails and drift-rails.

Lisse de bord, the wing-tranform.

Lisse du plat bord, the wait-rail.

Lisse de pont. See BARRE du pont.

Lisse le porto avoins, the sheer-rails.

Lisses de la rabblante, the drift-rails.

LIT, the bed or channel in which a river runs.

Lit de marée, a tide-way; a part in the seas where a current flows, or where there is a flux and reflux of the tide.

Lit du vent, the source or direction of the wind.

LURE, the gammoning of the bowsprit.

LIVRE à livre, a phrase which implies a participation of gain or loss of every owner of a ship's cargo, in proportion to his share.

LOCH, or Lox, a log and line.

LOF, the weather-side of a ship, or that which is to windward of the masts.

Aller à LOF, to fail clove to the wind.

Bouter le LOF, to trim all sharp; to spring the luff.

Envoye LOF tout, to luff round, or luff a lee, in order to throw the ship's head up in the wind; to tack her.

Être au LOF, to be upon a wind, or close-hauled.

Tenir le LOF, to keep the wind, or weather-gage.

LOF au lof! luff, boy, luff! the order to steer the ship clove to the wind.

LOF tout! put the helm a-lee.

LOF pour lof! hard a weather! the order to the helmsman to veer or wear, and bring the wind on the other side of the ship.

LOF is also the weather-clue of a sail; hence,

Leve le LOF de la grand voile, or leve le grand LOF! haul up the weather-clue of the mainail!

LOGE, the birth or cabin of an inferior officer.

LOIER, the wages or pay of a seaman.

LONG au long, pressed down sidewise by a filli gale.

LONGIS, the treble-trees of the tops, &c.

LONGUEUR de la quille, the length of the keel upon a right line.

LONGUEUR de l'étrave à l'étambord, the length of a ship at the height of the stern, or the distance between the top of the stem and the top of the stern-post.

LONGUEUR du cable, a measure of 120 fathoms, usually called a cable's length at sea.

LOQUETS d'écoutilles, the hoops or clasps of the scuttles.

LOVER, or ROUER, to coil away a cable. See Rouer.

LOUVOYER, to ply to windward.

LOUVOYER fur onze points, to lie up within eleven points of the other tack, or to fail five points and a half from the wind.

LOXODROMIE, an oblique course in navigation, or a course which crosses the meridians at equal and oblique angles.

LOXODRONMIQUES tables of differences of latitude and departure.

LUMIERE de canon, the touch-hole of a cannon.

LUMIERE de Pompe, the hole in the side of a pump, through which the water is discharged upon the deck, or into the pump-dale.

LUNETTE d'approche ou de long zénith, a telescope or perspective-glass.

LuzIN, a small line called hewing, or houfe-line.
MACHEMOUR, bread-duff, formed of rusks, or broken biscuit.

MACHINE à moteur, the fceers of a screw-hulk, or other machine for maffing a ship.

MACLES, nettings of the quarters or sides of a ship.

MAESTRALISER, a name given in the Mediterranean to the west variation of the magnetic needle.

MAGASIN général, a storehouse, or magazine, to contain naval stores in a dockyard.

MAGASINS, the store-ships which attend on a fleet of men of war.

MAHONNE, a fort of Turkish galleasses.

MAILLE, the keys or buttons by which a bonnet is fastened to its fall.

MAILLES, the intervals, or spaces, left between a ship's timbers.

MAILLET de colles, a caulking mallet.

MAILLETAGE, the sheathing of a ship's bottom with scupper-nails.

MAIN avant, the order to pull on a rope hand-over-hand.

MAJOR, an officer who has the charge of mounting, regulating, and relieving the marine-guard in a ship, &c.

MAÎTRE, a term of distinction, applied by shipwrights to several pieces of timber which lie in the broadest part of a ship; as

MAÎTRE-bœuf, midship-beam, the beam upon which the extreme breadth of a ship is formed. It is situated in the midship-frame, nearly in the middle of her length, serving as a standard, from whence the dimensions and proportions of the masts and yards are to be taken. See also below, MAÎTRE-couple.

MAÎTRE-canonnière, the maitre-gunner of a ship.

Second MAÎTRE canonnier, the gunner's mate.

MAÎTRE de chaîneppe, the coxswain, or patron of the long-boat.

MAÎTRE couple, the name of that timber, or combination of pieces formed into one, which determines the extreme breadth of a ship, as well as the figure and dimensions of all the inferior timbers.

MAÎTRE de l'équipage, or MAÎTRE entre-temps dans le port, an officer whose duty resembles that of our maitre-attendant in a dock-yard; inasmuch as he has charge of whatever relates to the equipping, mooring, or securing of ships; as well with regard to rigging, arming, and fitting them for sea, as to the careening and floating them out of the docks.

MAÎTRE de grave, a person appointed to take care of the salt cod, whilst drying upon the flakes at Newfoundland.

MAÎTRE de bache. See CHARPENTIER.

MAÎTRE-maître, the maitre-mast-maker.

MAÎTRE des ponts & des portes, a maitre wherry-man, or waterman, whose office it is to conduct the small craft of a harbour through bridges, or other dangerous places.

MAÎTRE de ports, an harbour-master, or officer appointed to take care of a port, and its booms, and places of anchorage; to arrange the shipping conveniently therein, and regulate their moorings with regard to each other: He has also the command of the ordinary-men employed about the rigging, careening, &c.

MAÎTRE de ports is likewise an officer resembling our tide-surveyors of the customs in an out-port.

MAÎTRE de quai, a principal wharf-master, or officer appointed to regulate the affairs of wharfs and keys, and the shipping moored along-side thereof: to see that the fires are extinguished at night, and that no fires be made in any ship or boat during the night: He is besieced to appoint the proper places for ballasting and unballasting vessels; as also for careening, caulking, and repairing them, and tarring their rigging: Finally, he is to place the light-houses, beacons, and buoys, where necessary; to examine once a month, and after every storm, the usual channels of passage for shipping; and to see whether the ground has not shifted, so as to alter the usual stations of anchorage.

MAÎTRE de vaissieu, or CAPITaine, the maitre or commander of a merchant-ship.
Mâitre de vaisseau de guerre, the master of a ship of war.
Mâitre-noyé, the ship’s steward.
Contre-Mâitre, boatswain, the officer of a ship, who has the charge of the colours, boats, sails, rigging, cables, anchors, &c.
MAL de mer, sea-flickers.
MALEBESTE, malebête, or petraffé. See Petrasse.
MALINE, a spring-tide.
MAL-fain, foul ground; bad anchor-ground.
MANCHE, a great channel; as, la Manche Britannique, the English channel; la Manche de Brindisi, the channel of Bristol, &c.
Manche à l’eau, ou Manche pour l’eau, a canvas or leathern hove, to convey water from the deck into the casks which are flowed in the hold.
Manche de pompe, the pump-hove.
Manche de rame, handle of an oar.
MANEAGE, a name given to those employments, or labours, for which the crew of a ship can demand no additional pay of the merchant. Such is the lading a ship with planks, timber, or green or dried fish.
MANEGE du navire, the general trim of a ship, with regard to the situation of the masts and the center of gravity; as also to the disposition of the sails, and the efforts of the wind and sea.
La lune a MANÉE, la lune Mangera, the moon has cast them, up, or will cast them up; understood of the clouds: a cant phrase, usual amongst common sailors, to express the dilipation of the clouds on the rising of the moon.
Être MANÉE par la mer, to be in the hollow or trough of a high sea, which often breaks aboard.
MANGER du faîle, to flog the glass, or cheat the glass; expressed of the steer-man, who turns the watch-glasses before they are run out, in order to shorten the period of his watch.
Temps MANIABLE, moderate weather, and wind favourable for sea.
MANÈE, a sort of hand-basket, used on several occasions in a ship.
MANŒVRE, the working of a ship, or the direction of her movements, by the power of the helm, and the disposition of the sails to the wind.
MANŒVRE baîre, the work or employment which may be performed upon deck, by the effort of the ropes upon the sails and yards.
MANŒVRE fine, a dextrous management of the ship in working her.
MANŒVRE grève, heavy and laborious work in a ship; as the embarkation of the artillery and cables, the shovage of the anchors, &c.
MANŒVRE hardie, a difficult or dangerous operation at sea or on ship-board.
MANŒVRE haute, the employment of the sailors in the tops, at the masts, and upon the yards.
MANŒVRE tordue, a lumberly, or awkward manner of working a ship.
MANŒUVRE, to work a ship, or direct the movements of a fleet.
MANOEUVRES, a general name given to the rigging, sails, blocks, and cordage of a ship; but more particularly to the standing and running ropes.
MANOEUVRES à quille de rot, ropes which taper to the end; as the main and fore-tacks.
MANŒUVRES en bande, slack ropes which are unemployed.
MANŒUVRES-majors, a name usually given to the largest ropes in a ship; as the ground-tackling, and the principal stays.
MANŒUVRES paffées à contre, ropes leading forward; as those of the mizen-mast.
MANŒUVRES paffées à tour, ropes leading aft.
MANOEUVRIER, an able or expert sea-officer, or one who is perfectly skilled in working a ship by every method of failing.
MANQUER, to fly-loose; understood of a rope which is broke, or loosened from the place where it was made fast, so as to be blown out to leeward, &c.
MANTEAUX, two folding-doors in a bulk-head.
MANTELET, the port-lids, or covers of the ports in a ship’s side.
MANTURES, the rolling waves of the sea. See HOULES, LAMES, and Camp de Mer.
MANUELLE, the whip-fl Snf of a helm; an instrument which is now entirely disused.
MAQUILLER, a decked boat, used in the mackard fishery.
MARABOUT, a sail hoisted in the galley in stormy weather.
MARAILS, gaffs, sail-pits on the 32-coast; or
MAR

or reservoirs to contain sea-water, for the purpose of making salt.
MARANDER, a phrase used by the common sailors in the channel, implying to feather easily.
MARCHÉ-PIED, the horse of any yard.
MARCHÉ-PIED is also a space, about three fathoms broad, left on the banks of a river, whereon to draw boats ashore, &c.
MARCHER. See Ordre de MARCHER.
MARCHER dans les eaux d'un autre vaisseau, to fail in the wake or track of another ship.
MARCHER en colonne, to fail in a line, or column.
MARE'AGE, the hire or pay of a sailor for any particular voyage.
MAREÉ, the tide. See Flux & reflux. 
La MAREÉ est baut, it is high water.
MARE É qui soutient, a tide which counteracts the wind, with regard to a ship's course, enabling her to turn to windward better.
Mètros MARE'ES, neap-tides, or dead-nep.
MARE'ES qui portent au vent, a wind-tide, or tide which runs to windward.
MARE'ES & contre maries, tide and half-tide.
MARGOUILLET, a bull's eye or wooden traveller,
MARGUERITES, a name given to jiggers, or such sort of purchase, used to pull a rope with greater effort.
FAIRE-MARGUERITE, to clap a messenger on the cable, when the anchor cannot be purchased by the vole.
MARIN, a sea-faring man of any denomination.
MARINE implies in general the knowledge of maritime affairs: also the persons employed in the sea-service, &c.
Gens de MARINE, seamen, fishermen, &c.
Officiers de MARINE, sea-officers.
MARINIER, a name generally given to sailors; but more particularly to lightermen.
MARITIME, marine, of, or belonging to, the sea.
Batteaux MARNOIS, a yacht, hoy, or smack, employed on the rivers of Marne and Seine.
MARQUES, the sea-marks observed by the pilots upon any coast; as mountains, spires, windmills, &c.
MARSILIANE, a square-sterned ship, navigated on the gulf of Venice, and along the coasts of Dalmatia. They are of several sizes, the largest carrying about 700 tons.
MARSOUINS, a name given to the Flemish forward, and to the false-post abatt.
MARTÉAU à dents, a claw-hammer used by shipwrights.
MARTICLES, or lignes de têringage, a crow-foot, or complicated span.
MARTICLES is also a name given by some to the furling lines of small sails.
MARTINET, is properly the runner or tye which is fastened to the dead-eye of a crow foot, formerly used as a topping-lift for the mizen-yard.
MARTINET is also a general name for the halyards, or tracing-line of a crow-foot.
MASCARET, a violent eddy of the tide.
MASLES, the pintles, by which the rudder is hung upon the stern-post. See FERRURE de gouvernail.
MASSE, a large iron maul, used by shipwrights to drive the tree-nails and bolts into the ship's side; also a very long tiller used in some lighter.
MASULIIT, a fort of Indian boat, whose sides are composed of the bark of trees, and caulked with moss.
MAT, a mast. The principal masts of a ship are,
Le grand Mât, the main-mast.
MAT de misaine, the fore-mast.
MAT d'artimon, the mizen-mast.
MAT d'un brin, a mast formed of one piece of wood only; such are the bow-sprit and top-masts of all ships, and all the masts of a small vessel.
MAT force, a mast which is sprung.
MAT jumelle, reclampé, or renforcé, a mast which is filled in a weak place, or opposite to any spring.
MATS de réchange, spare top-masts, or masts in reserve.
Aller à MÂTS & à cordes, Mettre à MÂTS & à cordes, to set or to establish, or to be under bare poles.
MATS venus à bas, disenabled masts.
MATS de bateau bâts, to heave the top-masts an end, or swayed up.
MATAPIONS, knittles, or small ropes.
MAT' en caravelle, fitted with pole top-masts.
MAT' en chandelle, mastled upright. Express of a ship whose masts are flayed so as neither to hang forward or aft.
MAT' en frigate, the bent or inclination of
MEM

of the masts, when they rake forward, or
floop towards the head.
MÂTE en fouche, or à corne, masted for a
boom and gaff; as a floop or schooner.
MÂTE en galerie, to be masted as a galley;
having only two masts, without any top-
mast.
MÂTE en senouque, masted for a sprit which
croffes the fail diagonally.
MATELOT, a sailor, or marinier; a man
before the maft.
MATELOTAGE, the hire, wages, or
pay of feamen.
Il est un bon MATELOT, he is an able fea-
man.
Voiffen MATELOT, a good company-
keeper, or a ship that fails well, and
keeps her fation in a fleet; also the fhips,
in a fleet of men of war, which are ap-
pointed seconds to the admirals or com-
manding officers.
MATELOTS-gardien, the ordinary-men
attending a royal dock-yard, and it's har-
bour or dock; including also the carpente-
ers and caulkers appointed to watch in
the fhips of war.
MÂTER, to fix or place the masts of a
ship.
MÂTEREAU, a small maft, or end of a
maft.
MÂTEUR, a maft-maker. See MAÎTRE-
mâteur.
MÂTURE, the art of maffing ships; al-
fo a general name for the mafts them-
selves.
La MÂTURE, the maft-fled, or the place
where the masts are made.
MAY, a fort of trough bored full of holes,
wherein to drain caufage when it is newly
tarred.
MAUGERES, or MAUGES, the scupper-
holes.
MECHE, the match by which a cannon
is fired.
MÂCHE de cahéfpan, the middle-piece, or
body of the caplern.
MÂCHE de mât, the main or middle piece
of a lower maft, when the latter is com-
poled of feveral pieces, as usual in many
fhips of war.
MÂCHE du gouvernail, the principal piece
of a rudder.
MÂCHE d'une corde, the middle strand of a
tour-branded rope.
MEMBRES de vaiffen, a name given to
any of the pieces of which the ribs are
composed; as the floor-timbers, top-
timbers, and futtocks.
MER, the sea; whence,
Pleine MER, full sea;
Hauë Mer, high water. See MARE.
MER fans fond, a part of the sea where
there is no anchoring-ground.
La MER a perdu, the tide has fallen; it is
falling-water.
La MER brûle, the sea breaks, or foams;
as by striking a rock or shore.
La MER eff courte, the sea runs short, broken
or interrupted.
La MER eff longue, the sea runs long and
steady; or without breaking.
La MER ètale, the sea is smooth, as in a
calm.
La MER mugit, the sea roars, as being tur-
bulent.
La MER rapporte, the spring-tides have re-
commenced.
La MER roule, the sea rolls.
La MER se coufe, the sea rifes and runs
crof.
La MER va chercher le vent, the wind rifes
against the sea.
Il y a de la MER, the sea runs high. When
the violence of the waves are abated, they
fay, in a contrary fense, Il n'y a plus de
MER.
Jeter à la MER, to throw overboard.
METtre à la MER, or faire voiles, to put to
sea, or let fail.
Tenir la MER, to keep the sea, or hold
out in the offing.
Tirer à la MER, to fretch out to sea. See
BOUTER au large.
Recevoir un coup de MER, to fhip a sea.
MERLIN, marline, or merline.
MERLINER une voile, to marle a fail to
it's foot-rife.
Arbre de MÆTRE, the main-maff of a
row galley.
METTRE à bord, to bring, or carry aboard.
METTRE a la voile, to get under fail, to
let fail.
METTRE une navire en rade, to carry a fhip
into any road.
METTRE à terre, to carry, or put ashore;
to difembark.
METTRE la grande voile à l'échelle, to get
the main-tack down with the paflance.
METTRE les buffes voiles fur les carrages, to
haul up the courfes in the brails.
METTRE
Mettre les voiles dedans, Mettre à sec, en Mettre à masts & à cordes, to take in, furl, or hand all the sails.

Mettre le lignet, to paul the capstern, or put in the paul.

Mettre un maletet à terre, to set one of the crew aforesaid; to turn adrift or maroon a sailor.

Mettre une ancre en place, to draw an anchor on the bow.

MEURTRIERES, ou Jalousies, the loop-holes in a ship's sides or bulk-heads, through which the musketry is fired on the enemy.

MI mit. See Hunter.

MINOT, the davit of a ship: also a fireboom. See Defense.

Coins de MIK, the coins, or aiming wedges of a cannon.

Prendre sa MIRE, to take aim with a cannon; to level or point a cannon, or other fire-arm, to its object.

MIRET, to loom, or appear indistinctly, as the land under a cloud on the sea-coast.

MIROIR. See Ecusson.

MISAIN, the fore-mast.

MISAIN, or voile de MISAIN, the fore-fall.

Traverser MISAIN, flat-in forward, or haul in the fore-fleet, jib-fleet, and forestay-fail sheet, towards the middle of the ship.

MITRAILLES, a general name for langrage shot.

MODELE. See Gabari.

MOIS de goges, the monthly pay, or wages of a sailor.

MOLE de port, a pier, or mole-head.

MOLE en pouppe, en pger, to bear away and bring the wind aft, in the dialect of Provence and Italy.

MOLIR une corde, to slacken, douffe, or cafe off a right rope.

MONSON, or Mouson, a monsoon, or trade-wind of India.

MONTANS de poulaine, the timbers of the head, or vertical rails, which are usually ornamented with sculpture.

MONTANS de vouts, the stern-timbers.

Le MONTANT de l'eau, or le fort, flowing water; the flood-tide.

MONTE', mounted, or equipped with a certain number of guns, or men; as,

Vaisseau MONTE' de 50 ou 60 canons, a ship mounting 50 or 60 guns.

Vaisseau MONTE' de trois cents hommes, a ship manned with three hundred hands, or whose complement consists of three hundred.

MONTER le gouvernail, to hang the rudder.

MONTER au vent, to spring the luff, or haul the wind.

MONTURE, the arming a ship for war, or mounting her with cannon, and other fire-arms, and manning her.

MOQUE, a heart, or dead-eye of a sail.

MOQUE de citadiere, a sprit-fall sheet-block.

MOQUE de treilingage, the dead-eye of a crow-foot.

MORDRE, to bite, or hold fast; under-flood of the claw or fluke of an anchor which is sunk in the ground.

MORNE, a name given in America to a cape or promontory.

MORTAISE, a hole or mortise, cut to receive the end of a piece of timber, called the tenant or tenon.

MORTAISE du gouvernail, the hole in the rudder-head which contains the tiller.

MORTAISE de poulie, the channel, or vacant space in a block which contains the sheave.

MORTAISE du mat de hun, the fid-hole of a top-mast.

MORTE-d'eau, or MORT-eau, nip-tide, or neap-tides; also dead low water.

MORTIER, a mortar, employed to throw shells or carcasses from a ketch.

MOUFFLE de poulie, the shell of a block.

See Arcasse.

MOUILLAGE, anchoring-ground.

Mauvais MOUILLAGE, foul-ground; bad anchor-ground, or foul-bottom.

MOUILLER, let go the anchor! the order to let the anchor fall from the cat-head to the bottom.

MOUILLER ' à une ancre de flot, & une ancre de jusant, moored with one anchor towards the flood, and another towards the ebb.

MOUILLER entre vent & marée, moored between wind and tide.

Bieu-MOUILLER, well-moor'd; or moored in a good birth and anchor-ground.

MOUILLER, or MOUILLER l'ancre, to let go the anchor; to come to an anchor, or, simply, to anchor.

MOUILLER à la voile, to let go the anchor while the sails are yet abroad.

MOUILLER en cromière, to moor with a spring upon the cable, in order to cannonade a fort, &c.

MOUILLER en patte d'oie, to moor with three anchors a-head, equally distant from
from each other, and appearing like
the foot of a goose.
**Mouiller** l’ancre de toué, to moor with the
boat; or to carry out an anchor.
**Mouiller les voiles**, to wet the sails; a
practice usual in light winds.
**Mouiller par la quille**, a farcical ex-
pression implying that a ship is fast a-ground.
In the same fencé our seamen say, every
nail in her bottom is an anchor.
**MOULINET**, a small windlass, as that
of a lanch or long-boat.
**MOULINET à bittard**, a spun-yarn winch.
**MOURGON.** See Plongeur.

**MOUSSE, garçon de bord**, a ship-boy;
one of the prentices, or officers servants.
**MOUTONNER**, to foam; expressed of
the waves in a tempest or turbulent sea.
**MOYEN-parallel**, the middle latitude in
navigation, or the parallel that holds the
middle place between the latitude departed
from, and the latitude arrived in.
**MULET**, a sort of Portuguese vessel with
three masts, and lateen-fails.
**MUNITIONAIRE**, an agent-viandier,
or a contractor for sea-provisions.
**Commis du Munitionaire.** See Commis.

**N.**

**NACELLE**, a skiff, or wherry, without
masts or sails, and usually employed
to pass a river.
**NAGE**, the row-lock of a boat. See also
**Autarelle**.
**Nage à bord**, come aboard with the boat:
the order given to the rowers in the long-
boat to bring her aboard, or along-side of
the ship.
**Nage à faire abattre**, pull to leeward! the
order to the rowers in a boat, to tow the
ship’s head to leeward.
**Nage au vent**, pull to windward, or tow
the ship to windward!
**Nage de force**, pull clearly in the boat!
**Nage qui est paré**, pull with the oars that
are shhipped.
**Nage sec**, row dry! the order to row with-
out wetting the passengers.
**Nage tiré, & sic bas-bord**, pull the
starboard oars, and hold water with the
larboard oars!
**Nager, Ramer, or Voguer, to row,** or
pull with the oars, in a boat or small
vessel.
**Nager à sec**, to touch the shore with the
oars in rowing.
**Nager tant d’avirons par bande**, to row so
many oars on a side.
**Nager de bout**, to row standing, or with
the face towards the boat’s head.
**Nager en arrière**, to back aftern with the
oars.
**Nager le chaloupe à bord**, to row the long-
boat aboard.
**NATÉS**, mats used to line the sail-room,
or bread-room; as also to cover the
ceiling of the ship’s hold when she is
laden with corn, in order to preserve the
contents.
**NAVETTE**, a small Indian vessel.
**NAUFRAGE**, shipwreck.
**NAUFRAGE**, shipwrecked.
**NAVIGABLE**, capable of navigation.
**NAVIGATEUR**, a mariner, or seaman.
**NAVIGATION impropre**, coasting, or
failing along shore.
**NAVIGATION propre**, the art of failing by
the laws of trigonometry. See Pilots.
**NAVIGER**, to sail, or direct a ship’s
course at sea.
**NAVIGER par terre, or dans le terre**, to be
ashore by the dead-reckoning; to be ahead
of the ship by estimation.
**NAVIGER par un grand cercle**, to fall upon
the arch of a great circle.
**NAVIRE**, a ship. See also **VAISSEAU**.
**Beau NAVIRE en rade**, a good roader.
**NEUVE**, a sort of small flight, used by the
Dutch in the herring-fishery, and resem-
bling a bus. See **BUCHE**.
**NEZ**, the nose, beak, or head of a ship.
**NOCHER**, a name formerly given to a
pilot.
**NOCTURLABE**, a nocturnal.
**NOIALE.** See **TOILE**.
**NOIE’s**, an epithet which answers to
clouded, or indistinct. It is expressed
of the horizon, when it cannot be easily
distinguished by an observer, in taking an
altitude.

D d d

**NOIRCIR**,
OEU

NOIRCRIR, to blacken, or daub with a mixture of tar and lamp-black; as the wales and black stripes of a ship, the yards, bowsprit, &c.

NOLIS, or NOLISSEMENT, a name given in Provence and the Levant to the freight or cargo of a ship.

NON-vit, no sight of; out of sight; a phrase which implies the fog or haze of the weather, which intercepts the view of contiguous objects, as the shore, rocks, &c.

NORD, the north, or north point.

O.

OCCIDENT, or OUEST, the west.

OCEAN, a name generally given in France to the Western or Atlantic Ocean.

OCTANT, the octant invented by Godfrey and Hadley.

OEIL, YEUX, ou TROUS, the holes formed in the clews of a sprit-sail to let out the water which falls into it's cavity when the ship pitches.

OEIL de bœuf. See YEUX.

OEIL de bouc, water-gall, or weather-gall.

OEIL de pié, or YEUX de pié, the eye-let holes wrought in the reef of a sail, thro' which the points are reeved.

OEIL de roue, the hole in the truck or wheel of a gun-carriage, through which the axle passes.

OEILLET, an eye-splice on the end of any rope.

OEILLET d'état, the eye of a stay which goes over the main-head.

OEILLETS de la tourne-vire, the eyes in the two ends of a voyol, which are lashed together with a laniard when the voyol is brought to the capstern.

OEILS, the eyes, or hawkes of a ship. See ECUBIERS.

OEUVRE-mortes, the dead-work of a ship, or all that part which is above water, comprehending the quarter-deck, poop, and fore-castle.

OEUVRE-vives, the quick-work, or all that part of a ship which is under water.

NORD-Est, the north-east.

NORD-EST quart à l'Est, north-east by east.

NORD-OEST, to vary towards the east; expressed of the east-variation of the compass.

NORD-VESTER, to decline towards the west; spoken also of the magnetical needle.

NOYALE. See NOYALE.

NOYER. See NOIE.

NUAILSON, a trade-wind, or the period of a monfoon.

OEUUVRES de marée, the graving, caulking, or repairing a ship's bottom, when she is left dry aground during the receds of the tide.

OFFICIERS bleu. See BLEU.

OFFICIERS-généraux, the general officers in the French navy; as, the admirals, vice-admirals, rear-admirals, and commodores.

OFFICIERS de port, the officers of a dockyard, appointed to see that the shipping are properly moored, masted, rigged, repaired, caulked, and otherwise equipped with whatever is necessary; according to their destination.

OFFICIERS de santé, officers who superintend the affairs of the quarantine in a port.

OFFICIERS-majors, the superior, or commissioned officers in a ship of war, as the captain, lieutenants, and ensign.

OFFICIERS-marins, the mechanical or warrant-officers in a ship of war; of which the principal are, the master, boatswain, gunner, carpenter, and sailmaker; as distinguished from the military officers described in the preceding article.

O! du navire, hola! hoa, the ship, ahoay! the manner of hailing or calling to a ship whose name is not known.

O! du Soleil Royal, hola! hoa, the Royal Sun, ahoay!

O! d'en haut, yoa-hoa, aloft there! mainhead there! &c. the call from the deck to those who are aloft, to attend to some order.
PAL

O! hiff, O! hail, O! faille, O! ride, the method of singing out, as a signal to hoift, haul, or rowse together, on a tackle or rope.

OINT, fluff, tallow, or such like material, used to pay the masts, tyes of the top-fail-yards, &c.

OLOFEE, the act of springing the luff, or of hauling close upon a wind.

ORAGE. See TEMPESTE.

ORDRE de bataille, the line, or order of battle in a naval engagement.

ORDRE de marche, the order of falling.

ORDRE de retraite, the order of retreat.

ORDRES des vaiffesaux, the classes into which every rate of ships is subdivided, in the French navy. See RANG.

OREILLE de liévre, a three-sided, or triangular sail; as the stay-sails.

OREILLES de l'omere, the broad parts of the fluke of an anchor.

ORGANEAU, the ring of an anchor. See ARGANEAU.

ORGUES, an organ, or machine, sometimes used in a sea-fight by privateers: it contains several barrels of musketoons or small arms, fixed upon one flock, so as to be all fired together.

ORIENTER les voiles, to trim the sails; or place them in the most advantageous manner, to receive the wind, and accelerate the ship's course.

ORIN, the buoy-rocpe of an anchor.

ORSE, the larboard side, in the dialect of Provence. Also the order to luff.

ORSER, to row against the wind, or row head-to-wind. This is likewise the language of the gallys.

ORTODROMIE, a course which lies upon a meridian or parallel.

OSSEC, the water-way, or well-room of a boat.

OSSIERES. See HAUSSIERES.

OUAGE, the track or wake of a ship. See HOUAICHE.

Tirer en OUAICHE, to take a ship in tow astern when the is disabled.

Trainir un pavillon enemi en Ouaiche, to drag the colours or ensign of an enemy after the ship, so as to sweep the water therewith, as a sign of victory.

OVERLANDRES, small vessels navigated on the Rhine and Meuse.

OUEST, or OCCIDENT, the west point of the compass or horizon.

OUEST-nord-ouest, &c. See Rose de vents.

OURAGAN, an hurricane.

OUVERT, etre ouvert, to have any object open in falling past it; or to be abreast of any place, as a road, the entrance of a harbour, or river, &c.

OUVERTURE, an opening, or valley between two hills, beheld from the sea and serving frequently as a land-mark.

OUVRIERS, the artificers, &c. in a dock-yard; also the riggers of a ship.

OUVRIR, to open, or discover two objects separately at sea, when failing at some distance from them.

P.

PACFIS, the courses of a ship; as, Le grand PACFI, the main course, or main-fail.

Le petit PACFI, ou PACFI de bourcet, the fore-course or fore-fail.

Etre aux deux PACFIS, to be under the courses.

PACIFIER, to become calm; also to fall, or grow smooth, when spoken of the sea.

PAGAIE, the paddle of a canoe.

PAGE de la chambre du capitaine, the cabin-boy.

PAGES. See MOUSSES & garçons.

PAILLES de bittes, long iron bolts thrust into holes in the bits, to keep the cable from starting off.

PAILLOT, the steward-room in a row-galley.

PAIS femme, a shoal or shallow.

PALAMANTHE, a general name given to the ears of a row-galley; which are forty feet and six inches in length.

PALAN, a tackle of any kind. See ITAQUE and GARANT.
P A Q

PALAN à cadière, a six-fold tackle. See CALIONE.
PALAN à candelette. See CANDELETTE.
PALAN d'amure, a tack-tackle.
PALAN d'étai, a stay-tackle.
PALAN de mizaine, the fore-tackle.
Grand PALAN, the main-tackle.
PALANQUI', the order to hoist, bowse, or set-tack' upon a tackle.
PALANQUER, to hoist, or bowse upon a tackle.
PALANQUIN, a jigger-tackle, tail-tackle, or burton.
PALANQUINS de ris, the reef-tackles.
PANQUIINS simples de racage, the navelines.
PALANS de bout, the sprit-sail-haliards.
PALANS de canon. See DROSSE de canon, &
PALAN de retraite.
Palans de retraite, the relieving-tackle, or train-tackle of the ordnance.
PALARDEAUX, plugs made to stop holes in any part of a ship; as hawse-plugs, shot-plugs, &c.
PALE, or PALME, the blade or wafh of an oar.
PALE'AGE, the act of discharging any thing with shovels, baskets, &c. as corn, salt, or such like materials; for which employment the ship's crew can demand no additional pay. See also MANEAGE.
En PANNE, lying by, or lying-to with some of the sails aback; whence
Mettre en PANNE, to bring-to.
PANNEAU, a chuttle, or cover of any hatchway in the deck.
PANNEAU à bec, the cover of a scuttle, with a border round it's edge.
PANNEAU à voile, a great hatch, without a border.
Le grand PANNEAU, the main hatch.
PANTAQUIERS, or PANTOCHERES, the cat-harpins, and crane-lines of the throwds.
En PANTE, fluttering or shivering in great disorder; expressed of the sails, when out of trim, as in a storm.
Amerler les voiles en PANTENNE, to haul down the sails with the utmost expedition; as in a squall of wind.
PANTOIRES, pendants on the mainheads or yard-arms, wherein to hook preventer-throwds, or yard-tackles.
PAPIERS & enjeignements, the papers of a ship, comprehending the bills of lading, manifest coquets, &c.
PAQUE-BOT, or PAQUET-Bot, a pac-
ket-boat, or packet-vehicel; as those which pass between Dover and Calais, &c.
Faire la PARADE, to dress a ship, or to adorn her with a number of flags, pendants, and other colours, which are displayed from different parts of the main, yards, and rigging.
PARADIS, or BASSIN, the basin of a dock; or an inner harbour.
PARAGE, a space of the sea appointed as the station wherein to rendezvous or cruise; also a part of the sea near any coast.
Mouille en PARAGE, moored, or anchored in an open road, or in the offing.
PARC, an inclosure for containing the magazines and store-houses in a royal dock-yard.
PARC dans un vaisseau, a cot or pen, wherein cattle are inclosed in a ship.
PARCLOSES, timber-boards.
PARCOURIR, to overhaul; i.e. to open or extend the several parts of a tackle, or other assemblage of ropes, communicating with blocks or dead eyes.
PARCOURIR les coutures, to survey or examine the seams of a ship's sides or decks, and caulk where it is found necessary.
PARE's, ready, clear, or prepared for any thing.
PARE à virer, see all clear to go about! the order to prepare for tacking.
PAREAU, or PARE, a sort of large bark in the Indies, whose head and stern are exactly alike, so that the rudder may be hung at either end.
PÄRER un cap, to double a cape. See DOUBLER.
PÄRER une ancre, to see the anchor clear for coming-to, &c.
Se PARER, to clear for action, to prepare for battle.
PARFUMER un vaisseau, to smoke a ship, and flucce her with vinegar between-decks, in order to purify her, and expel the putrified air.
PARQUET, a shot-locker on the deck; also a place where shot are kept on a gun-wharf. See EPIPILE
PARTAGER le vent, to share the wind with some other ship, or hold way with her, without gaining or losing ground, or without weathering, or falling to leeward.
PARTANCE, the time of departing, or falling from a place; also a place from whence a ship departs.

COPE
Coup de Partance, a signal-gun for failing.

Bannière de Partance, the signal displayed for failing.

PAS, a freight or narrow channel; as, Pas de Calais, the Straights of Dover.

PASSAGERS, the passengers of a ship.

PASSE, a canal, channel, or small freight.

PASSE-port, a sea-pas or passport. See Congé.

PASSER, to perish, or be lost at sea; as by overfetting, or foundering.

Passer au vent d'un vaisseau, to weather, or gain the wind of another ship.

Passer sous le beaupré, to pass under the bowsprit. This phrase, which is usual amongst English as well as French seamen, implies to go ahead of, or before a ship, and run athwart her course.

Passe-vague, the effort of rowing briskly, or very hard.

Passe-volant, a false muffler on the ship's books: also a wooden-gun, which may terrify a ship at a distance. See Fausses-Lances.

Patache, an armed tender, or vessel which attends a ship of war or fleet: also a packet-boat.

Patache d'aviso, an advice-boat. See Fre'gate d'aviso.

Pataras, a preventer-throth: also a spare throt, to be hooked on occasionally.

Pataras, a caulking-iron.

Patron, the master or commander of a merchant-ship, or boat, in the dialect of Provence.

Patron de chaloupe, the cockswain, or coxen, of a long-boat.

Patté d'épée. See Mouiller en patte d'épée.

Patte d'ancre, the flukes of an anchor.

Patte d'angle, the claws of a gunner's handpiece.

Patte de bouline, the bowline biddles.

Patte de voiles, the tabling of the sails at the edges or bolt-ropes.

Pavesade, a quarter-cloth, or waistcloth. See Bastingage.

Pavillon, the flag of a ship. Also a general name for colours.

Pavillon de beaupré, the jack.

Pavillon de chaloupe, the flag carried in a barge or long-boat, when a superior officer is aboard.

Pavillon de combat, the signal for engagement.

Pavillon de conseil, the signal for a general council.

Pavillon de pouppe, or enseigne de pouppe, a ship's ensign.

Pavillon en Berne. See Berne.

Batou de Pavillon, the ensign-staff, flagstaff, or jack-staff.

Vaisseau Pavillon, or simply Pavillon, the flag-ship.

Amener le Pavillon, to strike the flag or colours.

Etre sous un tel pavillon, to be under such a flag, or commanding officer.

Paire Pavillon blanc, to display a flag of truce.

Paumet, a sail-maker's palm.

Pavois, or rather Pavesade. See Pavesade and Bastingage.

Pavoiser, to spread the waist-cloths.

Pecher une ancre, to hook, and heave up from the bottom, another anchor, with that of the ship; as when several anchors lie near to each other, in a common road.

Pedagne, or Pedagnon, the stretchers of a row-galley. See also Banquettes.

Pelles, corn-shovels, or ballast-shovels, used in trimming a ship's hold.

Pendant, or Flamme. See Flamme.

Pendeur, or Pendour, the pendant of any tackle, runner, &c.

Pendour de coline, the winding tackle-pendent.

Pendours de balancines, the spans of the lifts.

Pendours de bras, the brace-pendents at the yard-arms.

Penes, pitch-nops. See Baton à vade-

Penne, the peak of a mizen, or lateen sail.

Penture, a goosing, or the eye of a clamp, fitted to receive a goose-neck, or some bolt of iron which turns therein like a pivot in its socket.

Pentures de gouvernail, the goings of the rudder. See Ferrure de gouvernail.

Pepate, a light nimble Venetian wherry, used frequently as an advice-boat, to carry express.

Perceintes. See Pre'ceintes.

Perceur, a person who boring the holes for
for the tree-nails, or bolts, in a ship's side.

**PELICAN** 
A top-gallant-fair.

**PELLUCHE** 
A dam, or channel of water, confined by a sluice.

**PERRUQUE volante** 
Flying top-gallant-fails.

**PETIT** 
The mizen-top-gallant-fair.

**PERTUIS** 
A fort of pike or halbert, used to defend a ship from being boarded.

**PESC** 
To hang upon, or haul downward on any rope over-head.

**PESER** 
For a levier, to heave, or purchase with a handspec.

**PHARE** 
A tower, a watch-tower, or light-house on the sea-coast.

**PIC à pic sur la merve** 
Close a peek upon the anchor.

**PIÉCE** 
A cannon. See **CANON**.

**PIECES de charbonnes** 
A general name for any large piece of timber used in the construction of a ship.

**PIECES de chasse** 
The chase-guns, or head-chances.

**PIED de vent** 
A clear spot of the sky, appearing under a windward.

**PIED-marin** 
Feet-hooves; expressed of a man who has got sea-legs, or who treads firmly at sea, as being accustomed there-to.

**PIÉDROITS** 
The Samson's posts erected in the hold from the keelson to the lower-deck hatchways, and notched with steps.

**PIERRIER** 
A petticoat, or small cannon, sometimes used in sea-fights, and generally charged with musket-shot, or swivel-balls.

**PIETER le gouvernail** 
To mark the stern-post with feet, in order to discover the ship's draught of water abaft.

**PILiERS de bittes** 
The bits of a ship.

**PILLAGE** 
The plunder taken from any enemy after engagement.

**PILO** 
Or petit score, a shore which is steep to, and but little raised above the sea.

**PILOTAge** 
The navigating, conducting or steering of a ship.

**PILO** 
A sea pilot, or the conductor of a ship's course by the art of navigation; also the master of a ship. See **HAUTURIER**.

**PILOTER** 
To pilot a ship into, or out of, a harbour or river.

**PILASSE** 
A square-sterned vessel, called in England a bark.

**PILASSE de Biscaye** 
A Biscayan barca-longo.

**PINCÉAU à gondronner** 
A tar-brush.

**PINCÉS de bise** 
A sort of curved hand-specs. See **RENARD**.

**PINCER le vent** 
See **ALLER au plus prés**.

**PINNULE** 
The sight-vanes of any instrument, for observing or setting a distant object at sea.

**PINQUE** 
A pink, or narrow-sterned ship, with a flat floor.

**A PIQUE** 
Speak, when the cable of a ship is hove so tight as to bring her directly over the anchor, the cable bearing right down from the stem.

**PIRIS** 
A sort of canoe used by the negroes in Guinea, and the Cape de Verds.

**PIRATE** 
A pirate, or free-booter. See also **CORSAIRE**.

**PIRATER** 
To rob at sea; to molest or scour the seas as a pirate.

**PIROGUE** 
An American canoe.

**PISTON** 
The spear-box of a pump.

**PITONS à bouches**. See **CHEVILLE à bouches**.

**PIVOT** 
An iron point which turns in a socket; as the foot of the compass.

**PIVOT de boussole** 
The brass center-pin of the compasses.

**PLAGE** 
A shallow or flat shore, without any capes or head-lands to form a road or bay, wherein shipping may come to an anchor.

**PLAIN** 
A flat or shoal; whence, Aller au Plain, to run a-hore.

**PLANCHE** 
The gang-board of a boat.

**PLAQUES de plomb** 
Sheet-lead, used for several purposes aboard-ship.

**PLAT de la varangue** 
The flat or horizontal part of a floor-timber.

**PLAT de l'equipage, or un PLAT des matelots** 
A mefs, or company of seaven sailors who eat...
eat together. The word literally signifies a bowl or platter, in which the whole mefs eat at the same time.

**PLAT** des malades, the sick mefs, under the care of the surgeon.

**PLAT-BORD**, the gunnel, or gunn-wale of a ship.

**PLAT-BORD** also means wash-board or weather-board.

**PLAT-BORD à l'eau**, gunnel-in, or gunnel-to; expressed of a ship that inclines so much to one side as to make the gunnel touch the surface of the water, by crowding fail in a fresh wind.

**PLAT de rame**, the blade of an oar.

**PLATE-BANDS d'affis**, the clamps of a gun-carriage, which are used to confine the trunnions therein.

**PLATE-FORME de l’éperon**, the platform or grating within the rails of the head.

**PLATE-FORMES**, an assemblage of oak-planks, forming a part of the deck, near the side of a vessel of war, wherein the cannons rest in their ports.

**PLATINES de lumière**, the aprons of the cannons.

**PLI de cable**, a fake of the cable.

*Filer un PLI de cable*, to veer away one fake of the cable.

*Vaisseau qui PLIE le côté*, a crank ship.

**PLIER**, to bend or supple the planks of a ship, as by heat and moister.

**PLIER le côté**, to lie over in the water; to heel extremely when under fail.

**PLIER le pavillon, PLIER les voiles**, to gather up the fly of the ensign, or furl the sails.

**PLOC**, the hair and tar put between the bottom-planks of a ship and the sheathing, to fill up the interval, and preserve the bottom from the worms.

**PLOCQUER**, to apply the sheathing-hair to a ship's bottom.

**PLOMBER une navire**, to try whether a ship is upright, or to what side the heels, by means of a plumb-line and level.

**PLONGEUR**, a diver, whose employment it is to bring any thing up from the bottom, as sponges, coral, &c.

**PLONGER**, to duck, or immerse any thing in the water; also to plunge or dive into the water, &c.

**PLUMET de pilote, ou pamon**, a feather-vane, or dog-vane.

**POGE, ou POUGE**, the order to put the helm a-weather, in order to fill the fails, or bear away. This is the language of Provence. See *ARRIVE-tout*.

**POINT**, a ship's place, as pricked upon a nautical chart.

**POINT d'une voile**, the clew of a fail.

**POINTAGE de la carte**, the pricking of a course and distance upon the chart, in order to discover the ship's place.

**POINTÉE**, a point of land projecting into the sea; a low cape, or promontory.

**Pointe de l'éperon**, the beak of a prow, or cut-water.

**Pointe du campas**, a point of the magnetical compas.

**Pointe du sud**, ou du nord, &c. the north or south point.

**POINTER**, to direct or point a gun to it's object.

**POINTER à couler bos**, to point a gun so as to sink a ship.

**POINTER à démouter**, to point a gun so as to disable or carry away any mast.

**POINTER à donner dans le bêis**, to level the cannon so as to hull a ship, or strike the hull.

**POINTER la carte**, to prick the chart. See **POINTAGE**.

**POINTURE**, the balance of a fail, or that part which is fastened by balancing it in a storm: such is the peak of the mizen, &c.

**POITRINE de gabords**, the filling, or convexity of a ship's bottom, as approaching the mudships from the stem and stern-post.

**POLACRE**, a polacre, or ship so called.

**FOLIBE d'affurance**, a policy of insurance.

**POLICE de chargement**. See **CONOISSEMENT**.

**POMMES**, the trucks, or acorns placed on the flag-staffs, or įpindles of the mast-head.

**Pommes de giroïlettes**, the acorns placed over the vans.

**Pommes de racage**. See **RACAGE**.

**POMME de pavillon**, the truck placed on the top of the flag-staff, or ensign-staff.

**POMOYER**, to under-run a cable with the long-boat.

**POMPE**, the pump of a ship.

**Affranchir, ou Franchir la Pompe**, to free the ship, by discharging more water with the pumps than is received by the leaks. See **AFFRANCHIR**.

**A la Pompe!** pump ship! the order to pump out the water from a ship's bottom.

**Charger la Pompe**, to fetch the pump.

**Etre à une, ou à deux Pompes**, to have one or both.
both pumps constantly employed to free the ship.

La Pompe est engorgée, the pump is choked or foul.

La Pompe est éventée, the pump blows, as being split and rendered unserviceable.

La Pompe est haute, ou la Pompe est frappa, the pump fucks, or is dry.

La Pompe est priée, the pump is fetched.

La Pompe se décharge, the pump has lost water. See Decharge.

Pompe à la Venetienne, a Venetian pump. Pompte de mer. See Trompe.

Pompe en bon état, Pompe libre, a good pump, or a pump in good trim.

POMPES à voie & à chaînes, chain-pumps.

POMPES de maitre-cabot, hand-pumps, used for water-casks, oil-casks, wine-casks, etc.

PONEN, the weft, in the language of Provence: also a name given to the Western Ocean.

PONT; the deck of a ship.

Pont à caillebotis, ou à treilles, a gratings-deck.

Pont coupé, a deck open in the middle; as in some small vessels that have only part of a deck towards the stem and stern.

Pont courant devant arrière, a deck flush fore and aft.

Pont de cordes, a sort of netting to cover a ship’s waist, and prevent the impress of boarders.

Pont volant, a spar-deck, or platform. Entre Pont, between decks.

Faux-Pont, the orlop deck.

Premier Pont, or franco-taille, the lower-deck, or gun-deck.

Second Pont, the middle deck of a ship with three decks, or the upper-deck of one with two decks.

Troisiéme Pont, the upper-deck of a ship with three decks.

PONTE', decked, or furnished with a deck; as opposed to undecked or open.

PONTON, a pontoon, for careening or delivering ships: also a sort of bridge of boats, composed of two punts, with planks laid between them: likewise a ferry-boat.

PONTONAGE, the hire of a ferry-boat or pontoon.

PONTONNIER, the master of a pontoon; a lighterman.

PORQUES, riders.

Porques accoules, the after-floor-riders.

Porques de fond, floor-riders.

Allonges de Porques, futtock-riders.

PORTE, a haven, port, or harbour.

Port-brut, ou havre brut, a natural harbour, or port formed by nature.

Port de vaisseau, the burthen or tonnage of a ship.

Port de barre, an harbour with a bar, that can only be passed at, or near high water.

Port d’entrée, or Porte de toute marée. See Havre.

Avoir un Port sous le vent, to have a harbour to leeward, or under the lee.

Fermer le Ports, ou Ports fermés, to lay an embargo upon all the shipping of a harbour. See Arret.

PORTAGE, the space or room in a ship's hold allowed to any officer, &c. to contain his private trade, or venture.

PORTE-bœuf. See Sou-barre.

Porte d'élève, the flood-gates of a sluice.

Porte gargouillé. See Lanterne à gargouillé.

Porte-baukans, ou eccotards, the channels, or chain-walks of a ship.

Porte-plein les voiles, or, simply, Porte-plein! keep full! the order to the man who steerers, to keep the sails full, and prevent them from flivering in the wind.

Porte-cervues, or rather herpes, the rails of the head, reaching from the cat-head towards the cut-water. See Herpes.

Porte-coix, a speaking-trumpet.

Porte à route, to stand outward, upon the course.

PORTÉLOTS, the thick fluff which encircles the side of a lighter under the gunnel.

PORTER, to sail, or conduct a ship.

Porter au sud, &c. to stand to the southward, &c.

PORTÉREAU, the flood-gate of a sluice.

POSTÉ, the quarters where the men are stationed in time of battle.

POSTILLON, an express-boat, or post-boat.

POT à brai, a pitch-pot.

Pot-à-feu, a fire-pot, or flink-pot.

Pot de pompe, the lower pump-box. See also Chopinette.

POTENCE de brinquebale, the checks of a common pump.

POUDRE, gun-powder.

Sente au Poudre, magazine for gun-powder.

POUDRIER,
POUDRIER, an half-hour watch-glass.
POUGER, or meller en pouppe, to bear up, in the dialect of Provence.
POULAINE, éperon, the knee of the head, or cut-water. See also ÉPERON.
POULAINÉS, the props which support a ship's stem, when her is on the block.
POULIE, a block of any kind wherein a running rope may be revected.
POULIE escayée, or à dents, a snatch-block.
See also GALOCHÉ.
POULIE détroppée, a block shaken out of its flrop.
POULIE de grand drifte, one of the main jear-blocks.
POULIE de guindeffé, a top-block.
POULIE de palan, a tackle-block.
POULIE d'étage du grand hunte, the main-topfall tyce-block.
POULIE double, a double-block.
POULIE simple, a fingle block.
POULIES des caloirnes, winding-tackle-blocks; or other blocks furnished with three heaves.
POULIES de drifte de mifaine, the fore jear-blocks.
POULIES d'écouettes de hune, topfall sheet-blocks, fitted also to contain the lower-lifts.
POULIES de retour d'écouettes de hune, the quarter-blocks for the topfall-sheets.
POUPPE, the after-parts of a ship, both above and below. See ARCASSE, ARRIÈRE, and DUNETTE.
Mettre vent en Pouppe, to bear away before the wind.
Mettre en Pouppe, to moor by the stern, or get out an anchor aft.
Vent en Pouppe, a stern-wind, or wind right aft.
POUSSE-barre! heave dearly! heave heartily! the order or exhortation to those who heave at the capstern, to push forcibly on the bars.
POUSSE-pied. See ACCON.
PRAME, a pram, lighter, or barge of burden.
PRATIQUE, in a naval sense, implies free intercourse or communication with the natives of a country, after having performed quarantine.
PRECFINTES, the wales of a ship.
PRE'LART, or Pré'lat, a tarpauling.
PRENDRE. See CHASSE.
PRENDRE hauve, to take the altitude of the sun, or a star. See HAUTEUR.
PRENDRE les amures, to get aboard the tacks. See AMURER.
PRENDRE terre. See TERRE ET TEUR. 
PRENDRE vent devant, to be taken with the wind ahead.
PRENDRE un boffé, to make fast; or clap on the flopper.
PRENDRE un vis, to take in a reef.
PRENEUR, vaisseau PRENEUR, the cap-

tor, or vesfl that has taken a prize.
PRES & plein! full and by! the order to the steerman to keep the ship close to the wind, without flaking the fails.
PRESENTER la grande poupe, to snatch
the main-bowlinc, or put it into the snatch-block.
PRESENTER au vent, to fail so as the ship stens, without making lee-way.
PRESSER, to press, or contrain into small compass in flowage; as cotton, wooll, or such like material.
PRETRE le côté, to range abreast of a ship, in order to give her a broadside. See EFFACER.
PREVOT général de la marine, a provost-
marchal of the marine, or officer whose duty resembles that of the judge-advocate of the naval courts-martial.
PREVOT marinier, the swabber of a ship, who also chastises the criminals, as being usually the most abandoned of the crew: this part of his duty is performed in English ships by the boatswain.
PRIME d'assurance, insurance paid by the merchant for insuring the ship's cargo.
PRISE, a prize, or ship taken from the enemy at sea.
PROFIT avantageux, the interest acquired by bottomry. See BOMERIE.
PROFONTE, a ship that draws much water, or takes a large volume of water to float her.
PROLONGER une navire, to lay a ship along-side of some other.
PROMONTOIRE, a cape, head-land, or fore-land.
PROUE, the prow of a ship. See A-VANT.
Dorer la PROUE, to appoint the course, or rendezvous of the galleys.
PROVISIONS, a general name for the provisions, and the warlike stores of a ship.
PUCHEOT. See TROMPE.
E c c
Puiser, to leak, or make water at sea.
Puiser pour le bord, to ship seas, or take in water, either over the gunnel, or at the ports in the side.

Quai, a wharf or key on the side of a harbour or river.
Amarre à quai, rangé à quai, moored along-side of a key or wharf.
Quaiage, wharfage.
Quaiiche, a ketch, or ship so called.
Quarantaine, quarantine.
Faire quarantaine, to perform quarantine.
Quarantenier, a rope of the size of a ratling-line, used as a lashing, &c.
Quarre de réduction. See Quartier de réduction.
Quarre naval, the naval square, a scheme drawn on a ship's quarter-deck, to represent the division of a fleet into three columns, and exhibit the station of each particular ship in the order of sailing: it is used to direct and regulate the movements of each ship with regard to the rest, and preserve the whole fleet in uniformity.
Quart de rand, faible, tamisaille, the tranom, upon which the tiller traverses in the gun-room. See Traverse.
Quart, the watch kept in a ship, comprehending the time of it's continuance, and the people employed to keep it.
Quart bon, or bon quart, keep a good look-out afores! look well out afores there!
Quart du jour, the day-watch.
Prendre le quart, to set the watch.
Au quart, au quart! the manner of calling the watch to relief, as, the watch, hoist! the starboard watch, hoist!
Faire bon quart sur la bune, to keep a good look-out in the tops.

Le premier quart, or quart de tribord, the starboard-watch. See also Tribordais.
Second quart, or quart de bas-bord, the larboard-watch. See Basbordais.
Quarts de vent, the quarter-points of the compass, or those which lie on each side of the cardinal and intermediate points, and are distinguished in English by the word by; as N. by E. N. E. by N. &c.
Quartier Anglais, or quart de noante, a Davies's quadrant.
Quartier de réduction, a finical quadrant, used by the French pilots in working their days works, to discover the ship's place.
Quartier-maitre, an officer resembling the boatswain's mate of an English ship.
Vent de quartier, ou vent large, a large, or quartering wind.
Querat, the planks of a ship's bottom, comprehended between the keel and the wales.
Queule, the rake of a ship abaft, or the rake of the stern-post.
Queue d'une armée navale, the rear of a fleet of ships of war.
Queue de rost, tapering to the end; expressed of such ropes as are pointed, or tapering toward the end, as the tacks, &c.
Quille, the keel of a ship.
Quille-faussé. See Fausse-quille.
Quintal, an hundred weight.
A quitte, the state of the anchor when it is hove out of the ground in a perpendicular direction.
RABANER, to fit a sail with rope-bands and earings, ready for bending to its yard.

RABANS, a general name given to earings, gaskets, knittles, and rope-bands.

RABANS d'avant, a sort of braided knittles, like those formed to point a rope.

RABANS de ferlage, the gaskets employed to furl the sails to their yards.

RABANS de pavillon, the rope-band of a flag or ensign.

RABANS de peinture, the head-earings, or reef-earings of a sail.

RABANS de tête, the rope-bands of any fail.

RABATTUES, the intervals between the drift-rails of a ship; this term is peculiar to shipwrights.

RABLES, the floor-timbers of a boat.

RABLURE, the rabbit or channel cut in the keel, stem, and stern-post, to receive the edges of the garboard strake, and the ends of the planks afore and abaft.

RACAGE, a parcel with ribs and trucks.

RACAMBEAU, a traveller, or slender iron ring, which sometimes encircles the mast of a long-boat, serving as a parcel to the yard or gaff.

RACCOMODER, to repair or refit a ship's rigging. See RADOUER.

RACHE de gazdron, the dregs of bad tar.

RACLE, or GRATOIR, a scraper, used to clean a ship's hide, deck, or bottom.

RACLE-double, a two-edged, or double scraper.

RACLE-grande, a large scraper, used to clean the ship's bottom under water.

RACLE-petite, or petite RACLE, a small scraper, employed to scrape the planks, &c. above the water.

RACLER, to scrape the fides, &c. of a ship.

Rade, a road, or road-lead.

Rade foraine, a free road, or road where ships of all nations are permitted to anchor.

Radeau, a raft.

RADER, to arrive in a road.

RADOUER, the repair of a ship in a dock-yard, &c. or the employment of the artificers to close the breaches in her hull with planks, timber, or sheet-lead; as also to stop the leaks by caulking, and pay the bottom with stuff.

RADOUER, to repair a ship, or give her a repair.

RAFFALE, or Raffals, sudden and violent squalls of wind.

RAFRAICHIR le canon, to cool or refresh a cannon in battle, as with a wet sponge, sometimes dipped in vinegar.

RAFRAICHIR la fourrure, to freshen the hawse.

Le vent se RAFRAICHRIR, the wind freshens, or increases.

RAFAICHISSEMENT, a supply of fresh provisions of all species.

RAISONNER à la patache, or à la chaloupe, to render an account of a voyage to a visiting-boat, after arriving near any port, in order to obtain permission to enter the harbour.

RALINGUER, Mettre en Ralingue, or Tenir en Ralingue, to shiver a sail in the wind. See FASIER.

RALINGUES, the bolt-ropes of a sail. Metts en Ralingue, or faits Ralinguier! luff her up in the wind, shake her up in the wind, let the sails touch! the order to the helmsman to luff the ship so as to let the sails shake with their edges to the wind.

RALLIER une navire au vent, to haul the wind again, or bring a ship to the wind after she had yawned to leeward.

Se RALLIER, to approach any object at sea.

RAMBADES, two pofts or platforms in the fore-part of a galley, whereon the musketeers stand to fire.

RAMBERGE, a sort of packet-boat, advice-boat, or tender.

RAME, an oar.

Plat, or pale de la RAME, the blade, or wath of an oar.

RAMIR. See NAGER.

RAMEUR, a rower.

F e e 2
RAQ

RANG, the rate of ships of war. As the division of the French navy into classes or orders differs from the arrangement of the English fleet, it appears necessary to mark that difference in this place.

The principal French ships of war are divided into three rates, each of which is subdivided into two orders. All the inferior ships, which are not comprehended in those rates and orders, are called frigates and corvettes. See Frigate, &c.

A ship of the first order, of the first rate, carries from 110 to 120 guns.

Ships of the second order, of the first rate, carry from 110 to 90 guns.

Ships of the first order, of the second rate, carry from 90 to 74 guns upon three decks.

Ships of the second order, of the second rate, carry from 74 to 60 guns upon two decks, with the quarter-deck and fore-castle.

Ships of the first order, of the third rate, carry from 60 to 50 guns upon two decks, &c.

Ships of the second order, of the third rate, which are now generally called frigates, carry from 50 to 46 guns upon two decks, &c.

The frigates from 46 to 32 guns, have sometimes two tiers of cannon complete; but all those from 36 to 26, have in general but one tier of cannon, the rest being carried on the quarter-deck and fore-castle.

RANG de ramiers, a bank of rowers, or bank of oars.

RANGER la côte, or RANGER la terre, to coal, or range along-shore.

RANGER le vent, to claw the wind, or haul close to the wind.

Le vent se RANG de l'avant, the wind hauls forward, the wind heads us, or takes us a-head.

RANGUE! stretch along, or, clap on here many hands! the order to the sailors to range themselves along, so as to haul upon any rope, tackle, &c.

RAPIDE, a refreshed in a river.

RAQUE, a general name for trucks, but particularly the trucks of a parrel. See also Pomme de RACAGE.

RAQUE de bouëtons, a truck lashed to the fore-castle, through which a running rope may be reeved.

RAQUE encerclée, a truck encircled with a notch, so as to receive the spun-yarn by which it may be fastened to a shroud, stay, or back-stay.

RAQUE gouée, a truck hollowed on one side, so as to inclose the rope to which it is fastened.

RAQUE, chafed or rubbed; expressed of a cable, or other rope, which is galled on the outside for want of service.

RAQUER, to fret, chafe, or rub.

RARRIVE'E, the movement of coming-to, after having fallen off, when a ship is lying-by, or trying.

RAS, a small vessel or boat without a deck.

RAS à l'eau, a low-built vessel, or one which carries her guns very little above the surface of the water.

RAS de courant. See RAT.

RASE, a composition of pitch and tar, used to pay a ship's seams.

RASER un vaisseau, to cut down a ship, or take off part of her upper-works, as the poop, quarter-deck, or fore-castle, in order to lighten her, when she becomes old and feehile.

RASTEAU, or RATELIER, the rack or range of blocks sometimes placed on each side of the gammoning of a ship's bow-sprit.

RASTEAX, or RATEAUX, the cleats nailed on the middle of a yard, to confine the parrels, and tye, or jcar-blocks, &c.

RASTEAX, or Rateliers à chevillots, ranges, or crofs-pieces, fastened to the thoweds, or otherwise, in which pins are fixed to delay the running-rigging.

RAT, a shipwright's floating flage, used for repairing or caulking a ship's bottom, &c.

RAT, or RAS, a race, or dangerous whirlpool; as the race of Portland, &c. See COUET à queue de rat.

RATION, the allowance of bread, flesh, wine, pulfe, &c. distributed to the different messes in a ship.

RATION double, a double allowance, given on any particular occasion of rejoicing.

RATION et demi, the allowance of a chief officer in the French fleet.

RAVALEMENT, a platform on the poop of some ships, where the marines stand to discharge their small arms.

REALF, the royal galley, a name given to
to the principal galley of a kingdom. See Galère réalé.

REBANDER, a phrase amongst the common sailors, signifying to carry over to the other side of the ship.

REBANDER à l'autre bord, to stand upon the other tack; to steer a different course.

REJORDER, to fall aboard or along-side of a ship a second time.

RECHANGE, a general name for the flores of a ship; or the spare-rigging, fars, &c. which are in reserve to supply the place of what may be lost or disabled.

RECLAMPER, to fish a mast or yard when it happens to be sprung.

RECONNOITRE un vaisseau, to approach a ship, in order to discover her strength, and of what nation she is.

RECONNOITRE une terre, to surveoy or observe the situation of a coast attentively.

RECOEUR les coutures, to run over the seams of a ship in caulking; to caulk them lightly and expeditiously.

RECOEUR for une manoeuvre, to under-run a rope or cable.

Faire Recourir l'écoule, la bouluc, le court de revers, to haul in the flank of the lee-tack or bowline, or of the weather-sheet.

RECOUVRE! rowe-in, or haul-aboard!

RECOUVRER, to rowe-in, or haul any rope into the ship, when it hangs slack in the water, or otherwise.

RECOUX. See Reprise.

RECU de canon, the recoil of a cannon.

REFAIT, squared, or prepared for use; expressed of a piece of timber hewn to its proper form and size.

REFLUX de la mer, the ebb-tide. See Flux.

REFOULER, to stem the tide, or to fail against it's direction.

La mer REFOULE, the tide ebbs; the water falls.

REFOULOOR, the rammer of a great gun, called also Fouloir.

REFOULOIR de cordes, a rope-rammer.

REFRAIChER, to freshen the hawse by a renewal of service.

Se RÉFRANCHIR, to be freed by the pumps, or to have the quantity of water in a ship's hold discharged by pumping.

REFREIN, the repetition of the flushing and breaking against rocks, &c. expressed of the waves upon the sea-thore.

REFUSER, to fall off again, when in stays; expressed of a ship that will not go about, or stay; as, Le vaisseau a REFUSE', the ship will not come to the wind; or will not stay.

REGATES, a course or race of boats in the great canal of Venice.

RELACHER, to bear away for, or put into a harbour under the lee.

RELACHE, the harbour where a ship has taken refuge or shelter, as from a contrary wind.

RELAIS. See LAISSES.

RELEVEMENT, the sheer of a ship's deck, or the gradual rising of the deck afore and abaft.

RELEVER, to bring a ship afloat, after she had lain aground for some time; also to right a ship after she had lain upon a cæren.

RELEVER l'amérre, to weigh the anchor again, and change it's situation.

RELEVER le quart, or le timonier, to relieve the watch, or the helmman.

RELEVER les bâilures, to lath up the hambres, in order to make a clear passage between-decks. See BRANLE BAS.

RELEVER une échelle, to survey a coast; or to draw a plan or chart thereof.

RELEVER un vaisseau, to steer by the compass, or shape the course thereby.

RÉME DILIR à des vols d'eau, to flop or flanch the leaks.

REMOLÈLE, a dangerous whirlpool.

REMONTÉR, to sail up a river, as from the sea.

REMORQUER, to tow a ship by a bear, or other small vessel with ours.

REMoulat, a person who has the charge of the ears in a row-galley.

REMÔUX, the eddy, or dead water, left behind a ship's stem when she is advancing under sail.

RENARD, a sort of handspec, or lever, with an iron claw, used to remove large pieces of timber, &c. in a dock-yard.

RENARD is also a tractor-board.

RENCONTRES! shift the helm! or shift over the helm! the order to the helmman, to meet the ship, right the helm, or put it towards the opposite side, in order to check the ship's listed.

RENDEZ-VOUS, the rendezvous, or place of destination of a fleet or frig.
RENDRE le bord, to anchor, or come to
an anchor in some road or harbour.
RENTRE', the tumbling-home of the
top timbers. See Retrecissement.
RENVERSER, the shifting of a
cargo from one ship to another.
REPÉS, a driving-bolt, used by
shipwrights to knock out some other
bolt from it's flattion.
REPRENDRE une manœuvre, to sheep-
thank or shorten a rope.
REPRISE, a retaken ship.
RE'SINE, refin, used in paying a ship's
sides or bottom.
RESSAC, the shock, or breaking of a
wave upon the shore, together with it's
retreat into the sea.
RESSIF, or Recif, a reef, or ridge of
rocks lying under water.
RESTAUR, the restoration, or loss made
good by an insurer.
RÉSTER, to bear upon any point of
the compass; as, un vaisseau reést est en
finis, a ship bears south of us, &c.
RÉTENUE, fastened, or hardened-home
in it's place; expresed of a piece of tim-
ber in ship-building, which is firmly
wedged into it's place, as by rabbeting,
tenenting, &c.
Corde de Rétene, a tackle-fall. See also
Corde de retene & Attrape.
RETORSOR, a spun-yarn winch. See
Moulinet.
RETOUR de marée, the turn of the tide,
or the beginning of the ebb.
RETRAITE de pirates, a need of pirates;
a harbour of free-booters.
RETRAITES de hune, or cargues de hune,
the clue-lines, bunt-lines, and reef-
tackles of the topalls.
RETRANCHEMENT, a temporary a-
partment formed in a ship, for some par-
ticular occasion.
Retrecissement des gabaris, the
Calming-home of the top-timers, where a
ship grows narrower above her breadth.
See Revers.
REVENTER, to fill the sails again; to
brace about, and fill.
REVERS, a general name for those pieces
of timber whose convexity lies inward in
a ship's bottom or sides.
Alonges de Revers, the top-timers.
Genaux de Revers, the lower-futtocks in
the fore and after parts of the ship.
Manoeuvres de Revers, the ropes which
are out of use while they lie on the lee-
side, as the lee-bowlines, lee-tacks, &c.
REVIRE, the situation of a ship immedi-
ately after having tacked, and standing
on the other tack.
REVIREMENT, the act of going about,
by tacking or veering.
Revirement par la tete, ou par la queue, to
tack a fleet or squadron of ships of war
by the van or rear, so that the foremost
or astmoft-ships go about first, to preferve
the order of the line.
REVIRER, to put about; to change the
course of a ship. See Manege.
Revire dans l'eau d'une manœuvre, to tack in
a ship's wake, and stand on the fame
course, after of her.
REVOLIN, a sudden gulf of wind, which
blows off the shore, as by rebound from
the adjacent hills.
RIBORD, the second plank, or streak of
planks, on a ship's bottom, counting
from the keel. See Gabord.
RIBORDAGE, the damage due from one
ship to another, as established by mer-
chants, when the latter has sustained any
hurt from the misconduct or neglect of
the former.
RIDE, a laniard.
RIDER, to haul taught, or pull strand.
Rider la voile. See Rts.
RIDES de baubans, the laniards of the
threws.
RIDES d'étai, the laniards of the flays.
Longe Rime, or Donne longue Rime! row a long froke! the order to the
rowers to pull with a long sweep.
Ben Rime! the order to the frokefman of
the boat, or he who rows the after oar,
to give a good froke, as an example for
the rest to follow.
RINGEOT, or Brion, the fore-foot. See
Brion.
RIS, the reef of a faif.
Prendre le Ris, to reef a faif, to take in a
reef.
RISONS, grapplelings, with four claws,
used as anchors in a galley.
RIVAGE, the banks of a river; or the
sea-shore, upon which the tide ebb and
flows between high and low water-mark.
RIVER un clou, to river a nail.
ROC d'iffs, or Bloc d'iffs. See Sep de
driffe.
ROCHER, Roc, or Roche, a rock, or
key; a ridge, or reef of rocks in the sea,
or on the coast.
ROCHES cabardes, lurking rocks, or rocks
under water.
RODE de pompe, & RODE de proue, the stern-post, and stem of a galley.
ROINETTE, a marking-iron, to mark timber, or casks which are shipped for a voyage.
RONDEUR, the curve, sweep, or compass of a piece of timber used in ship-building.
RONGE, worm-eaten; expressed of a ship's bottom, when it is much injured by the worms, as in a southern voyage.
ROSE de vents, or Rose de compas, the card or face of a sea-compass.
ROSTER, to woold a mast, yard, or hoom.
ROUSTURES, the wooldings of a mast, &c.
ROUANE de pompe, a great pump-borer; whence, ROUANER une pompe, to enlarge the bore or channel of a ship's pump.
ROUCHE d'un vaisseau, the hull of a ship, without masts or rigging.
ROUER, une manœuvre, to coil a rope. ROUER à tour, to coil a rope with the fun, i.e. according to the apparent course of the sun in north-latitude. ROUER à contre, to coil a rope against the fun.
ROUES d'effet de canon, the trucks of a gun-carriage.
ROUET de poulie, the sheave of a block. ROUET de poulie de chaloupe, the sheave of a long-boat's davit; also the sheave on the top of her stem or stern-post, for weighing an anchor.
ROULEAU, a roller or cylindrical piece of wood placed under any weighty body, in order to move it with greater facility by means of hand-specks, &c.
ROULER, to roll tumultuously; expressed of the waves of a swelling sea.
ROULIS d'un vaisseau, the rolling-motion of a ship.
ROUTE, the course, or way of a ship; also the place of her destination. ROUTE-SAUFFE, or SAUFFE-RUOTE, the errors of a course; or the deviations from the right course, occasioned by the lee-way, drift, currents, chafing, &c.
A la Route ! steer the course ! the order to the helmman to keep the ship steady in her course.
PORTER à ROUTE, or FAIRE DROITE ROUTE, to make a straight course; to sail onward, without touching at any port in the passage.
ROUTIER, a book or collection of charts, bearings, distances, soundings, and perspective views of the coasts of any country.
RUBORD, or RIBORD. See RIBORD. RUM, or REUN. See CALE.
Donner RUM à une roche. See FAIRE bennier.
RUMB de vent, a point of the compass. See AIR de vent, & ROSE de vents.

SABLE, a watch-glass of any measure of time. See also HORLOGE.
SABLE ouvragé, a quicksand, or shifting-fand.
SABORD, a gun-port in the ship's side; whence, Former les SABORDS, to let fall, or shut in the port-lids. Faux-SABORD, a false port painted on a ship's side, and corresponding with a wooden gun, both of which are calculated to deceive an enemy in time of war. SABORDS pour le lef, ballast-ports. SACHETS de mitrailles, grape-shot, or partridge-shot.

SAFRAN de gouvernail, the after-piece of a rudder, used to augment it's breadth.
SAFRAN de l'étrave, an additional piece of timber fayed on the fore-part of the cut-water, to enlarge it immediately above the fore-foot, and enable the ship to hold the wind better.
SAILLE ! rowse together! a manner of shouting amongst the sailors, as a signal to pull or heave all at once.
SAIN, clear, safe, or clean; as, CÔTE-SAIN, a clean bottom, or clear coal, which has no rocks or sands near it.
SAINT cabinet. See Saint Aubinet. SAINTE-
S A U

SAINTE-barbe, or chambre des canonniers, the gun-room of a vessel of war.
SAIQUÉ, a sort of Grecian or Turkish ketch.
SAISINE, a seizing or lashing of any kind.
SAISINE de beaupré, or LAURE, the gun-rooming of the bow-sprit. See LIURE.
SAISER, to seize or fasten any rope with a lashing, &c. See AMARRER.
SALE, foul; an epithet given to a coast full of dangerous rocks, or shallows, breakers, &c.
L'aiff aux Sales, foul ships, or shipping with foul bottoms.
SAUER, to salute; to do homage at sea, by offering a salute.
SAUER à boulet, to salute by firing with shot; being an homage paid only to the king.
SAUER de la monsquererie, to salute by firing a volley of small-arms.
SAUER de la voix, to salute with three cheers, &c.
SAUER des veiles, to salute by lowering the sails.
SAUER de canon, to fire a salute of cannon.
SAUER de pavillon, to salute by striking, or hauling-in the colours.
SAULUT, a salute of any kind offered at sea.
Rendre l' SAULUT, to return the salute.
SAMEQUIN, a sort of Turkish merchant-ship.
SANCIER, to sink, or founder at sea; whence,
Sanci sous ses amarres, foundered at the anchors.
SANDALE, a sort of lighter used in the Levant.
SANGLES, mats, or small panches formed of spun yarn.
SAPINETTES, a sort of barnacles. See CRAVAN.
SARANGOUSTI, a peculiar gum, used to pay the seams of a ship in the East-Indies, instead of pitch.
SART, sea-weed, wreck, or tangles; the alga-marina.
SARTIE, the rigging of a ship, in the dialect of Provence.
SASSES, buckets to draw water, for washing the decks, &c.
SAUGUE, a fishing-boat of Provence.
SAUSISSON, the trough, or saulage, filled with powder, which communicates the flame from the train to the fire-trunks or powder-barrels in a fire-ship.
SAUT, a water-fall in a river, which renders it unnavigable in that part.
Descend un Saut à la bonline, to check the bowline.
SAUTE, an expression of command, which answers to away-up, or away-out to such a place! &c., as SAUTE sur la beaupré! away-out on the bow-sprit! &c. Saute sur la vergue! go up to the yard, or out upon the yard, &c.
SAUTER, to veer, to shift suddenly; expressed of the wind when it changes to another point of the compass.
SAUVAGE, or SAUVEMENT, salvage; the payment of salvage.
SAUVE-gardes, the ridge-ropes which extend the nettings of a ship's head.
SAUVE-gardes, or tire-veilles, the horaces, or main-ropes of the bow-sprit.
SAUVE-gardes de gouvernail, the rudder-pendents, with their chains.
SAUVE-ribans, the pudnings of the yards, used to preserve the rope-bands from being galled by the top-sails sheets.
SAUVEURS, persons employed in recovering any stores, rigging, &c. from a wreck on the sea-coast.
SCIER à culer, to back a stern with the oars; to row stern-to-foremost.
SCIER sur le fer, to support the cable of a galley by rowing with the oars, when she is at anchor in a storm, and in danger of driving ashore.
Mettre à SCIERS, ou mettre à culer, to back the sails, or lay them aback, so as to make the vessel fall astern.
SCIERS-babord, pull the larboard-oars, or pull to starboard!
SCIERS-tribord, pull the starboard-oars, or pull to port!
SCITIE, a settee, or particular kind of Italian bark with two masts.
SCORBUT, or Scurbot, the scurvy, a well-known marine distemper.
SCOUE, the extremity of a floor-timber, where it is joined to the lower futtock.
SCUTE, a skiff, or small boat, belonging to a ship.
SEC, dry-aground; the situation of a ship laid ashore to be repaired, &c.
A SEC, or à mâts & à cordes, a-hull, or under
under bare poles. See METTRE à sec.
SECOND, or vaisseau Second. See MATÉLOT.
SECRET d'un canon, the train of a piece of ordnance, which communicates with the touch-hole.
SECRET d'un brûlot, that part of the train of a fire-ship where the match or fusee is laid by the captain, as ready for inflammation.
SEILLURE. See SILLAGE.
SEIN, a small bay or gulph with a narrow entrance: also a SEIN, or capacious fishing-net of a particular construction, used on the sea-coast.
SEIN d'une voile, the bight, cavity, or belly of a sail.
SEJOUR, the space of time that a ship remains in any port whereat the touches in the course of a voyage.
SEILLE de calfat, a caulking-box, which contains the instruments and materials used in caulking a ship.
SEMAQUE, or SEMALE, a smack or fishing-float.
SEMERLES, or DERIVES, lee-boards.
SENAU, a snow; also a small Flemish vessel rigged like a smack.
SENTINELLE de chaloupe, the keeper of the long-boat.
SEP de driffe, the knights, or knightheads of the jears, with their fheaves: these machines are no longer used in English vessels of war.
SERGENT, a warring bolt, used to bend a ship's planks into their places. See ANTIOIT.
SERRAGE et SERRES de vaisseau, a general name for those planks of a ship which are called thick-stuff by our shipwrights.
Faux SERRAGE, loose planks laid occasionally as a platform for a ship's floor when she has no ceiling.
A la SERRER, housing, or securing, the guns by tackles and breechings.
SERRER-bauquieres, thick stuff placed under the clamps, in a ship's side.
SERRER-buffle, the flank painter of the anchor.
SERRER-goutieres, the water-ways of a ship.
SERRER des voiles, to shorten sail.
SERRER la file, to close or contract the line of battle, by making the ships draw nearer to each other.
SERRER le vent, to haul the wind; to haul upon a bawlone.
SERRER les voiles, to furl, or hand the fails. See FERLER.
FAIRE SERVIR, to fill the fails after they had been shivering, or laid aback for some time.
SEUILLETS de sabords, the port-fells, or lower part of the gun-ports.
Hauette des SEUILLETS, the height of the port-fells from the deck immediately beneath them.
SIAMPAN, a small coasting-vessel of China, with one sail, and four, or five oars; extremely light and expeditious.
SIFFLEMENT, the whiffing of shot as it flies through the air when discharged from a cannon.
SIFLET, a boatswain's call.
SIGNAL, a general or particular signal used at sea.
SILLAGE, or l'eau d'un vaisseau, the track or wake of a ship; the trace which she leaves behind her on the surface of the sea.
Doubler le SILLAGE d'un vaisseau, to fall with twice the velocity of another ship; or, according to the sea-phrase, to fall two feet to her one.
SILLER, to run a-head; to have headway through the sea, &c.
SIMAISE, or rather CIMAISE, a wave or ogge in the sculpture of the ship's mouldings.
SINGE, a sort of gin, or machine, with a roller or winch in the middle, which is turned by handspikes: and used to discharge goods from a boat or small vessel.
SINGLER. See CINGLER.
SITUATION d'une terre, the bearings and distances of a coast.
SLEY, a sort of fledge or cradle, laid under a ship's bottom in Holland, &c., when she is drawn a-tire to be repaired or graved.
SOLDATS de marine, marines, or marine-forces.
SOLDATS-gardiens, a division of marines stationed at a royal dock-yard.
SOLE, the bottom of a vessel which has no keel, as punts, horferry-boats, and some barges or burthen.
Le SOLEIL a bailli, the sun has fallen, or, has past the meridian; an expression used at the time of observing it's altitude at noon.
F t f
Le Soleil a passé le vent, the sun has over-
taken the wind; i.e. the wind being southerly, the sun, by passing from south to S S W, is said to have paffed the wind. Hence they say, in a contrary sense, Le
vent a passé le Soleil.
Le Soleil chafle le vent, the sun chases the
wind; a phrase which implies the change of the wind from the east to the west, by the southern board, before fun-
set.
Le Soleil chafle avec le vent, the wind
keeps pace with the sun; an expression that denotes the change of the wind ac-
cording to the course and progress of the
sun.
Le Soleil monte encore, the sun continues to
rise.
Le Soleil ne fait rein, the sun stands still.
Both of these latter phrases are peculiar to the operation of taking the meridian
altitude.
SOLES, a name given to the bottom or tranfons of a gun-carriage.
SOMBRE, fous voiles, to overfet in a squall of wind.
SOMMAILE, a bank or shoal. See
BASE.
SONNE, to deepen; as,
Le mer à Somme, the water deepens, as
the flip advances.
SONDE, or plomb de fonde, the founding-
lead; also the foundings, i.e. the lead, gravel, &c. that sticks to the bottom of the lead at the time of founding.
Aller à la Sonde, Aller à la Sonde à la main,
to fail by the hand-lead, or by founding the depth of the water with a hand-lead as the flip advances.
Sonder, to found: to heave the hand-
lead, or deep-lead.
Sonder la pompe, to found the pump.
Sonner le quart, to ring the bell at the
clofe of the night-watch.
Sonner pour la pompe, to strike the bell for pumping the flip, as at every hour, or half hour.
SOKTIR du port, to depart from a har-
bour; to fail out or put to sea.
Soktr le baute-feu à la main, to set fail
with the match in hand; expressed of a port where entrance or opening is so conmmodioufly situated, that a flip may fail from it with any wind, and be ready for engagement immediately after her departure.

SOU, or rather FOND, the bottom, or
ground, at the depth of any part of the
sea. See alfo FOND.
SOUABRE. See FAUBER.
SOU-BARBE, a bracket or knee, ufually
ornamented with sculpture, and placed under the cat-head to support it.
SOUERME, a frith, or torrent increased by the freshes of a river.
SOUFFLAGE, the doubling of a flip, or covering her side with new wales and
planks. See SOUFFLER.
SOUFFLAGE is also the new planking of a
flip, or giving her a new skin, after the
old planks are ripped off.
SOUFFLER, to double a flip with new
planks and wales, so as to stiffen her when she is built too crank; or to prevent or diminish the efforts of an enemy's can-
non.
SOUFFLER les canons, to scale the great
guns; or cleafie them by blowing a little powder from them.
SOULIÉ, the bed of a flip, or the im-
prefion made by her bottom on the mud, after having lain aground during the ebb
tide.
SOULIER, the fohe of an anchor.
SOUN, or Tsoun, a large flat-bottomed
flip navigated on the rivers of China.
SOUCHE! hang, or swing upon! a
phrase used by the common sailors, while they are pulling downward on any rope
or tackle.
SOURCE du vent, the point of the compas
in which the wind fits.
SOURDRE, to rise up, or brew; exprefed
of a cloud or squall illufing from the ho-
rizon towards the zenith.
Soudre au vent, to hold a good wind; to
claw or eat to windward.
Sous-Argousin, an officer in the gallies,
who affifts the argousin in his duty. See
ARGOUSIN.
Sous-Barbe. See SOU-BARBE.
Sous-Barees, short props or shores,
placed under the firn, while the flip re-
mains on the flocks.
Sous Barque, the upper freak of a
lighter, or the freak which lies close
under the gunnel.
Sous comite, an officer in the gallies,
who affifts and relieves the COMITE. See that article.
Sous freter, to under-freight a flip,
or hire her out to a second perfon, after
having
having contracted for her freight with
the proprietor.
SOUTE, a fore-room in the orlop of a
ship, of which there are several; as,
SOUTE au biefuit, the bread-room.
SOUTE aux poudres, the magazines, &c.
SOUTENIR, to support under the lee;
expressed of a current which acts upon
the lee-side of a ship, and counter-balanced
the lee-way, when she is close-hauled, so as to keep her in the right
course, without falling to leeward.
SOUTENIR chaffé. See Soutenir CHASSE.
See SOUTENIR, to bear up against a fresh-
wind or current, without being driven
much to lee-ward, or down the stream.
SPARIES. See ChoSES de la mer.
SQUELETTE, the carcase or skeleton of a ship; or the ribs, with the keel,
stem, and stern-post, after the planks are
ripped off.
STAMENAI, or rather GENOUX, the
lower-furtocks.
STRAPONTIN, a sort of hammock, used
in hot climates to sleep in.
TRIBORD, or TRIBORD, the starboard-
side of a ship.
Avoir l'amure à STRIBORD, to have the star-
board-tacks aboard, or to sail upon the
starboard-tack.
SUAGE, a coat of tallow, soap, sulphur,
&c. with which the bottom of a ship is
painted to enable her to sail smoothly
through the water.
SUD, the south, or south-point. See Rose
de vents.
Etre au Sud de la ligne, to be in south lati-
tude, or to the southward of the equi-
atorial line.
SUPANNE, or être en PANNE. See
Panne.
SUPER, to flound or close accidentally; ex-
pressed of a leak which is checked, or
filled with sea-weed, or such like materi-
als, which may have entered with the water.
SURCHARGER, to overload a ship.
SURJOUAILLE', or SURJIAU, soul of the anchor-flock; expressed of the
cable.
SURLIER, to woold. See also ROSTER.
SURVENTE, a hard gale of wind; a
tempest.
SURVENTER, to overblow, or blow a
storm.
SUSAIN, or SUSIN, a name sometimes
given to the quarter-deck. See GAIL-
LARD.
SUSPENTES, vulgarly called SUSPEN-
tes, the main and fore-tackles pendants.
SYRTES, shifting-lands, quick-lands, or
shelves.

TAI

TAMBOURIN, to hew a plank shelving,
or with a flapping edge.

TAL

TABERNACLE, or Tenelet,
a place under the awning of a row-
galley, where the captain sits to give his
orders.
TABLEAU, the compartment, wherein
the name is engraved or painted on the
stem of a Dutch boat. See ECUSSON.
TABLETTE, the rising-staff; a form, or
scale, used by shipwrights when erecting the
frames of the timbers.
TABOURIN, the fore-castle of a galley,
with the space underneath it, where the
artillery are loaded and fired. See COU-
VERT de l'iscforte.
TAILLE-MER, or gerrer, the lower part
of a ship's cut-water, or of the prow in
a galley.

TAILLES de fond, & TAILLES de point.
See CarGUI's field. & CARGUIE-point.
TALINGUER, or TALINGUER, to bend
the cable to the anchor-ring.
TALLARD, the space, wherein the slaves
of a row-galley are placed to manage
their oars: It is situated between the
courtier, or middle gangway, and the
gunnel.
TALON de la quille, the after-end of the
keel, into which the foot of the stern-
post is tenanted: this is also called the
ship's keel.
TALON de rode, the heel of the stem, or
stern-post of a row-galley. See RODE.
Couper en TALUS, to hew a plank shelving,
or with a flapping edge.

F f f 2
TAMBOUR, a drum ; also the drummer, or person who beats it.

TAMBOUR d’éperon, the doubling of the cut-water, or the planks nailed on the outside of it, to defend it from the faults of the waves.

TAMISAILLE, or TAMISE, the tram-fom, upon which the tiller traverses in a ship’s gun-room.

TAMPONS, wooden shot-plugs, employed to fill up the holes made in a ship’s side by the cannon balls of an enemy: also plates of iron, copper, or lead, used for the same purpose.

TAMPONS de canon, the tom-pions of the great guns.

TAMPONS d’escubiérs, hawse-plugs.

TANGAGE, the act of pitching, or plunging with the fore and after ends of a ship.

TANGUER, to pitch or plunge deep in the water forward.

TANGLERUS, or GABARIERS, lighter-men.

TAPABOR, a sea-cap; a sailor’s cap or bonnet.

TAPECU, a sort of ring-tail, water-fail, or driver.

TAPONS. See TAMPONS.

TAQUETS, a general name for the larger cleats, or kevels, wherein the running-ropes are belayed.

TAQUET à cornes, a large cleat, having two branches or arms, as represented in plate II. fig. 17. a.

TAQUET à gueule, ou à dent, a hollow or notched cleat, as exhibited in plate II. fig. 17. b.

TAQUET de tir, a warping-bolt. See AINOT.

TAQUETS d’amour, the chefs-trees. See also DOGUE d’amour.

TAQUETS de bittes. See COURSES de bittes.

TAQUETS de cabestan, the whelps of the capstern. See PIGNAUD.

TAQUETS d’échelle, the steps which are nailed on the gangway, whereby to ascend or descend the ship’s sides.

TAQUETS d’écoutres, the kevels or great cleats, wherein the tacks and sheets of the courses are belayed.

TAQUETS de bume à l’Angloise, the cheeks of the bow-sprit.

TAQUETS de mâts, the belaying cleats of the lower-masts, which are usually fur-ished with several pins whereon to fasten different running ropes.

TAQUETS de ponton, large hollow cleats fixed on the side of a pontoon, or sheer-hulk, whereby to fasten the pendent of the relieving-tackle.

TAQUETS de potence, the cheeks of a common sea-pump. See Potence.

TAQUETS simples, cleats which are formed nearly in the manner of a wedge or quoin; they are usually nailed to the deck or sides, to support or wedge up any weighty body.

TARRIERE, an augre, or auger, used by shipwrights to bore the planks and timbers, so as to fasten them together with bolts and tree-nails.

TARTANE, a tartane or small vessel, used in the Mediterranean.

TEMPETE, a tempest or violent storm.

TEMS, a general term for weather.

TEMS affiné, fine weather; clear weather, or a clear sky. See Affiné.

TEMS à perroquet, a top-gallant gale; top-gallant weather.

TEMS de mer, or gros TEMS, tempestuous weather.

TEMS embruné, a fog, or foggy weather.

TENAILLE, a wooden engine formed like a pair of pincers, and employed to confine the planks of a ship in their places, till they can be nailed or bolted to the timbers.

TENDELET, the tilt of a boat; also the awning or canopy in the after part of a galley.

TENIR au vent, to keep the wind; to fail clore upon a wind.

TENIR ben, to stop or cease from any exercise or labour in a ship.

TENIR la mer. See TENIR la Mer.

TENIR le balant d’une manœuvre, to make fast the bight of a rope when it hangs slack.

TENIR le large, to sail large, or with a large wind.

TENIR le lit du vent, to have the wind right on end, or right in one’s teeth.

TENIR le lof. See LOF & OLOFÉE.

TENIR le vent. See ALLER au plus prés.

TENIR sous voiles, to get under sail; to let fail ready for putting to sea.

TENIR un bras, to brace, or haul in the brace of a yard.

TENIR une manœuvre, to make fast, or belay a rope.
TET

Tenir, or voir une terre. See Ouvrir.

Tenon, a tenent, or tenon, formed on the end of a piece of timber to fix it in a mortise.

Tenon à queue d’aronde, a pivot; or tenon, formed like the pinule of a capstern.

Tenon de l'étambot, the tenon on the heel of the stern-poll, which is let into the keel.

Tenon de mât. See Thon de mât.

Tenons de l'ancre, the nuts of an anchor.

Teneue, the gripe or hold which an anchor has of the ground where it is sunk. See Fond de bon tenie.

Termes, the quarter-pieces of a ship, by which the side is terminated abaft.

Terre de beurre, cape fly-away, a cant-phrase applied to any illusive appearance of land in the horizontal clouds, after sun-set or before sun-rise.

Terre defigure, land which cannot be easily distinguished at sea, on account of the clouds which rest upon it.

Terre fine, land which may be distinctly beheld from the sea.

Terre fortes, or grosse terre, high land on, or near the sea-shore.

Terre hachee, a coat with an opening between two mountains.

Terre maritime, the sea coast, or sea-shore.

Terre Méditerranée, an inland country. See Assecher.

Terre qui affiche. See Assecher.

Terre qui fait, double-land, or land shut-in behind a cape or promontory.

Terre qui fe hente la main, land open to the sea, and accessible to shipping.

Terres bâties, low flat lands on the sea-coast.

Terres hauts, high land on the sea-shore; a bold, or iron-bound coast.

Aller Terre à terre. See Aller.

Dans la Terre, or Dans les Terres, inland; up in the country.

Mange sur la Terre, land-locked; shut-in by the land.

Prendre Terre, to arrive at the land.

Tout à Terre, close in-shore.

Terre-neuvier, a Newfoundland cod-fisher.

Terrier, to come to anchor; to arrive at the land after a long cruise.

Terre, an hammock, or hillock, rising on a level shore, and seen from the sea.

Tessaux. See Barres de lune.

Tête de l'ouvre, the crofs of the anchor, where the shank terminates upon the arms.

Tête de more. See Chouquet.

Tête de calestan, the drum-head of the capstern.

Tête de potence des pompes, the cheeks of the pump which support the brake.

Tête de vent, the railing, or springing-up of a breeze.

Faire Tête, to hold well by the mounings; to be well moored.

Tétière, the head of a fail.

THON de mât, the mast head, or the space comprehended between the cap of the lower-mast, and the trefle-trees beneath it: and so of the top-mast.

TIERS point, a triangular fail, as a lateen-fail, or flat-fail. See Latine.

Tillac. See Pont.

Franc-Tillac, or rather premier-pont, the gun-deck, or lower-deck.

Faux-Tillac, the orlop. See Faux-pont, and Faux-baux.

Tille, the cuddy, or cabin of a lighter, or other undedecked vessel; also the place where the helmsman stands in a Dutch ght.

Timon, or Barre de gouvernail, the tiller.

Timonnier, the helmsman or steerman.

Tins, the blocks upon which the keel and floor-timbers of a ship are laid while she is building.

Tirant d'eau, the draught of water of a ship.

Tire! the order to the boat’s crew to row hard, or forcibly, at-head.

Tire du vent, or Tire-avant! pull away! pull a head clearly!

Tire-foin, the worm used to draw the charge of a cannon.

Tirer tant de pieds d’eau, to draw to many feet of water, in order to float. See Tirant d'eau.

Tirer à la mer, to stretch out to sea.

Tire-veillers, the man-ropes, or entering-ropes of the side.

Tire-veille de beaupré. See Sauvegarde.

Toile bâhole, canvas, or duck, employed to make tails; sail-cloth.

Toiles de sabords, port-rolls. See Voiles à left.

Toiser, to measure by the fathom. See Brasé.

Tolets, or Escomes. See Escomes. Tomber,
TOUBER, as a sea-term, implies to lean or incline; also to cease or fail; as, 
TOUMER SANS LE VENT, to fall to leeward.
TOUMER SUR UN VAILLEAU, to fall aboard a
ship to the leeward.
Le vent a TOME', the wind is spent, or
decayed; it has become calm.
Le Mât Tombe en arrière, the mast hangs,
or raises aft.
TONIES, a sort of Indian boats, which are
usually lashed together in couples, in order to carry sail the better. The two
thus lashed are called Catapanel.
TONNE, a can-buoy, placed over any
shelf or rock in a channel; also the nun-
buoy of a ship.
TONNES are also barrels fitted to cover
the mast-head when it is unrigged, to
prevent it from rain.
TONNEAU, a tun, containing 2000 lb. 
also a general name for all sorts of large
cafsks, whose measure is equal to that
weight.
TONNELIER, the cooper of a ship, who
has the charge of all the provifion-cafsks,
to keep them in proper repair.
TONTURE, the fheer of the waies and
decks of a ship.
TONTURE DES BAUX, the round-up, or con-
vexity of a ship's beams.
TORDES. See SAVÈR-Raabans.
TORON. See Tloreon.
TORTUE DE MER, a sort of transport-ship,
formed with a high deck, for the conve-
nience of carrying troops, paflPengers, and
their effects between decks.
TOSTE DE CHALOUP, the thwarts, banks,
or seats of a boat, whereon the rowers fit
to manage their oars.
TOUAGE, the exercise of warping or
towing a ship from place to place. See
also Remorqueur.
TOUCHE, the priming-wire, or priming-
iron of a cannon. See Degorgeoir.
TOUCHE TERRE, or, simply, TOUCHE,
to run a-ground, or strike against a rock,
there, or land-bank.
TOUCHE À UNE CÔTE, or À UNE PORT, to touch
at any coast or harbour.
TOUCHE UN COMPAS, to touch the needle of
a compafs with a magnet.
TOUFE', a name given to two or three
hawifers bent upon an end, i. e. faftened
at the end of each other, and attached to
an anchor a-head, fo as to ride a ship
with more security.

TOUER, to warp a ship from one place to
another in a harbour.
TOUR À FEU, a light-houfe. See Phare.
TOUR DE BITE AU CÂBLE, a turn of the cable
about the bits; the biting of a cable.
TOUR DE CÂBLE, a foul hawle; a turn or
elbow in the hawle. See Cable and
Croix.
TOUR-ET-CHAQUE, a weather-bit of the ca-
ble, or a turn and half-turn about the
bits.
TOUR MARINE, a watch-tower or block-
houfe, on the sea-coast.
TOURBILLON, a whirlwind upon the
sea.
TOURILLONS, the trunnions of any
piece of ordnance.
TOURMENTE, a tempest, or great
storm. See Tempete.
TOURMENTER, when expressed of a
ship, implies to labour or strain violently;
when spoken of timber, it denotes to warp
or twit.
TOURMENTIN, a name sometimes
given to the sprit-fail top-sail. See
Perroquet de beaupré.
TOURNANT DE MER, a whirlpool, or
dangerous race in the sea.
TOURNANT is also a stake or post sunk
into the angles of a canal, for the conve-
nience of warping vessels up or down.
TOURNER LE BORD. See Vire.
TOURNER SANS ANCRE, to pass round the
anchor; underfoot of a ship that, rid-
ing by a fingle anchor, has probably
incircled the place where it lies, fo as to
sweep it with her cable, and make a foul
anchor.
TOURNEVIRE, the voyel of the cable.
See Cabestan.
TOURON, the lrand of a rope, com-
posed of a certain number of rope-
yarns.
TOU'T LE MOND HANT! all hands, hoay!
all hands upon deck, hoay! a call, or
order of the boat'swain, to summon all the
sailors upon the upper-deck.
TOU'T LE MOND HANT, fit down close, all
hands! the order to the ship's crew to
lie fnug upon deck or below, fo as not
to retard the ship's course by their mo-
ton upon deck, nor be discovered by the
enemy, of whom they are in chace.
TRAIN DE BATEAUX, a train of boats in tow.
TRAIN DE BOIS, or FlOTTE, a raft, or float
of timber.
TRAVERSIE, a train of gun-powder.
TRAIT de compas, or TRAIT de vent. See RUMB.
Voile à TRAIT guarré, a square sail; such are the courfes, top-fails, &c. of a ship.
TRAITE, the trade or commerce carried on between shipping and the inhabitants of any country where they arrive.
TRAMONTANE, the north-wind, in the dialect of Provence.
TRAPÉ, or ATTRAPÉ, a tackle-fall. See Corde de retenue.
TRAVADE, a tornado, or thunder-gust; as those on the coast of Africa.
TRAVAILLER, when applied to a ship, is to roll or pitch heavily, as in a high sea; also to swell tumultuously, as the waves themselves. See Rollis.
TRAVAILLEURS, the ordinary, or labourers, &c. employed in fitting out shipping for the sea.
TRAVERS, in a naval sense, generally denotes athwart; abreast of, with sides parallel, and heads equally advanced; it is also applied to any piece of timber which is laid across others, and cleared into them.
Se mettre par le TRAVER, or Passer par le TRAVERS de Torbay, to cross or stand athwart Torbay, &c.
Le vaisseau est mouillé par notre TRAVER, the ship has come to abreast of us.
La marge vient par le TRAVERS du vaisseau, the tide takes the ship athwart, or on the broadside.
Mouillé par le TRAVERS de Bellelièfe, at anchor off Bellelièfe.
TRAVERSIER, a passage from one port to another; an outward or homeward-bound voyage.
TRAVERSE mitaine, flat-in the fore-sheets; flat-in forward! the order to pull the lower corners of the head-falls in, towards the middle of the ship, in order to make her fall off when the sails fliver in the wind.
TRAVERSIER, to come abreast of, to the leeward of.
TRAVERSIER l'ancre, to get the anchor up along the bow, in order to draw it parallel to the gunnel.
TRAVERSIER la hame, to head the sea; to set the leech of the sail.
TRAVERSIER mitaine. See MISAINE.
TRAVERSIER, a small fishing vessel on the coast of Rochelle.

TRAVERSIER d'écoutilles, a gutter ledge, or crofs-bar laid in the middle of a hatch-way to support the covers.
TRAVERSIER de chaloupe, the fore-beam or fore-thwart of a long-boat.
TRAVERSIER de port, a wind that sets right into any harbour, so as to prevent the departure of a ship from it.
Mettre la mitaine au TRAVERSIER, to bring the fore-tack to the cat-head; as when the wind is large.
TRAVERSIN. See TAMISAILLE.
TRAVERSIN d'écoutilles, a gutter-ledge, or crofs-piece of a hatchway.
TRAVERSIN d'elinguet, the beam into which the pnels of the caplern are bolted.
TRAVERSIN des hérpes, a ship's davit; see also MINOT.
TRAVERSIN des bitter, the crofs-piece of the bits.
TRAVERSIN de chateau d'avant, the crofs-piece of the fore-carriage, which contains the keys and cleats for belaying ropes.
TRAVERSIN des affuits, the tramsoms of the gun-carriages.
TRAVERSINS des taquets, the step, or frame of timber in which the main and fore-sheet keys are lodged.
TREBUCHET, a scale, or measure, employed by shipwrights to determine the difference between the curves of those timbers which are placed nearest the greatest breadth, and those which are situated near the extremities, where the floor rises and grows narrower.
TRELINGAGE, a crow-foot. See Marticles.
TRELINGAGE des étais sous les bunes, the crow-feet of the tops.
TRELINGAGE des bénains, the cat-harpins of the lower.
TRELINGUEL, to receive a crow-foot, or form any thing similar thereto, as the clue of a hammock, &c.
TREME, a trunk, or floping passage formed in some merchant-ships, whereby the cables are conducted, from the top of the fore-carriage, downward to the hawse; it is usually covered with a small gating.
TREMUE, is also a hool, or companion, placed over the coamings of the hatches, in merchant-ships, to keep the tierce warm, and prevent the rain or sea-water from falling into it.
TREOU, a square sail, used in scudding, by small vessels, particularly sloops, tarts, galleys, &c.
TREPOR, a trip, the anchor drawn out of the ground in a perpendicular direction. Toppails are atrip when hoisted up to their utmost extent.

TRE'PORT, or allonge de pompe, a stern-timber, whose lower end corresponds with the top of the stern.

TRESORIER général de la marine, an officer whose duty resembles that of our treasurer of the navy.

TRESSE de meche, a large match formed of three matches twisted round each other, so as to fire a cannon with more certainty and expedition.

TRESSES, a sort of knittles frequently used as feizings.

TRE'VIER, or Maître-voiler, the master sail-maker of a ship.

TREUIL, a roller or winch of several kinds.

TRE'VIRER. See Chavirer.

TRIANGLE, a flag hung over a ship's side, to caulk the seams, or pay the planks: also a machine composed of three capstern-bars, whose ends being tied together, form a triangle, to incline any maff, along which this machine may be hoisted or lowered, to scrape the maff, or pay it with turpentine, resin, tallow, &c.

TRIBORD, the larboard side of the ship. See also Stribord.

TRIBORDAI, larboard lines; a cant term for the larboard-watch.

TRIF'RARQUE, an officer formerly appointed to furnish a ship with soldiers, rowers, arms, and provisions.

TRINGLE, a thin lath, used occasionally to fill up the edges of a gun-port, dead-light, &c. and make it tight, so as to exclude the wind or water.

TRINGLE is also a batten of wood about two feet long, nailed against the butts or joints of a boat's planks, to strengthen them in that place.

TRINGLER, to mark timber with a chalked or red line, in order to hew or bevel it to the exact form and scantlings.

TRINQUET, the fore-mast of a row-galley.

TRINQUETTE, a triangular fore-fail, as that of a flue, and such vessels.

TRISSE de beaupré, the standing-lifts of the sprit-sail yard.

TRISSE de racage. See Drosse de racage.

TROMPE, or pompe de mer, a water-pot.

TROMPETTE marine, a speaking-trumpet used at sea.

TROUS d'amure de misaine. See Boutef-de-mis.

TROUSSE de racage, a small tackle, formerly used as a nave-line.

TROUS d'écontres, the sheave-holes, which are cut obliquely through a ship's side, wherein the main and fore-sheets are reeved. See Clanc.

TROUS de la coudière. See Oeil.

TUGUE. See Teugue.

TUIL'ELLE, the tutelary saint represented on the stern of a ship, and to whose protection she is configned, in nations under the Catholic superstition.

VADROUILLE, a brush used to pay a ship's bottom with tallow or composition.

VA et vient, a span, or rope extended from one place to another, whereon to draw any thing along by means of a traveller.

VAGANS, vagrants or hovellers, who infest the sea-coast in a tempest, in expectation of plunder from some ship-wrecked vessel. See Derris.

VAGUES, the waves or surges of the sea. See Lames.

VAIGRER, to attach the planks and thick-fluff of a ship's cieling, to the timbers.

VAIGRES, ou ferres, a general name for the clamps and thick-fluff used in the cieling of a ship; as, VAIGRES de fond, the thick-fluff placed next to the keel.

VAIGRES d'empature, the thick-fluff placed between the floor-heads and the vaigres de fond.

VAIGRES de pont, the clamps which support the ends of the beams.

VAIGRES
VAL

VAIGRES, the thick-stuff placed opposite to the floor-heads.

VAISSEAU, a ship, or large vessel of war, or burthen.

VAISSEAU _à la bande_, a ship lying along, or heeling gunnel-to, as under a weight of fail in a fresh wind: this is frequently called lying down on the broadside or beam-ends.

VAISSEAU _à l'ancre_, a ship at anchor.

VAISSEAU _à sa poste_, a ship in her station, as appointed by the commanding officer.

VAISSEAU _armée en guerre_, armed ship, a vessel occasionally taken into the service, to guard a coast, or attend on a squadron, and armed and equipped in every respect as a ship of war. She is on the establishment of a king's ship, and commanded by a lieutenant, with a master, surgeon, purser, &c.

VAISSEAU _beau de combat_, a roomy ship, advantageously built for battle, as carrying her lower tier high above the water, and having a good height between decks.

VAISSEAU _corfaire_. See Corsaire.

VAISSEAU _démarrée_, a ship unmoored, or broke adrift from her moorings. See Demarrer.

VAISSEAU _gondolé_, a ship built with a great flyer.

VAISSEAU _qui a le côté droit comme un mur_, a wall-sided ship.

VAISSEAU _qui a le côté foible_, a straight-sided ship.

VAISSEAU _qui a le côté fort_, a round-sided ship.

VAISSEAU _qui cargue_, a crank ship.

VAISSEAU _qui charge a fret_, a trading ship. See Fret.

VAISSEAU _qui se manie bien_, a good working ship; a ship that is easily managed and fleeced.

VAISSEAU _qui se port bien à la mer_, a good sea-boat.

VAISSEAU _rallongé_, a lengthened ship.

VAISSEAU _de bas-bord_, a low-built vessel navigated with sails and oars; as the galleys in the Mediterranean.

VAISSEAU _de baut-bord_, a general name for large ships.

VAISSEAU _du roy_, fleet of ships of war, navy.

VALANCINE. See Balancine.

VALETS _d'artillerie_, the boys which attend the great guns in a sea-fight, &c.

VENT

VALTURE, the lashing of the sheets; or a rope employed to lash two masts together in any particular place, when they are to be used as flyers.

VARANGUAS. See Marticles.

VARANGUES, a general name for the floor-timbers; as,

VARANGUES _acculées_, the crotches or floor-timbers afore and abaft.

VARANGUES _demi-acculées_, the floor-timbers placed between the varangues acculées and the

VARANGUES _plates_, or VARANGUES _de fond_, the flat floor-timbers placed in the middle or broadest part of a ship's floor.

VARECH, sea-wreck. Also the wreck of a ship. See Choses de la mer.

VARIATION, the variation of the compasses. See also D'éclinaison.

VARIATION _vaut la route_, the variation is on the weather-side, or opposite to the lee-way.

VASART, oozy, or slimy, expressed of a particular bottom, or soundings at sea. See Fond.

VASSOLES, laths or battens placed between the ledges of the gratings.

VEGRES. See Vaigres.

VEILLE _la drisse_. Stand by the halyards! the order to have the top-fall-halyards ready to cast loose in case of a squall.

VEILLE _l'écoute de hune_. Stand by the top-fall sheets!

VEILLE _les huniers_. See Veille la drisse.

VEILLER, to watch, attend, or take care of any thing; as, Il faut _Veiller_ les mâts, &c non le côté, we must look to the masts, and not to the side; expressed of a ship, whose masts, being good, will rather overlet her, than be carried away.

_Ancre est à la Veille_. See Ancre.

Bouée _à la Veille_, the buoy floats in sight, as over the anchor.

VENIR _au vent_, to haul the wind, nearer to the point whence the wind arises.

VENT, the wind.

VENT _alizé_, a trade wind, or monsoon.

VENT _arriére_, a wind right aft or abait.

VENT _d'amont_, a land-wind, or land-breeze.

VENT _d'aval_, a sea wind, or sea-breeze.

VENT _de boulie_, a foamy wind, on which the ship cannot lie her course without being close-hauled.

V g g
**VENT de quartier**, a quarterly, or quartering wind *.

**VENT en poupe**. See **VENT**.

**VENT en poupe, large la fâche**, large wind, large allowance; an expression used by seamen on the commencement of a fair wind, after they had been put to short allowance in consequence of foul winds.

**Le Vent en poupe fait toucher la mer unie**, a stern wind brings an easy sea; expressed of a ship when falling afore the wind, in which movement she is left strained by the agitation of the sea, than when she lies in the trough or hollow of it, side-ways.

**VENT largue**, a large wind.

**VENT roulant**, a wind which serves to go and come upon the same line; such is the wind upon the beam.

**VENTS variables**, variable winds, or such as are without the tropics.

**VENT à pic**, the wind is right down; a witticism amongst sailors, to signify that there is a total cessation of wind, at which time the vanes hang right downward, instead of blowing out.

**VENTER**, to blow or spring up; under-flood of the wind.

**VENTILATEUR**, a ventilator used at sea.

**VERBOQUET**, a guy used by shipwrights to keep steady any piece of timber, so as to lodge it securely in a ship's frame.

**VERGE de giroïette**, the spindle of the vane at the main-head.

**VERGE de l'ancre**, the arm of an anchor.

**VERGE de pompe**, a pump-leer. See also **BARRE de pompe**.

**VERGUE**, the yard of any principal sail which traverses the mast at right angles.

**VERGUE à corne**. See **CORNE de vergue**.

**VERGUE de foudre**, the crois-jack-yard.

**VERGUE en bout de bords**, the main-boom of a floop-rigged, or schooner-rigged vessel.

**VERGUE traversée**, the spirit which traverses a boat's sail diagonally.

**VERIN**, an instrument nearly similar to a jack-strew, and used occasionally to launch a ship from the stocks.

**VEUE, or VUE, être à vue, avoir la vue**, to be in light of; to make or discover at sea, as the land, or some distant object. See **NON-vue**.

**VEUE par vue, & cours par cours**, sailing by the bearings and distances of the land, on the sea-coast.

**VIBORD**, the quick-work, or that part of a ship's fide which is comprehended between the drift-rails and the wait-rail.

**VICE-Amiral**, the vice-admiral of France.

**VICTUAILLES**. See **VIVRES**.

**VICTUAILLEUR, a contractor, or agent-victualler**.

**VIF, alive, busy, all in motion**; an epithet applied to a wharf, dock, or slip, where the artificers are all at work on the shipping.

**VIF de l'eau, or haute marée**, high-water.

**VIGIE, a lurking rock, or reef**; a rock under the surface of the water.

**VIGIER, to look out, or watch upon deck**; or at the main head, &c.

**Vigier une flotte, to dodge, or watch the motions of a fleet**.

**VIGOTS de racage**. See **BIGOTS**.

**VINDAS**, a sort of moveable capstern; also a windlass. See **VIREVAUT**.

**VIRAGE**, the act of heaving up any weighty body by a crab or capstern.

**VIRER, to overlet**.

**VIRER au cabestan, to heave the capstern, or heave at the capstern**.

**VIRER de bord, to go about, or put about-ship**.

**VIRER vent arrière, to veer, or wear**.

**VIRER vent devant, to tack, or put about head-to-wind**.

**VIREVAUT**, the windlafs of a ship or boat.

**VIROLE**, a little iron ring placed on the small end of a bolt which is driven through any part of a ship's decks or sides; it is used to prevent the fore-lock from cutting the wood.

**VIREVAUT**. See **MOULINET**.

**VIRURE, a flock of planks continued from the stem to the stern-post**.

**VIRURE is also the sheer of any plank in the ship's fide**.

**VISITE de vaisseau**, an examination of the cargo of a ship by the officers of the revenue.

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* M. Saverien defines this to be a wind perpendicular to the ship's course, and, consequently, a wind upon the beam; but I have ventured to correct this explanation, by the authority of M. Aubin, who is certainly right in his definition.
VISITEUR, an officer resembling our tide-surveyors of the customs.

VITTONIÈRES. See Anguilleres.

VIVIER, a fishing-boat, furnished with a well filled with water amid-ships, whereby the fish are kept alive till the vessel arrives in port.

VIVRES, the provisions used for the subsistence of the ship's crew at sea, &c.

UN, deux, trois, an exclamation, or song, used by seamen when hauling the bow-lines, the greatest effort being made at the last word. English sailors, in the same manner, call out on this occasion,—haul-in—haul-two—haul-belay!

VOUGE, the rowing of a galley; the movement or course of a galley rowed with oars.

VOUGE-avant, the rower who holds the handle of an oar and gives the stroke.

VOGUER, to row, or give head-way to a galley or other vessel by rowing.

VOILE, a sail; also a ship discovered at a distance.

Avec les quatre corps des Voiles, under the courses and top-sails.

Faire toutes Voiles blanches, to cruise as a pirate; to make all ship that comes to the net.

Forcer de Voiles, to crowd sail. See FORCER.

Ce vaisseau porte la Voile comme un rocher, the ship carries her sail as stiff as a church, or without seeming to heel.

Voiles sur les vergues, sails clewed up, or hauled up in the brails.

Voiles sur le mât, sails laid to the masts, or aback. See COEFFE.

Régler les Voiles, to determine the quantity of sail to be carried in each ship, in order to keep company with the rest of the fleet.

Toutes Voiles hors, all sails set; all sails out, or standing.

Voiles au sec, sails loofed, to dry in the sun or wind.

Les Voiles s'ouvertent le mât, the sails beat against the masts, as when first taken aback.

Voile Anglise, a boat's sail with a diagonal spirit.

Voile d'eau, a sort of water-sail used by the Dutch.

Voile defoence, a sail split or rent asunder in the bunt or middle.

Voile de fortune. See TROU.
also the movement of bearing away, or hauling the wind, either to change the course, or bring the broadside to bear upon an enemy.

VOUTE, or Voutis, the upper counter of a ship, upon which the ecusson is placed.

VOYAGES de long cours, a long voyage, as those to China, or the Indies.

URETAC, a fore-tack-tackle, or preventer fore-tack.

VRILLE, a wimble, or drill used by shipwrights, &c. to bore holes.

US & coutumes de la mer, the usages and customs of the sea, which are partly regulated by the laws of Oleron.

USANCE, the agreement, or contract, made between the master, the owner, and freighters of a ship. See also the preceding article.

UTENSILS du canon, a general name for all the instruments used in charging and firing a cannon, as the rammer, the ladle, the sponge, the linstock, &c.

W.

WATREGANS, pronounced Ouatregans, a sort of canals or ditches, filled with water, which are usually navigable for boats and small craft.

WOLFE, or Wolfe, a whirlpool, or race, on the coast of Norway.

Y.

YACHT, or Yac, a yacht.

YEUX de bœuf, bulls eyes, or wooden travellers; also the trucks of a parrel.

YEUX de pie. See Oeil de pie.

Z.

ZEPHIRE, or Zephir, the west wind.

ZOPISSA, or poix navale, tar. See Goudron.