hoiſted up to the topſail-yard-arms. See alſo BOOM-IRON, in the article IRON-WORK.

The lower ſtudding-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 ſteddy behind by a rope called the *guy*.

STUFF, *courrée*, 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, roſin, 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 oker: and for the bottom, a mixture of tallow, ſulphur, and roſin, 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 proviſions 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 ſame with a wave; which ſee.

SURVEY, an examination made by ſeveral naval officers into the ſtate or condition of the proviſions, 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 boatſwains 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*, (*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 perſon, who uſes it, is called the ſwabber.

SWEEPING, *draguer*, 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, *enflement*, generally denotes an heavy and continued agitation 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 together like the ſpokes of a wheel; which is accordingly called ſwifting. See the article CAPSTERN.

SWIFTER is alſo a ſtrong rope, ſometimes uſed to encircle a boat longitudinally, as well as to ſtrengthen and defend her ſides, as to enable her the better to reſiſt the impreſſion of other boats which may run againſt her occaſionally. 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 ſecurity 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.

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TABLING, *bander*, 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-rope.

TACK, *couet*, a rope uſed to confine the foremoſt lower-corners of the *courſes* and *ſtay-ſails* 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 *ſtudding-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 ſail. By this means one tack is always faſtened to windward, at the ſame time that the *ſheet* extends the ſail 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*, 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 f*, yet if the lee-way is only one point, (and indeed it is ſeldom

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 A *e*, and *e g*.

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 ſhe ought 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 B A; ſo the larboard tack A *e*, croſſing the courſe more obliquely than the other *e g*, 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 its obliquity with her ſails, operates alſo to retard her velocity. Thus her firſt board A *e*, on a W. *by* N. courſe, is equal to 5. 7 leagues. The ſecond tack *e g* is 9. 2 leagues E. *by* N.: the third tack, parallel to A *e*, is 11. 5: the fourth, parallel to *e g*, 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 A B, 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 farther 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 perſevere in a ſtate of reſt, or of moving uniformly in a right line, unleſs it be compelled to change its 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 ſails, in horizontal lines. For the ſails may be ſo arranged as to receive the current of air, either directly, or more or leſs obliquely: hence the motion communicated to the ſails 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 *helm*, that the head-ſails 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*-ſails, which operating on the ſhip's ſtern, carries it round like a weather-cock. But ſince the action of the after-ſails, to turn the ſhip, will unavoidably

avoidably ceaſe when her head points to the windward, it then becomes neceſſary to uſe the head-ſails, 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 ſails 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-ſails 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 ſails, 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 *d*, fig. 2. plate XI. the pilot gives the order to turn about the ſails on the main and mizen maſts, by the exclamation, *Haul main-ſail, 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-ſail is, by means of its tack, pulled down to its ſtation at the cheſtree; and all the after-ſails 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!* the ſails 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-ſail, being fixed in its place, the bowlines are hauled; and the other ſails, which have been neglected in the hurry of tacking, are properly arranged to the wind, which exerciſe is called trimming the ſails. See LEE-WAY and SAILING.

TACKLE, *palan*, pronounced *taicle*, 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 ſails 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*, are *a c* equal to *d c*, the block will be reduced to the lever or balance *a d* with reſpect to its power: Since *a c* is then equal to *d c*, 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 otherwiſe

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-pendants*, *reef-tackle pendants*, *jiggers*, &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 *c*, the block, and conſequently the weight annexed, will be drawn through the ſpace *e h*, whoſe 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 *c*, 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 *c* 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 *c* 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 whereon the men pull when employing the tackle, is called the *fall*. The application of the tackle to mechanical purpoſes is termed *hoiſting* or *bowſſing*. See thoſe articles.

Ground TACKLE. See GROUND TACKLE.

TACK-TACKLE, a ſmall tackle uſed occaſionally to pull down the tack of the principal ſails of a ſhip to their reſpective ſtations. There is alſo a tackle of this kind conſtantly fixed to the tacks of the main-ſail in *brigs*, *ſloops*, and *ſchooners*, for the ſame purpoſe. See the French term PALAN, and the phraſes annexed thereto.

TAFFAREL, *couronnement*, 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, wherein 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*, 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, *prélart*, 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.

TARTA'N, (*tartana*, Ital.) a ſmall coaſting veſſel navigated in the Mediterranean ſea, and having only one maſt and a bowſprit, the principal ſail, which is extremely large, being extended by a lateen-yard. See VESSEL.

TAUGHT, *roide*, (*dicht*, Dutch) the ſtate of being extended or ſtretched out. It is uſually applied to a rope or ſail, in oppoſition to ſlack.

TAUNT, *foit*, 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*, a ſmall veſſel employed in the King's ſervice, on various occaſions; as, to receive volunteers and impreſſed 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 northerly, 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, the end of a piece of timber cut ſmaller to enter into a mortiſe.

THIMBLE, *coſſe*, a ſort of iron ring, whoſe outer ſurface is hollowed throughout its 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, *(tholet*, Fr.) certain ſmall pins driven perpendicularly into the upper edge of a boat, as expreſſed by *e*, 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 ſtrop; 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 ſail 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.

THUS! the order by which the pilot directs the helmſman to keep the ſhip in her preſent ſituation when ſailing with a *ſcant* wind; ſo that ſhe may not approach too near the direction of the wind, and thereby ſhiver her ſails, nor fall to leeward, and run farther out of her courſe. See STEERING.

THWART, *banc*, the ſeat or bench of a boat whereon the rowers ſit to manage the oars.

THWART-SHIPS, acroſs the ſhip. See the article ATHWART.

TIDE, *marée*, *(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 univerſally regular and equal; but the ſhallowneſs of the water in many places, and the ſtreightneſs 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 continents, from thence rebounds back again, and ſo makes floods and ebbs in narrows, ſeas, and rivers." *Locke.*

With regard to the relative force of the tide on a ſhip floating therein, it is already explained in the article CURRENT.

TIER, *batterie*, 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, (*dicht*, Dutch) the quality whereby a veſſel reſiſts the penetration of any fluid, whether compreſſing its 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 immerſed: 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*, the bar or lever employed to turn the rudder in ſteering. See the article HELM.

TILT, *tendelet*, (*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*, 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 ſets 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 whoſe 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 *bow*, are called the knuckle-timbers; and the hindmoſt on the quarter are called the faſhion-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. 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. conſiſting only of the *keel* A, the *ſtern-poſt* B, the *ſtem* C, the *tranſoms* 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 *cun* and ſteer the ſhip; as alſo, to ſtow the proviſions in the hold, coil the cables, regulate the watch, &c. See QUARTER-MASTER.

TOGETHER! *accord*, 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*, 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 topſail-yard are out of uſe when the topſail 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 topſail-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 its 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 inſerting the toggel through the former, ſo as to confine it to the latter, which operation is amongſt ſailors called putting the ſheets in the *beckets*.

TOMPION, (*tampon*, Fr.) a ſort of bung 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, *hune*, 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 maſt, and thereby give additional ſupport to the latter. It is ſuſtained by certain timbers fixed acroſs the *hounds* or ſhoulders of the maſt, and called the treſſel-trees and croſs-trees, the former of which are expreſſed by *k*, fig. 1. plate VI. and the latter by *l*, *l*, fig. 2. The

plan

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 *hammocs*. 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 aft-ſide 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. 2. plate VI. 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 follow. The breadth of the top *athwart-ſhips*, *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 treſſel-trees and croſs-trees 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 hune*, 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, *mât de hune*, the ſecond diviſion of a maſt; or that part which ſtands between the upper and lower pieces. See the article MAST.

TOP-ROPE, *guindereſſe*, a rope employed to *ſway-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 pullies, at its lower end, called the *top-tackle*, to hoiſt or lower the maſt 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-ſail-yard above, and by the yard attached to the lower maſt beneath; being

faſtened to the former by *robands*, and to the latter by means of two great blocks fixed on its extremities, through which the topſail-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 ſlackened or extended at pleaſure. See the article SAIL. *N. B.* The top-gallant ſails are expanded above the topſail-yard, in the ſame manner as the latter are extended above the lower yard.

The ſeveral parts of the machinery by which the top-ſails are managed, as the *bowlines*, *braces*, *haliards*, *lifts*, and *ſheets*, being copiouſly defined in their proper places, it would be ſuperfluous to repeat their explanations.

TOPPING, *apiquer*, 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*, 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*, *ſloops*, or *ſchooners*. See SQUARE.

TORNADO, *travade*, 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 ſails 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 ſails, inſtead of falling into their cavities from behind, according to its uſual direction. See FULL AND BY.

TOUCHING-AT, implies the circumſtance of ſtopping, or anchoring occaſionally, at ſome intermediate port, in the courſe of a voyage.

To TOW, *remorquer*, (*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 ſail at ſea; or when her ſails 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 ſail 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 hauſer generally uſed to remove a ſhip from one part of an harbour or road to another, by means of anchors, capſterns, &c. as 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-

TRACING-LINE, *martinet*, 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 bight, would be aukward and incommodious.

TRACK *of a ſhip*. See the article WAKE.

TRACKING, 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. Whence,

TRACK-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 tracked by a horſe, who trots along the margin to a limited diſtance, after which he is relieved by another.

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 intermiſſion 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'arcaſſe*, (*tranſenna*, 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-tranſom is the aftmoſt or hindmoſt beam of the lower deck, whereon all the deck-planks are rabetted: 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 *riſing*, 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-tranſom 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 nevertheleſs 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 comprehended between the head of the ſtern-poſt above, and the aftmoſt floor-timbers below, it is neceſſary to diſtinguiſh them by particular names. Thus the higheſt is called the wing-tranſom: the next, the deck-tranſom; and afterwards follow the firſt, ſecond,

cond, 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.

TRAVELLER, *racambeau*, a ſort of *thimble*, whoſe diameter is much longer, in proportion to the breadth of its 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-ſtay*, whereon they ſlide upwards and downwards, like the ring of a curtain upon its 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-hauled* 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 ſails 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*, 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, *teſſeaux*, 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, *manege du navire*, *(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 appoſite 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 re-action 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 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 ſub-

merged body at reſt, theſe two oppoſite forces coincide in the ſame vertical, acting in a direction quite contrary to each other. *Bouguer'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 ſailing 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 ſail 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 its 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 farther diminiſhed by the obliquity of the action of the wind upon its ſurface.

By this theory it appears, that the effect of the wind to advance the ſhip decreaſes in proportion to its 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 articles 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 *the boat*. See BOAT, and the phraſes ſucceeding it.

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 its 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 breeches of canvas worn by common ſailors.

TRUCK, a piece of wood, which is either conical, cylindrical, ſpherical, or ſpheroidical.

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-STAFF.

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 ſailors 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*, 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 they cannot otherwiſe be diſtinctly heard by the perſons to whom they are directed.

Fire-TRUNK. See the article FIRE-SHIP.

TRUNNIONS, *tourillons*, 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, (*trouſſe*, Fr.) a machine employed to pull a yard home to its reſpective maſt, and retain it firmly in that poſition.

As the truſs is generally uſed inſtead of a parrel, it is rarely employed, except in flying top-gallant-ſails, which are never furniſhed with parrels. It is no other than a ring or traveller, which encircles the maſt, and has a rope faſtened to its after-part, leading downward to the top or decks; by means of which the truſs may be ſtraitened or ſlackened at pleaſure. The *haliards* of the top-gallant-ſail being paſſed through this ring; and the ſail being hoiſted up to its utmoſt extent; it is evident, that the yard will be drawn cloſe to the maſt, by pulling down the truſs cloſe to the upper part of the ſail. For, without the truſs, the ſail and its yard would be blown from the maſt, ſo as to ſwing about, by the action of the wind, and the rocking 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-ſails, becauſe they are uſually much ſhallower than thoſe which are fixed or *ſtanding*.

TRUSS-PARREL. See PARREL.

TRYING, *à la cape*, 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 *ſcudding*, 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-ſail, a whole fore-ſail, 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 ſcudding are the *gooſe-wings* of the fore-ſail; ſo in *trying*, the ſmalleſt portion is generally the mizen-ſtayſail or main-ſtayſail: 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 ſteddy, 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 equilibrio 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 ſhe ſtops, 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, 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. $\frac{1}{4}$ N. or N. 39° W. and then declines to the leeward as far W. $\frac{1}{4}$ S. or S. 84° W. the former will be called her coming-to, and the

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-*tranſom*, and below and on each ſide by the *faſhion-pieces*.

TUMBLING-HOME, *encabanement*, 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 Q T 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 houſing-in. See UPPER-WORK.

TURNING-*to-windward*, *chicaner le vent*, that operation in ſailing 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 *plying*. See alſo BEATING and TACKING.

TYE, *itague*, 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 maſt-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 maſt-head. See alſo the article JEARS.

V.

VAN, *avante-garde*, 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 I. 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*, a ſmall light vane, formed of a piece of packthread 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 ſteddy. They are fixed on the outer-end or *peek*, and reach downwards to the aftmoſt 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 loadſtone, namely, the giving hardened iron and ſteel a polarity, the compaſs was for many years uſed without knowing that its direction in any wiſe deviated from the poles of the world: and about the middle of the 16th century, ſo certain were ſome of its 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 its 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 magnetical 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

it gradually diminiſhed, and at laſt, 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 geometrician 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 Meſſ. 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° 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 63 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 farther diſtant from the magnetic pole towards the ſouth than in the north, as is required by the other phænomena. Again, upon the coaſts diſcovered by *Diemen*, 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 interſections was really greater than Dr. Halley had eſtabliſhed.

The table of variation of Meſſ. 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, $5\frac{1}{2}$ 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 Martha, 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-ſix years appears to be 17° $\frac{1}{2}$ W. and the leaſt 16° $\frac{1}{2}$ 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° $\frac{1}{2}$ W.; and in latitude 10° S. longitude 5° W. from London, from 2° $\frac{1}{4}$ W. to 12° $\frac{3}{4}$ 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 East from London.	MAGNETICAL VARIATION in 1700.	in 1756.
Degrees.	Degrees.	Degrees.
40	16½ West.	16½ West.
45	17¾ W.	14½ W.
50	17½ W.	11¾ W.
55	16½ W.	8¾ W.
60	15½ W.	6 W.
65	13¾ W.	4½ W.
70	11½ W.	3½ W.
75	9¾ W.	1 W.
80	7½ W.	0½ East.
85	5¾ W.	1¼ E.
90	4¼ W.	1 E.
95	3¼ W.	0½ West.
100	2½ W.	1 W.

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. Maraldi, 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.

VEERING, *virer vent arriere*, the operation by which a ſhip, in changing her courſe from one board to the other, turns her ſtern to windward. 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 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 *ſhiver* 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, its effect is conſiderably diminiſhed, or altogether deſtroyed, on the ſurfaces of the after-ſails. 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 wheel 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 its operations, is at this time feeble and ineffectual. Hence it is neceſſary to deſtroy this equilibrium which ſubſiſts between the maſts and yards *afore* and *abaft*, and to throw the balance forward, in order to prepare for veering. This is accordingly performed by bracing the foremoſt 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

proves unſucceſsful, and it is abſolutely neceſſary to veer, in order to ſave the ſhip from deſtruction, by overſetting or running aſhore, the mizen-maſt muſt inſtantly be cut away, and even the main-maſt, if ſhe yet remains incapable of anſwering the helm by bearing away before the wind.

VENT. See the articles CANNON and WINDAGE.

VESSEL, *batiment*, 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, furniſhed with one or two maſts.

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, ſeemed 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 ſail; 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 ſail; fig. 12. & 13. two galleys, one of which is under ſail, and the other rowing; and fig. 14. a ſloop.

The ketch, whoſe ſails are furled, is furniſhed with a try-ſail, like the ſnow; and it has a fore-ſail, fore-ſtayſail, and jib, nearly ſimilar to thoſe of a ſloop; but the ſails on the main-maſt and mizen-maſt are like thoſe of a ſhip. The main-ſail and main-topſail of the brig are like thoſe of the ſchooner; and the fore-maſt is rigged and equipped with ſails in the ſame manner as the ſhip and ſnow. The ſails, maſts, and yards of the xebec, being extremely different from theſe, are deſcribed at large under the article. In the ſchooner both the mainſail and foreſail are extended by a *boom* and *gaff*, as likewiſe is the ſloop's mainſail; the ſails of the dogger and galliot are ſufficiently expreſſed in the plate; and, finally, the galleys are navigated with lateen-ſails, which are extremely different from thoſe of the veſſels above deſcribed.

Agent VICTUALLER. See AGENT VICTUALLER.

To UNBALLAST, *deleſter*, to diſcharge the ballaſt of a ſhip.

UNBENDING, *déſamarrer*, generally implies the act of taking off the ſails from their yards and ſtays; of caſting looſe the anchors from their cables, or of untying one rope from another. See alſo BEND.

UNBITTING, *débitter*, the operation of removing the turns of a cable from off the bits. See BITS and CABLE.

To UNDER-RUN, *parcourir*, 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 looſened from her moorings, and under the government of her ſails and rudder. See HELM and SAIL.

UNLACING, *déboutonner*, the act of looſening and taking off the *bonnet* of a ſail from its principal part.

To UNMOOR, *deſafourcher*, 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*, *deadeye*, &c. See REEVE.

To UNRIG *a ſhip*, *déſuner*, is to deprive her of the ſtanding and running *rigging*.

VOYAL, *tournevire*, 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 voyal 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 voyal 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 voyal is uſed without any block: but if the capſtern in the fore-part of the ſhip be employed for this purpoſe, the voyal 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*, 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 *wale*, 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.

W.

W.

WAD, *bourrelet*, a quantity of old rope-yarns 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 breech 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 dilated around the ſides of the ball, by its *windage* as it paſſes through the chace; 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 chace by the agitation of the veſſel.

WAFT, *berne*, 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 its ſtaff. It is particularly uſed to ſummon the boats off from the ſhore to the ſhip whereto they belong; or as a ſignal for a pilot to repair aboard. See SIGNAL.

WAIST, 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, *houaiche*, 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*, of another, when ſhe follows her on the ſame track, or on a line ſuppoſed to be formed on the continuation of her keel. Thus the ſhips *a b*, fig. 11. and *a b*, fig. 7. plate V. are all in the wake of the foremoſt *b*. See the article LINE.

Two diſtant objects obſerved at ſea are called in the *wake* of each other, when the view of the fartheſt 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 ſort of large knot raiſed upon the end of a rope, by untwiſting the *ſtrands*, and interweaving them amongſt each other. See the article KNOT.

WALE-REARED, an obſolete phraſe, implying *wall-ſided*, which ſee.

WALES, *preceintes*, 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 *bows*. 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 L Q Z is the main-wale, and D R X the channel-wale, parallel to the former.

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.

WALL-SIDED, the figure of a ſhip's ſide, when, inſtead of being incurvated 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, 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*, 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 poſts, 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 leſſer 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 farther advanced.

Warping

Warping is generally uſed when the ſails are *unbent*, 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*, 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 claſſed 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 *road* 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-GLASSES, *horloge*, 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'E.

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, *lignes d'eau*, 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-

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.*

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 preſs 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-SPOUT, 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-ſpout 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 ſpout 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 farther confirmed by the comparing of accounts, when the different obſervers afterwards conferred about the ſubject. Hence whirlwinds and water-ſpouts 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 phænomena 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 its deſcent.

If theſe concentring currents of air be in the upper region, they may indeed deſcend in the ſpout or whirlwind; but then, when the united current

* I had often ſeen water-ſpouts at a diſtance, and heard many ſtrange ſtories of them, but never knew any thing 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 its 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-ſpouts, one of which took its courſe up the harbour. Its progreſſive motion was ſlow and unequal, not in a ſtrait 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 whiſked about, and carried up into the air with great rapidity and noiſe, and reflected a luſtre, 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 the ſame violence ſhingles, ſtaves, 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 overſetting; and, what is remarkable, tho' 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 timber, which it carried up into the air, and dropt again. After paſſing through the town, I believe it was ſoon diſſipated; 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 farther damage done by it. I conclude, wiſhing you ſucceſs in your enquiry, and am, &c. W. M.

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 preſs 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.

The whirlwind is ſaid to have appeared as a very black, long, and lofty cloud, diſcoverable, notwithſtanding the darkneſs of the night, by its continually lightening, 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 chimnies, breaking doors and windows, *forcing up the floors, and unpaving the rooms*, (ſome of theſe effects ſeem to agree well with a 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 ſpecifically 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 preſuppoſes a 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 preciſely 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

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, 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 ſubſiding, 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 leſſened, 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 fartheſt 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.

WATER-WAY, *gouttiere*, 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.

WAVE, 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

ſeem a natural conſequence of this, that the water put in motion by it can only be elevated to the ſame height 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 height 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 its 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 riſes, 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 its riſe 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 drineſs 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 farther 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 thereon are diſtinguiſhed by the ſame epithet; as, the weather-*ſhrouds*, the weather-*lifts*, the weather-*braces*, &c. See the article LEE.

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

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 choaked, and 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, paſſing 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 ſlighter, in proportion to the effort of the tide or ſea which it is to reſiſt, 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.

WHIP, a ſort of ſmall tackle, either formed by the communication of a rope with a ſingle immoveable 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 packthread, ſpun-yarn, &c. about the end of a rope, to prevent it from being untwiſted and looſened.

Boatſwain's WHISTLE. See CALL.

WHOODING. See the article RABBIT.

WINCH, a cylindrical piece of timber, furniſhed with an axis, whoſe extremities reſt 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 conve-

niently or more powerfully applied to any object, than when uſed ſingly, or without the aſſiſtance of mechanical powers.

WIND, *vent*, 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 divided into eight equal parts, called points, and each point into four 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 ſhews 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;

* 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.*

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 rarefied 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 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 latitudes 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° farther than what they extend to on the African ſide: Alſo, to the ſouthward of the equator, the trade-winds extend three or four degrees farther towards the coaſt of Braſil 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 Braſil 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

quent calms, 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, rarefies 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 eaſtermoſt of the Cape Verd iſles, there is a track 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 ſix degrees, ſhips are ſaid to have been ſometimes detained whole months.

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 Braſil, 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 ſouth, 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 Braſilian 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 September to April on the N. E.; and from March to October on the S. W. In the former half-year the wind is more ſteddy and gentle, and the weather clearer, than in the latter ſix months: and the wind is more ſtrong and ſteddy 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 Arabian ſea.

13th. To the eaſtward of Sumatra and Malacca on the north of the equator, and along the coaſts of Cambodia and China, quite through the Philippines as far as Japan, the Monſoons blow northerly and ſoutherly; the northern one ſetting in about October or November, and the ſouthern about May: The 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 mariners ſhould delay their voyages till the contrary Monſoon begins, they muſt either ſail back, or go into harbour, and wait for the return of the trade-wind.

The

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 its former ſituation.

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 *hoiſting*, *heaving*, *belaying*, *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.

WINDLASS, *vindas*, a machine uſed in merchant-ſhips to heave up the anchors from the bottom, &c.

The windlaſs 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-heads*, and is turned about in this poſition as upon an axis, by levers called handſpecs, which are for this purpoſe thruſt into holes bored through the body of the machine. See the article HEAVING.

The lower part of the windlaſs 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 *windlaſs*, and lined with plates of iron. Each of the pauls being accordingly hung over a particular part of the windlaſs, falls eight times into the notches at every revolution of the machine, becauſe there are eight notches placed on its circumference under the pauls. So if the windlaſs is twenty inches in diameter, and purchaſes 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 its 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 handſpec to the greateſt advantage; and to perform

this the ſailors muſt all riſe at once upon the windlaſs, and, fixing their bars therein, give a ſudden jerk at the ſame inſtant, in which movement they are regulated by a ſort of ſong or howl pronounced by one of their number.

The moſt dextrous managers of the handſpec in heaving at the windlaſs are generally ſuppoſed the colliers of Northumberland: and of all European mariners, the Dutch are certainly the moſt aukward and ſluggiſh in this manœuvre.

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 its height. It is let down perpendicularly through the *hatches*, being expanded at the lower end like the baſe of a cone; and having its 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 fartheſt removed from the middle of her breadth.

This term is particularly uſed in the ſtowage of the ſeveral materials contained in the hold; as, Stow the large caſks *amidſhips*, and the ſmaller barrels 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-breaſt, 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 diſcover any enemy which may fall into their track. To prevent ſeparation, however, 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*, (*woelen*, Dut.) the act of winding a piece of rope about a maſt or yard, to ſupport it in a place where it may have been *ſiſhed* 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, *manœuvrer*, 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 tempeſtuous 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*, 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

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.

Concluſion of the article PUMP.

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 kelſon, 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 ſeaford frigate, it appears, in a report ſigned by rear admiral Sir John Moore, 12 captains, and 11 lieutenants of his majeſty's navy, that its effects, when compared with the latter, were as follow.

New Pump.			Old Pump.		
Number of Men.	Tuns of Water.	Seconds of Time.	Number of Men.	Tuns of Water.	Seconds of Time.
4	1	43½	7	1	76
2	1	55	4	1	81

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 refitted for action, after being choaked with ſand or gravel; which they are of opinion may be performed in four or five minutes.

X.

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 ſort of railed platform or gallery, projects farther 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 thoſe 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.

Y.

YACHT, a veſſel of ſtate, uſually employed to convey princes, ambaſſadors, 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 furniture, 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*, 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 maſt 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 *ſlings*, towards the extremities which are termed the *yard-arms*; and the diſtance between the ſlings 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 fruſtrum 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:

			Guns.
1000 : gun-deck : :	560 :	main yard expreſſed	100
	559 :	by *d*, fig. 1. plate IX.	90 80
	570 :	*Note*, the figure re-	70
	576 :	preſents the yards	60
	575 :	and ſails of a ſhip	50
	561 :	of 74 guns.	44
1000 : main-yard : :	880 :	fore-yard	100 90 80
	874 :		all the reſt.

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.

1000 : main-yard : :	820 :	mizen-yard	100 90 80 60 44
	847 :		70
	840 :		24

			Guns.
1000 : main-yard : :	726 : 720 :	main topſail-yard *e*, fig. 1. plate IX.	24 all the reſt.
1000 : fore-yard : :	719 : 726 : 715 :	fore topſail-yard	70 24 all the reſt.
1000 : main topſail-y^{d}. : :	690	main top-gall.yard	all the rates.
1000 : fore topſail-y^{d}. : :	696 : 690 :	fore top-gall. yard *f*, fig. 1. plate IX.	70 all the reſt.
1000 : foretopſail-y^{d}. : :	768 : 750 :	mizen topſail-yard	70 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 yard 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 ſprit-ſail 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 *h*, *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 polacre. See thoſe articles.

To brace the YARDS, *braſſer*, 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, a 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 *ſheaves* 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 its oppoſite extremities to the *ſtern-ſheets* of the boat, whereby ſhe is ſteered as with a tiller.

SUPPLEMENT and ERRATA.

A.

IN the article ABACK, *line* 19. *for* fig. 1. *read* fig. 14. *and in line* 22. *read* fig. 13.

After the ANCHOR is a cock bill, *read* à la veille.

AN-END, *debout*, 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.

In line 24. *page* 2. *of* Naval ARCHITECTURE, *dele* ſee the article Elevation, *and line* 21. *under this in the ſame page, for* plate V. fig. 4. *read* plate IV. fig. 11.

In the explanation of the pieces of the Hull, *page* 6. *of* Naval ARCHITECTURE, *line* 31. *for* ſternpoſt, *read* dead-wood, *and two lines lower, for* ſleepers, *read* knees.

In line 34. *page* 9. *of the ſame article, for* O K, *read* O *k*.

Top-ARMOUR. See the article TOP.

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

In the article AWEIGH, *after the words* perpendicular direction, *read* as in fig. 6. plate 1.

B.

To BAGPIPE *the Mizen*, is to lay it *aback*, by bringing the ſheet to the mizen ſhrouds.

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

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 aſunder.

In the 2d page of the article BOAT, *line* 13. *from the bottom, for* of framed iron, *read* framed of iron.

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 a-ground, or ſtranded.

For the articles BOLT and BOOM-IRON, ſee IRON-WORK, as corrected below.

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

In the article BREAM, *the laſt line except one, read* or by docking.

IN-BULK, *ſee* LADEN.

BUM-BOAT, a ſmall boat uſed to ſell vegetables, &c. to ſhips lying at a diſtance from the ſhore.

C.

In the article Can-BUOYS, *for* fig. 8. *read* fig. 6. *and in* Nun-BUOYS, *for* fig. 9. *read* fig. 7.

In Can-HOOKS, *dele* and 9.

In the 4th page of the article CANNON, *line* 22. *for* fig. 17. *read* fig. 10. *and in the 5th page of the ſame article, line* 11. *read the figures* 8. and 10.

Line 14. *of* CAPSTERN, *for* fig. 10. *read* fig. 11. and 12.

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

COMING-TO. See the article TRYING.

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

CROWFOOT, *line* 3. *for* 27. *read* 28.

D.

DAVIT, *line* 2. *for* 28. *read* 29.

In the explanation of DECK, plate III. *for* L the deck-tranſom, *read* L the wing-tranſom, *and nine lines lower, read* Q the wing-tranſom-knee.

In DIVISION, *line* 7. *after* cannon, *read* each.

DOUBLE-BANKED, the ſituation of the oars of a boat when two oppoſite ones are managed by *rowers* ſeated on the ſame bench, or *thwart*. The oars are alſo ſaid to be double-banked when two men row upon every ſingle one.

DRAWING, the ſtate of a ſail when it is inflated by the wind, ſo as to advance the veſſel in her courſe.

E.

In the 12th page of the article ENGAGEMENT, *line* 18. *for* have as many, *read* ſave as many.

F.

FIRE-SHIP, *line* 10. *after* bulk-head, *for* I, *read* L.

FLAW, a ſudden breeze, or guſt of wind.

FLUSH. See the article DECK.

G.

GAMMONING, *line* 4. *for* fig. 7. *read* fig. 6, 8, and 9.

GRIPE, the ſame with FORE-FOOT. See that article.

GUY, *line* 1. *read* to keep ſteddy.

H.

HAUSER, 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.

In the 3d page of the article HEAD, *line* 26. *after* beams, *read* or; *and ſix lines lower, read* the head, and part, &c.

I.

In the article IRON-WORK, *line* 14. *dele* as in fig. 1. and 2. plate II. *and two lines lower, for* fig. 4. *read* fig. 1. plate II. *and in the next line, for* fig. 5, 6, and 39. *read* fig. 3, and 39. *Seven lines below this, after* barbs, *read* fig. 2. *and in the 2d line from the bottom, for* fig. 7. *read* fig. 5.

K.

To KEEP-OFF *for* alargeer, *read* alarguer.

In line 9. *of the article* KETCH, *after* war, *read* ſee fig. 5. plate VII.

L.

LANCH, the order to let go the *top-rope*, after any top maſt is *fidded*.

LEDGES, 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.

Line 10. *of the article* LINE, *for* fig. 5. *read* fig. 6.

M.

MIDSHIPMAN, *line* 4. *for* all other, *read* ſeveral other.

In page 2*d of the article* MORTAR, *line* 9. *after* diſtance, *read* from the object, &c. *and in page* 3. *of the ſame article, line* 2. *for* fig. 14. plate VII. *read* fig. 5. and 20. 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.

Q.

QUARTERING-WIND. See the article SAILING.

R.

RACK, *raſteau*, a frame of timber, containing ſeveral *ſheaves*, and uſually fixed on the oppoſite ſides of a ſhip's bow-ſprit, to direct the ſailors to the reſpective ropes paſſing through it, all of which are attached to the ſails on the bowſprit.

In page 4. *of the article* RATE, *line* 14. *for* without, *read* to avoid.

After the article RIDING, *read*, 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.

S.

SALLY-PORT. See the article FIRE-SHIP.

SCUD, a name given by ſeamen to the loweſt and lighteſt clouds, which are moſt ſwiftly wafted along the atmoſphere by the winds.

SHALLOP, a ſort of large boat with two maſts, and uſually rigged like a *ſchooner*.

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 its abſolute poſition, as to its relative effect on the veſſel.

In line 9. *of the article* STERN, *for* fig. 1. *read* fig 3. *and thirteen lines lower, after* third tranſoms, *dele* with *l, m, n, o*: four intermediate tranſoms, *and read* the 4th, 5th, and 6th tranſoms are placed immediately under theſe: and that which lies between the wing and deck-tranſoms, is called the filling-tranſom.

T.

THICK-STUFF. See the articles SHIP-BUILDING and MIDSHIP-FRAME.

In page 2. *of the article* TOP, *line* 19. *for* fig. 2. plate VI. *read* fig. 1. plate IX.

A

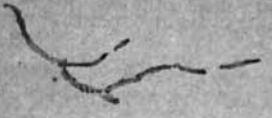
TRANSLATION

OF THE

PHRASES AND TERMS OF ART

IN THE

FRENCH MARINE.



ERRATA.

In the Article

ALLER *en course*, read, in ſearch of an enemy.
AMURE', r. larboard or ſtarboard-tacks.
BARRES *de panneaux*, &c. r. under the covers of the hatchways.
CHEVILLE *œillets*, &c. r. CHEVILLE *à œillets*, &c.
CLEF *des etains*, for cheek, r. chock.
CORDE *de retenue* (art. 2d.) r. alſo the pendant, &c.
COUP *de partance*, r. as a ſignal, &c.
For DEPLOER, r. DEPLOIER.
FAIRE *honneur*, for *a quelqu'* r. *à quelqu'*, &c.
FAIRE *le petit*, r. FAIRE *la petit*, &c.
FERS, r. *de boute-dehors*.
FILET, &c. for *merlin*, a marling, r. *merlin*, marline, &c.
For *La lune à* MANGE', r. *la lune a* MANGE', &c.
MARCHE-PIED, for draw their boats, r. drawboats, &c.
OLOFE/E, for ſpring, r. ſpringing, &c.
PACFI, after PAFI, r. a courſe, as *le grand* &c.
PIECE *de charpente*, for pieces, r. piece.
POMPE, *for Vénitienne*, r. *Vénetienne*.
Longue RIME, for along ſtroke, r. a long ſtroke.
After SOU-BARBE, r. the bob-ſtay; alſo a bracket, &c.
SOULIE, for on ſhore, r. or ſhore.
TIERS *point*, for LATEEN, r. LATINE.
TREMUE, for comeings, r. coamings.

TRANSLATION

OF

FRENCH SEA TERMS and PHRASES.

ABATE'E, or ABBATE'E, fallen off to a certain point; expreſſed of a ſhip when ſhe lies by, with ſome of her ſails aback.

ABATTRE, to bear away, to drive, to edge farther to leeward.

ABATTRE *un vaiſſeau*, to heave down or careen a ſhip.

*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.

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 ſail, or otherwiſe in motion.

ABORDER *un vaiſſeau de bout au corps*, to lay a ſhip aboard by running the bowſprit over her waiſt.

ABOUGRI, or RABOUGRI, croſs-grained, or knotty; a term applied by ſhipwrights to timber which is, by this quality, 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.

ABRI, a place of anchorage under ſhelter of the weather-ſhore. Hence

ABRIE', becalmed, ſheltered from the wind.

ACASTILLAGE, or rather ENCASTILLAGE, a general name for the quarter-deck, poop, and fore-caſtle. Hence *accaſtillé* anſwers to deep-waiſted.

ACCLAMPER, to fortify a piece of wood by attaching another piece thereto; as the maſts which are fixed on the maſts.

ACCON, a ſmall flat-bottomed boat, for fiſhing of cockles.

ACCORD, the order to pull together on a rope or tackle; alſo to row together, or pull uniformly with the oars.

ACCORDS, or ACCORES, props or ſhoars fixed under a ſhip's wales, to keep her upright, before ſhe is launched, or when ſhe is brought into dock, or laid aground.

ACCORD *droit*, an upright ſhoar 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 huniers ou les perroquets*, to haul home the top-ſail ſheets, or top-gallant ſheets.

ACCOTAR, the gunnel-plank of a ſhip. See PLAT-BORD.

ACCOURSIE, a paſſage formed in a ſhip's hold, by a ſeparation of her ſtores, cargo, or proviſions, when ſhe is laden, to go fore and aft, as occaſion requires.
ACCROCHER, the act of boarding and grappling an enemy's ſhip.
ACCUL, the depth of a bay, or ſmall road.
ACCULEMENT, the concavity and figure of thoſe timbers which are placed upon the keel, towards the extremities of a ſhip.
ACROTERE, a cape, head-land, or promontory.
ACTE *de delai*, 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.
ADDONER, 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 embayed, or forced, by the violence of the wind, or current, near to a lee ſhore.
AFFALER, to lower any thing by a tackle, as a yard, ſail, caſk, &c.
AFFINE, it clears away, or becomes fair: underſtood of the weather, after having been cloudy or over-caſt for ſome time.
AFFOLE'E, erroneous or defective; ſpoken of a magnetical needle which has loſt its virtue.
AFFOURCHER, to moor, or let go a ſecond anchor, ſo that a ſhip may ride between the two, which will bear an equal ſtrain.
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 cannon uſed at ſea.
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.
AGREILS, or AGRE'S. There is no ſea-term in Engliſh which anſwers to this expreſſion, in its full extent; unleſs we adopt the obſolete word *Tackling*, which is now entirely diſuſed by our mariners. The French term comprehends the rigging, yards, ſails, blocks, cables, and anchors; and is probably better tranſlated, machinery or furniture.
AIDE *major*, an officer whoſe duty reſembles that of our adjutant of marines.
AIDE *de canonnier*. See CANONNIER.
AIGU, ſharp or narrow towards the two ends, afore and abaft.
AIGUADE, a watering-place for ſhipping; alſo the proviſion or quantity of freſh water neceſſary for a ſea-voyage.
AIGUILLE, part of a ſhip's cut-water. See EPERON. This term appears to be obſolete, as it is not once mentioned by M. Du Hamel, who is very minute in deſcribing the ſeveral pieces of the cut-water.
AIGUILLE alſo implies a top-maſt, or ſuch like piece of timber employed to ſupport a lower-maſt, in the act of careening.
AIGUILLE *de fanal*, an iron crank or brace, uſed to ſuſtain the poop-lanthern.
AIGUILLE *aimantée*, the magnetical needle.
AIGUILLES *de tré* or *de trevue*, ſail-needles, bolt-rope-needles.
AIGUILLETES. See PORQUES.
AILURES. See ILLOIRES.
AIMANT, the magnet or loadſtone.
AIR *de vent*, the point of the compaſs in which the wind ſits.
AISEMENT, a place of convenience in the gallery or head of a ſhip.
AISSADE, that part of the poop where the ſhip's breadth begins to diminiſh as it approaches the ſtern.
A LA BOULINE, cloſe hauled. See ALLER *à la bouline*.
ALARGUER, to ſheer off; to ſail aloof from the ſhore or ſome contiguous object.

A L'AUTRE, 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 LOOK-OUT AFORE.

ALIDADE, the index of a nocturnal or ſea-quadrant. See OCTANT.

ALIZE', the reigning wind of a particular ſeaſon or region.

ALLEGE, a lighter or pram.

ALLE'GER *un vaiſſeau*, to lighten a ſhip by taking out part of her lading.

ALLE'GER *le cable*, to buoy up the cable by attaching barrels, or pieces of timber, to it lengthwiſe, to float it up from a rocky or foul ground: alſo to veer away the cable.

ALLER *à la bouline*, to ſail cloſe by the wind, or cloſe hauled.

ALLER *à groſſe bouline*, to ſail with the wind upon the beam, or large.

ALLER *à la derive*, to try under bare poles, or to try a-hull. See DE'RIVE.

ALLER *au plus près du vent*, to ſail as near the wind as poſſible.

ALLER *de bout au vent*, to go head to wind, to ſail right in the wind's eye.

ALLER *en courſe*, to cruiſe againſt, or in ſearch of, an the enemy.

ALLER *entre deux écoutes*, to ſail right afore the wind, or with both ſheets aft.

ALLER *vent largue*, to ſail large, or with a large wind.

ALLER *terre à terre*, to coaſt, or ſail along ſhore.

ALLONGE, a ſuttock, or top-timber. See COUPLE and VARANGUE.

ALMADIE, a ſmall African canoe, formed of the bark of a tree.

ALONGER *un vaiſſeau*, to lay a ſhip along-ſide of another.

ALONGER *le cable*, to haul up a range of the cable upon deck.

ALONGER *la vergue de civadiere*, to get the ſprit-ſail-yard fore and aft under the bowſprit.

ALONGER *la terre*, to ſail along ſhore.

AMARQUE, the beacon, or buoy, of a ſhoal, flat, or ſand-bank.

AMARRAGE, the ground-tackling, or furniture for mooring a ſhip.

*Ligne d'*AMARRAGE, a ſeiſing or laſhing.

AMARRE, the order to faſten or belay a rope.

AMARRE *de bout*, the head-faſt, the head-cable, or hawſer with its anchor.

AMARRER, to make faſt, ſeiſe, or belay.

AMATELOTER, to meſs together, to aſſociate as comrades or meſs-mates.

AME *d'un groſs cordage*, the middle ſtrand of a four-ſtranded rope.

AMENER, to lower or ſtrike. Hence AMENE, lower away, or ſtrike.

AMENER *une terre*, to make the land, &c.

AMIRAL, Admiral. Hence

AMIRAUTE', the admiralty.

AMOLETTES or AMELOTES, the bar-holes of the capſtern or windlaſs.

AMORCER, to prime a cannon or other fire-arm.

AMPOULETTE, the watch-glaſs, kept in the binacle.

AMURE' *à babord*, or *à ſtribord*, to have the larboard tacks aboard.

AMURER, to haul aboard the main or fore-tack.

AMURER *la grand 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. See DOGUE *d'Amure*.

AMURES *d'une voile*, the tacks of boom-ſails and flay-ſails.

ANCETTES, the bow-line cringles in the bolt-rope of a ſail.

ANCRE, an anchor. Hence ANCRAGE, the duty of anchorage. See MOUILLAGE.

ANCRE *à demeure*, a large anchor ſunk in a road or harbour, to warp ſhips in and out, or ride them a ſhort time.

ANCRE *à la veille*, an anchor which is ready to be ſunk from the ſhip.

ANCRE *de flot*, & ANCRE *de juſſant*, the flood-anchor and ebb-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.

L'ANCRE *a quitté*, l'ANCRE *eſt dérangée*, the anchor is a-trip, or a-weigh.

L'ANCRE *eſt au boſſoir*, the anchor is at the cat-head.

*A l'*ANCRE, ſee VAISSEAU *à l'ancre*. *Boſſer l'*ANCRE, ſee BOSSER. *Caponner l'*ANCRE, ſee CAPON.

*Faire venir l'*ANCRE *à pic*, or *à pique*, *virer 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, to drive at anchor.
Filer ſur les ANCRES. See FILER.
*Leve l'*ANCRE *avec la chaloupe*, go and weigh the anchor with the long-boat.
*Leve l'*ANCRE *d'affourché*, the order to veer away one cable, and heave upon the other.
ANCRER, or *Jetter l'ancre*, *Mouiller l'ancre*, or ſimply *Mouiller*, *Donner fond*, *Mettre*, or *Avoir le vaiſſeau ſur le fer*, *Toucher*, *Laiſſer tomber l'ancre*. All theſe terms are ſynonimous, and ſignify to bring up, to anchor, to come to anchor, or to let go the anchor.
ANGE, chain-ſhot.
ANGUILLERES, ANGUILLES, or ANGUILLE'ES, *Lumieres*, *Vitonnieres*, ſynonimous terms, which ſignify the limber-holes.
ANNEAU *pour attacher les vaiſſeaux*, a mooring-ring on a wharf, buoy, &c.
ANNEAU *de corde*, a ſlipping-nooſe, a running bowline-knot.
ANNEAUX *d'écoutilles*, or *boucles*, ring-bolts of the deck, &c.
ANNEAUX *d'étai*, the hanks of a ſtay-ſail. See DAILLOTS.
ANNEAUX *de ſabords*, ring-bolts of the gun-ports.
ANORDIE, a northerly ſtorm peculiar to the gulph of Mexico, and the adjacent coaſts, at certain ſeaſons of the year, called by the Engliſh Creoles, a North.
ANSE, a bight or ſmall bay.
ANSPECT, a handſpike or lever.
ANTENNE, a lateen ſail-yard. See VERGUE.
ANTOIT, a crooked inſtrument of iron, uſed to bind the ſide-planks round the timbers in ſhip-building. Engliſh artificers perform this operation by wraining-bolts and ſtaffs.
A PIC, a-peek, perpendicularly above the anchor, with a tight cable.
APIQUER *une vergue*, to top a ſail-yard, or peek it up.
APLESTER, or APLESTRER, to unfurl and ſet the ſails, ready for putting to ſea.
APOSTIS, the row-locks of a galley.
APOTRES, the hawſe-pieces of a ſhip.
APPARAUX, or APARAUX, the whole furniture of a ſhip, as the ſails, yards, blocks, anchors, cables, helm, and artillery. This term is therefore more comprehenſive than *Agrès*, and leſs ſo than *Equippement*, which, beſides the above, includes the ſeamen, ſoldiers, and their proviſion.
APPARCELADO, a flat, equal and uniform bottom of the ſea.
APPAREIL *de carene*, the careening-parchaſes; alſo the neceſſary implements and materials employed in careening.
APPAREIL *de pompe*, the pump-gear, as the boxes, brake, ſpear, &c.
APPAREILER, to make ready for ſailing, to get under ſail.
APPARTEMENT, a birth, cabin, or ſtore-room, in a ſhip.
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 bonne*.
AQUE, or ACQUE, a ſort of flat-bottomed lighter employed on the Rhine.
ARAIGNE'ES, the crow-feet of the top.
ARAMBER, to cloſe in with a ſhip and grapple her.
ARBALETE, a croſs-ſtaff or fore-ſtaff.
ARBALETRIERE, a platform, or gangway, on which the ſoldiers ſtand to fire their muſquetry in a row-galley.
ARBORER *un mât*, to ſtep or ſet up a maſt, to get the maſt an end.
ARBORER *un pavillon*, to hoiſt and diſplay a flag or enſign.
ARBRE, a maſt, in the dialect of Provence. See MAT.
ARC, or *ligne courbe de l'éperon*, the carve of the prow or cutwater.
ARCANNE, a ſort of red chalk uſed by ſhipwrights in France, to mark the timber in hewing or forming it.
ARCASSE, the ſtern of a ſhip; alſo the ſhell of a block.

ARCBOUTANT, a ſpar or ſmall maſt; more particularly, a boom to extend the bottom of a ſtudding-ſail, ſquare-ſail, or driver.

ARCBOUTANT *d'échafaud*, the prop or ſhoar of a ſcaffold uſed in ſhip-building.

ARCEAUX, a name formerly given to the rails of the head. See LISSE *de poulaine*.

ARCENAL *de marine*, a royal dock-yard, with its warren or gun-wharf.

ARCHE, a thin covering of lath or ſhingle, and ſometimes of rope, which caſes 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 corpoſant, or meteor, often ſeen at ſea in a ſtorm. See FEU *St. Elme*.

ARDENT, the quality of griping 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'ancre*, the anchor-ring.

ARGOUSIN, a petty officer in the gallies, whoſe duty it is to fix on, or take off the ſhackles of the ſlaves, and to prevent them from eſcaping. It anſwers nearly to the corporal of a ſhip of war. See PREVÔT.

ARISER *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 marque 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 vaiſſeau*, 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, ſettees, tartans, &c.

ARQUE', broken-backed or hogged, drooping at the ſtem and ſtern.

ARRET *de vaiſſeaux & fermetures de port*, an embargo laid on ſhipping.

ARRIERE, abaft; the hind part of a ſhip.

Faire vent ARRIERE, to bring the wind aft, or aſtern.

ARRIERE-GARDE *d'une armée navale*, the rear-diviſion of a fleet of veſſels of war.

ARRIMAGE, the ſtowage or diſpoſition of the cargo in the hold.

ARRIMER, to ſtow the hold, to trim the ſhip by her ſtowage. Whence

ARRIMEUR, a ſtower.

ARRISER, or AMENER. See AMENER.

ARRIVAGE, an arrival of merchandiſe in a port or haven.

ARRIVE, the order to put the helm a-weather, bear away, or edge farther to leeward.

ARRIVE *tout*, hard a-weather. The order to put the helm cloſe to windward.

*N'*ARRIVE *pas*, don't fall off; loff.

ARRIVE'E, the movement of veering or bearing away.

ARRIVER, to bear away before the wind.

ARRIVER *ſur un vaiſſeau*, to bear down on a ſhip.

ARRIVER *beaucoup*, to veer apace.

ARTILLE', or ARTILLIE', mounted with cannon: as, *vaiſſeau* ARTILLIE' *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, *etre 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 rabbiting, ſcarfing, ſcoring, tenanting, &c.

ASSUJETTIR, to fix a piece of timber firmly in its place, in ſhipbuilding.

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 go with sails and oars.
ATTEINDRE, to join a ship at sea, either by accident or pursuit.
ATTELIER *de Construction*, a shed or store-house to contain shipwrights tools; a loft or work-house near the dock; a wharf, or place for building sea-vessels.
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, the pendant or guy of the relieving tackle used in careening a ship. See CORDE *de retenue*.
AVAL. See AVAU *l'eau*.
AVANT, forward, afore, ahead.
*Etre de l'*AVANT, *se mettre de l'*AVANT, to be in the van of, or ahead in, a fleet.
*Le vaisseau 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 be to windward of some other ship.
AVANT-GARDE, the van of a fleet of vessels of war.
AVARIE, 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.
AVASTE, avast.
AVAU *l'eau*, to sail with the tide, to tide it up or down a river.
AUBALE'TRIERES, a sort of stanchions or pillars erected on the sides of a row-galley, to support the rails of the gang-way, and form the bed-place of a soldier.
AUBIER, the sap of timber.
AUBINET, or *Saint* AUBINET, no man's land.
AUGE *à goudron*, a tar-bucket.
AVIRON, an oar. See RAME.
AVITAILLEMENT, or AVICTUAILLEMENT, the sea-victualling or provision of a ship.
AVITAILLEUR, or AVICTUAILLEUR, an agent-victualler, or contractor for supplying a ship with sea-provisions.
AU LOF, luff. The order from the pilot to steer nearer the wind. See OLOFE'E.
AUMONIER, the sea-chaplain.
AVOCAT *Fiscal*. See FISCAL.
AVOIER, to rise, to freshen; expressed of the wind when it has changed.
AVOIR *gagné*, to have fore-reached, or gained upon; spoken of a vessel, relatively to some other in sight.
AVOIR *le pied marin*, to have good sea-shoes aboard, to walk firm in a ship like a sailor.
AVOIR *pratique*, to have pratic, or free intercourse with the natives, after having performed quarantine.
AVOIR *vent arriere*, to have the wind aft.
AVOIR *vent de bout*, to have the wind right an end, or a head. See ALLER *de bout*, &c.
AU *plus pres de vent*, close upon a wind. See ALLER *au plus pres*, &c.
AUSSIERE, or HAUSIERE, a hawser or small cable.
AUTAN, a gust or squall of wind from the south.
AUTARELLES, the thoules or rowlock-pins of a galley.
AVUSTE, or AJUSTE, a bend, or knot, by which the ends of two ropes are fastened together.
AVUSTER, to bend or tie two ends of ropes together.

B.

BABORD. See Bas-bord.
BAC, a large flat-bottomed ferry-boat, for horſes, carriages, &c.
Bac *a naviger*, a punt, or ſmall boat, uſed by the ſhipwrights to carry tar, pitch, &c.
BACALAS, cleats of various kinds.
BACALIAU, a name given to dried ſalt cod-fiſh.
BACASSAS, a ſort of lighter, ſomewhat reſembling an American periagua,
BACHE, or Bachot, a yawl or wherry.
BACLAGE, a tier of boats, moored along-ſide of each other.
BACLER *les ports*, to fortify harbours by fixing chains or booms athwart their entrances; alſo to bar in the gun ports of a ſhip.
BAGUE, a ſmall grommet, or wreath of an eye-let hole in a ſail.
BAIE. See Baye.
BAILLE, 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 ſalt proviſions.
BAJOU, or Bajon, a ſort of tiller.
BAISSER, to fall down with the tide, to drive or be carried along, according to the courſe of the ſtream.
Baisser *le pavillon*. See Amener.
Baisser *les voiles*, to lower the ſails.
BALAI *du ciel*, the ſweeper of the ſky; a name given by ſailors to the north-weſt winds of America, which always bring clear weather.
BALANCIER *de lampe*, the rings by which the lamp is ſlung in the binacle.
BALANCIERS *de compas*, or *de bouſſole*, the gimbals of a ſea-compaſs, by which it is hung in equilibrio.
BALANCINES, or Valancines, lifts of the yards.
Balancine *de chaloupe*, the topping-lift of a boat.
BALANT, the bight or ſlack part of a rope, alſo the part which is unemployed.
BALAST. See Lest.
BALAYEUR *d'un navire*, 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 ſhoal or dangerous channel.
BALOIRES, a name ſometimes given to water-lines, and to horizontal ribbands. See Ligne *d'eau*.
BALON, a ſort of galley or barge of Siam.
BANC, a ſand-bank; alſo the bench, thwart, or beam of a boat.
Banc *à s'aſſeoir*, the ſeats or benches placed in the ſtern-ſheets of a boat or ſmall veſſel.
Banc *à coucher*, a ſort of folding bed-ſtead, or ſettee-bed.
Bancs *de rameurs*, 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.
Avoir ſon vaiſſeau à la Bande, to have his ſhip laid on the careen.
Bande *de ſabords*, 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.
BANDIERES, the flag or colours: this term is peculiar to the gallies.
BANDINS, a ſort of ſtanchions or ſmall pillars, ornamented with ſculpture, and uſed to ſupport the after-canopy or awning of a row-galley.
BANDOULIERE, a cartridge-box for muſquetry, uſed by the marines or others who fight with ſmall arms.

BANNEAU. See Boue'e.

BANNIERE, a Levantine term for the colours. See Bandiere.

BANQUE, a banker, or veſſel which fiſhes on the banks of Newfoundland, &c.

BANQUETTES, the ſtretchers of a galley or row-boat.

BAPTÊME, the ceremony of ducking a ſailor the firſt time he paſſes 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 Barraterie, the forfeiture or fine paid by the maſter of a ſhip and his crew, for embezzling 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, a ſhort cannon, reſembling 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.

BARIL, 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 on board of a veſſel. This term is peculiar to the galleys.

BARIQUES *a feu*, or *foudroyantes*, thundering-barrels, or caſks which contain the fire-pots in a fire ſhip.

BARQUE, a ſettee, or three-maſted veſſel with lateen ſails.

Barque *à eau*, a watering-boat, or veſſel employed for carrying water.

Barque *d'avis*, an advice-boat.

Barque *de deſcente*, a ſort of lighter.

Barque *de vivandier*, a proviſion-boat, a bumboat.

Barque *droite*, the order to trim the boat upright, when ſhe heels.

Barque *en fagot*, a boat in frame, an aſſemblage of all the pieces of a boat, ready formed and put on board a ſhip, in order to build her at the place where ſhe may be required.

Barque *longue*, or *double chaloupe*, a ſort of pinnace, or large long-boat.

BARQUEROLES, Barquette, or Barcanette, a ſort of paſſage 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'arcaſſe*, a tranſom. See Lisse *de hourdi*.

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.

Change la Barre, the order to the ſteerſman to ſhift the helm.

Pouſſe la Barre *à arriver*, no nearer, put the helm a-weather.

Pouſſe la Barre *à venir au vent*, luff, or keep your luff.

Barre *de cabeſtan*, the pump-ſpear.

Barre *de pont*, the deck-tranſom, parallel to the wing-tranſom.

BARRER, to ſecure; as, Barrer *un port*, to ſecure or defend a harbour, by fixing a boom acroſs the mouth of it.

BARRES, the booms or chains fixed acroſs a harbour, to ſecure it from the aſſaults of an enemy.

Barres *de cabeſtan*, the bars of the crab or capſtern.

Barres *de contre-arcaſſe*, or *ſous-barres d'arcaſſe*, the lower tranſoms.

Barres *d'écoutille*, the hatch-bars.

Barres *de hune, barreaux*, or *teſſeaux*, the frames of the croſs-trees and treſſel-trees.

Barres *de panneaux d'écoutille*, the carlings, or ledges placed athwart under the hatch-ways.

BARRES *de porte*, the gun-port bars, by which their covers are faſtened in.
BARRES *de virevaut*, the hand-ſpikes, or bars of the windlaſs.
BARRILLARD. See BARILLARD.
BARROTE, full to the beams; an epithet given to a veſſel which is laden up to the beams of her deck. Whence
BARROTER, to lade a ſhip, &c.
BARROTS, the beams of the higher decks.
BARROTINS, ledges, or ſmall ſpars, placed between the beams.
BARROTINS *de caillebotis*, ledges of the gratings.
BARROTINS *d'ecoutilles*, the ſpurs of the beams, or the pieces which are joined to the beams to fortify the deck a-breaſt of the hatchways.
BAS *de foie*, iron-garters; a cant term applied to bilboes or fetters.
BAS *du vaiſſeau*, the lower parts of a ſhip.
BAS *le pavillon*, haul down the colours.
BASBORD, the larboard or left ſide of a ſhip.
Vaiſſeau de BASBORD, a low-built veſſel, whoſe deck extends not to her whole length.
BASBORD *tout*, hard a-port; the order to put the helm cloſe to the larboard ſide.
BASBORDES or BASBORDUIS, the larboard-watch.
BASE *des ſabords*, the plank between the lower edges of the gun-ports and the wale.
BAS-FOND, a ſhoal or ſhallow.
BASSE, or BATURE, a ridge of rocks, ſand-banks, &c. with breakers.
BASSE *eau*, low-water, the laſt of the ebb.
BASSES *voiles*, the courſes, or principal lower ſails, of a ſhip.
BASSIN, a baſin or baſon; alſo a ſmall harbour within a larger one.
BASTARD *de racage*, the parrel-rope.
BASTARDE, the largeſt ſail of a galley, which is only carried in fair weather and light winds.
BASTARDES, or BATARDELLES, ſquare-ſterned row-gallies.
BASTINGUAGE, painted quarter-cloths, or waiſt-cloths; alſo the quarter-nettings, &c.
BASTUDE, a peculiar ſort of fiſhing-net.
BATAILLE *navale*, a general or particular ſea-fight.
BATARDEAU, a ſort of dam.
BATAYOLLES, the quarter-ſtanchions, or the ſtanchions which ſupport the rails of the waiſt and quarter.
BATAYOLETTES, ſmall ſtanchions, uſed to ſuſtain the awnings.
BATEAU, a general name for ſeveral kinds of boats; as
BATEAU *déleſteur*, a ballaſt-boat, or lighter.
BATEAU *pêcheur*, a fiſhing-boat, &c.
BATELE'E, the lading, or number of paſſengers, to be carried in a boat.
BATELIERS, the boat-men, the wherry-men.
BATIMENT, a veſſel or ſmall ſhip of any kind.
BATON *aſtronomique*, Jacob's ſtaff; an inſtrument formerly uſed for taking altitudes at ſea.
BATON *à meche*, a lint-ſtock. See BOUTEFEU.
BATON *de flamme*, the ſtick which ſpreads the inner part of a pendant.
BATON *de giroüette*, the ſpindle upon which the vane turns, at the maſt-head.
BATON *de juſtice*, a cobbing-board.
BATON *de pavillon*, or *d'enſeigne*, the flag-ſtaff, or enſign-ſtaff.
BATON *de vadel*, or *de guiſpon*, the handle of a long tar-bruſh, or pitch-mop.
BATONNE'E *d'eau*, the quantity of water thrown out by the pump at each ſtroke of the brake or handle.
BATTANT *de pavillon*, the fluttering or waving of an enſign, as it flies in the wind.
BATTERIE, the whole range of cannon placed on both ſides of any one deck in a veſſel of war,
BATTERIE *& demie*, a deck and a half of cannon; ſpoken of a frigate which carries cannon on her upper-deck and quarter-deck only.

Mettez la BATTERIE *de hors*, run the guns out.
Mettez la BATTERIE *dedans*, run in the guns.
BATTRE *aux champs*, to ſound 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 ſailing.
BATTU, weather-beaten, ſhattered by a ſtorm, or diſabled in battle.
BATTURE. See BASSE.
BAU, a beam of the lower-decks.
BAU *de dale*, the hindermoſt or aftmoſt beam.
BAU *de lof*, 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-*faux*, or *Faux*-BAUX, beams of the orlop.
BAUDET, a ſawyer's frame, horſe, or treſle.
BAUQUIERES, 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 vaiſſeaux*, the holes in the deck through which the maſts are let down, called alſo the partners.
BEAUPRE', the bowſprit. Whence
Petit BEAUPRE', the jib-boom, or ſprit-ſail top-maſt.
BEAUPRE' *ſur pouppe*, 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.
BE'LANDRE, 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 waſt of the enſign.
Mettre le pavillon en BERNE, to hoiſt the enſign with a waſt.
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 cann.
BIGOTS, the ribs of a parrel. See RACAGE.
BIGUES, certain props, or ſhoars, let into the ports of a ſhip, to bear her up when ſhe reſts upon the ground; alſo the maſts of a ſheer-hulk.
BILLE, the beckets 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, afore and aft. 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, whereon to faſten a cable.
BITTONS, or TAQUETS, the top ſail-ſheet bits.
BITTURE, a range of the cable drawn upon the deck, ready for bitting.
BLEU, a temporary or acting officer, who performs the duty of another while ſick or abſent.

BLIN, a machine uſed to drive the wedges under a ſhip's bottom, when ſhe is to be launched.

BLOCQUER, or BLOQUER. See PLOCQUER.

BOIS, wood or timber.

BOITE *du gouvernail*, the rudder-caſe, or the box placed above the rudder-head, upon deck, through which the tiller paſſes.

BOMBARDE, a bomb-veſſel, a ketch.

BOMBE', incurvated; an epithet given by ſhipwrights to crooked timber, fit for knees, crotches, or ſtandards.

BOMERIE, bottomry.

BON-FRAIS, a freſh of wind, or freſh gale.

BONNACE, calm weather, with a ſmooth ſea.

BONNE *de nage*, ſwift of rowing, a fine rower.

BONNE-VOGLIE, a volunteer-rower in the gallies.

BONNEAU, a buoy. See BOUE'E and ORIN.

BONNETTE, the bonnet of a ſail.

BONNETTE *lardée*, a bag or baſket charged with cinders, aſhes, and chopped oakum, to be uſed in the act of FOTHERING, which ſee.

Laſſer la BONNETTE, to faſten the bonnet of a ſail to its principal part.

BONNETTES, *en étui*, a general name for all ſtudding-ſails.

BON-TOUR, a favourable ſwing or turn; expreſſed of a ſhip when ſhe keeps her hawſe clear by winding the right way.

BORD, board, or aboard.

Renverſer, 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 *allongé*, 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

Franc BORDAGE, the outſide planks.

BORDAGES *de fond*, the planks of the bottom or floor.

BORDAGES *pour recouvrir les ponts*, the planks of the decks.

BORDAYER, to advance to windward by boards, or by tacking.

BORDE *au vent*, & BORDE *ſous le vent*, haul aft the ſheets.

BORDE'E, a board or tack; alſo a watch of part of the crew.

Faire la 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'E, *donner la* BORDE'E, to fire the broad-ſide into an enemy.

BORDER, to plank a ſhip, or lay on her outſide planks; alſo to ſtand towards, examine, or obſerve the motions of an enemy at ſea.

BORDER & *braſſer au vent*, to trim the ſails by the wind.

BORDER *à queins*, to plank a ſhip with clench-work, or plank over plank.

BORDER *en lauvelle*, to lay on the planks level, or with their ſurfaces even.

BORDER *l'artimon*, to haul the mizen-ſheet flat aft, or cloſe aft.

BORDER *les avirons*, to ſhip the oars ready for rowing.

BORDER *les écoutes arrivées*, to haul aft both ſheets of a ſail, for going afore the wind.

BORDER *les écoutes tout plat*, to tally the ſheets flat aft.

BORDER *un vaiſſeau*, to board or enter a ſhip, either in a hoſtile or friendly manner.

BORDER *une voile*, to trim a ſail by the tacks and ſheets.

BORDIER, lap-ſided; expreſſed of a ſhip ſtronger on one ſide than the other.
BOREAL, *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.
BOSPHORE, a ſtreight, 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 ſhank-painter.
BOSSEMAN, *ſecond contre maître*, the boatſwain's mate.
BOSSER *l'ancre*, to cat the anchor; alſo to ſtow the anchor. See CAPONNER.
BOSSER *le cable*, to ſtopper the cable. From
BOSSES *à aiguillettes*, or *à rubans*, ſtoppers of the cable.
BOSSES, ſtoppers of the ſhrouds or ſtays.
BOSSES *de chaloupe*, or *de canot*, the boat's painter or mooring-rope.
BOSSE *du boſſoir*, or *de bout*, the anchor-ſtoppers at the cat-head.
BOSSOIRS, the cat-heads of a ſhip.
BOT, a boat, of ſeveral kinds. Whence
Paque-BOT, pacquet-boat, the packet, or packet-boat.
BOUCHE, the mouth of a river. *Bouchaut* is alſo ſometimes uſed in this ſenſe.
BOUCHE *de canon*, the bore or calibre of a piece of ordnance.
BOUCHIN, the extreme breadth of a ſhip, from outſide to outſide.
BOUCHON *d'etoupe*, *de foin*, *ou de paille*, the wad of a cannon, formed of oakum, hay, &c.
BOUCHOTS, a penn, or place incloſed by hurdles, for fiſhing on the ſea-coaſt.
BOUCLE, ſhackles or bilboes.
Mettre un matelot ſous BOUCLE, to confine a ſailor, or put him in irons.
Un port BOUCLE', a harbour which is land-locked.
BOUDINURE *de l'arganeau*, the puddening of the anchor. See EMBODINURE.
BOUE'E, a buoy.
BOUE'E *de bout de mât*, a wooden buoy, formed of an end of a maſt.
BOUE'E *de barril*, a cann-buoy, or nun-buoy.
BOUGE, incurvated; ſpoken of a piece of timber; alſo of the rounding or convexity of the decks and beams. See TONTURE.
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 chaine*, chain-ſhot. BOULETS *à branches*, or *à deux têtes*, bar or double-headed ſhot.
BOULIER, a ſort of fiſhing-net.
BOULINE, the bowline. BOULINE *de la grand voile*, the main bowline.
BOULINE *de revers*, the lee bowline.
Faire courir la BOULINE, to run the gauntlope.
BOULINER. See ALLER *à la bouline*.
BOULINGUE, the royal-ſail.
BOULINIER, a ſhip that ſails cloſe-hauled. Hence *bon* BOULINIER ſignifies a ſhip that plies well to windward.
BOULON, an iron bolt. See CHEVILLE.
BOULONS *d'affut*, the bolts of the gun-carriages.
BOUQUE, an entrance or channel between iſlands or in narrow ſeas.
BOUQUETS, the fore-thwarts or fore-ſheets of a boat.
BOURCER *un voile*, to carry a ſail clewed up, or hauled up in the brails. See CARGUER.
BOURCET, a name given to the fore-ſail and fore-maſt 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.

BOUR-

BOURGUIGNON, an iſland of ice.
BOURRASQUE, a violent ſquall of wind.
BOURRE, the wadding of a charge in artillery.
BOURRELET, or BOURLET, the puddenings of the yards.
BOURRELET *de canon*, the muzzle-ring of a piece of cannon.
BOURSE, or BOURCE, the exchange, or place of reſort for merchants, mariners, &c. in a commercial ſea-port.
BOUSSOLE, COMPAS *de route*, or CADRAN *de mer*, the ſea compaſs.
BOUSSOLE *affolée*, an erroneous or defective compaſs. See AFFOLE'E.
BOUSSOLE *de cadran*, an horizontal dial, with a magnetical needle.
BOUT *de beaupré*, a boom uſed for a bowſprit in ſmall veſſels.
BOUT *de corde*, a rope's end, a ſhort piece of rope.
BOUTS *de cable*, pieces of junk, or old cable.
BOUTS *de corde*, a cat of nine tails, ſcourge, 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 ſail, to extend the reef.
BOUTE-DEHORS, the ſtudding-ſail booms: this name is alſo given to a ſmall maſt erected in the tops, to hoiſt up and fix the caps on the maſt-heads.
BOUTE-DEHORS is likewiſe a boom to puſh off ſome ſhip which is near, or which approaches for any hoſtile purpoſe, as to board, &c.
BOUTE *de lof*, or BOUTE-LOF, the bumkin, or boom of the fore tack.
BOUTE-FEU, a lint-ſtock; alſo the name of an officer who is appointed to fire the cannon.
BOUTE-LOF. See BOUTE *de lof*.
BOUTE *le cable au cabeſtan & vire l'ancre*, bring the cable to the capſtern, or bring-to the cable, and heave to the anchor.
BOUTEILLES, the quarter-badges of a ſhip. See BALCON.
BOUTEILLES *de ſallebaſſe*, bundles of buoyant ruſhes, uſed in the exerciſe of learning 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 lof*, 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 quevre*, a ſort of fiſhing rod.
BOUTONNER *la bonette*, to laſh on the bonnets. See BONNETTE.
BOUVET, a ſort of plane uſed by ſhipwrights to form a ſmall groove.
BOYE. See BOUE'E or BALISE.
BOYER, a kind of Dutch ſloop.
BRAGUE, the breeching of a cannon uſed at ſea.
BRAI, pitch. Hence *braier un vaiſſeau*, to pay the ſeams of a ſhip with hot melted pitch, after they are caulked with oakum. It is ſometimes mixed with other compoſitions, to nouriſh the timber, and is then called BRAI *gras*.
BRANCHE *de cipres*, beaconage; a ſmall duty paid by ſhipping in France, for keeping the beacons in repair.
BRANCHE *ſuperieure d'une courbe*, the upper part of a knee.
BRANCHE *d'embas*, the lower arm of a knee or ſtandard.
BRANLE, a hammock.
Tendre les BRANLES, to ſling the hammocks.
BRANLE *bas*, or *fort* BRANLE, the order to laſh and take down all the hammocks between decks, in order to prepare for engagement, or otherwiſe to clear the ſhip.
BRAS, the brace of a yard.
Tenir un BRAS, to haul in and faſten the brace.
Bon BRAS, braced to a large wind, braced in.
BRAS *de revers*, the lee brace.
BRAS, or BRANCHES *d'ancre*, the anchor-arms.
BRASSE, a fathom, or meaſure of ſix feet.

BRASSEIAGE, the quarters of a yard.

BRASSER *à faire porter*, or *à faire servir*, to fill the ſails after they have been braced a back.

BRASSER *au vent*, to brace the ſails in, to haul in the weather braces.

BRASSER *les voiles ſur le mât*, to brace the ſails a-back, or lay the ſails to the maſt. This is alſo called BRASSER *à contre*. See COUFFER.

BRASSER *ſous le vent*, to brace to leeward, to brace up.

BRAYES, the tarred canvas coats of the maſt.

BREDINDIN, a ſmall ſtay-tackle, or burton, affixed to the main-ſtay.

BREF, a ſort of warrant or commiſſion from the ſtate, allowing a ſhip to purchaſe proviſions, conducting her ſafe on the coaſt, and exempting her from other duties.

BREGIN, a ſort of fiſhing-net, with very ſmall meſhes, uſed in the Mediterranean.

BREQUIN, or *Ville*-BREQUIN, a ſhipwright's wimble to bore wood.

BRESSIN, the jears or haliards of a yard or ſail; alſo a tackle-hook. See PALAN.

BREVET, CONNOISSEMENT, POLICE *de chargement*, a bill of lading.

BREVET *d'officier*, the commiſſion or warrant of an officer.

BREUILLER. See CARGUER.

BREUILS. See CARGUES, MARTINETS, and GARCETTES.

BRIDER *l'ancre*, to bridle the anchor *.

BRIEUX, a term uſed in Brittany to expreſs the ſalutation of ſtriking the flag, or top-ſails, to an admiral, &c. Alſo a duty paid for entering a harbour.

BRIGANTIN, a ſmall light veſſel, navigated by oars and ſails; but differing extremely from the veſſel known in England by the name of brig or brigantine.

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 coaſt, by thoſe who ſuffered ſhipwreck thereon. This unjuſt exaction is now totally abolithed. See DEBRIS.

BRISANT, or BRISANS, a ſhelf or ridge of rocks nearly level with the ſurface of the water, and diſtinguiſhed by the breakers, or waves that burſt over it; alſo the breakers themſelves.

BRISE, a freſh gale or breeze; 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 members or 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.

Tems EMBRUMÉ, 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-buſs, or ſmall fly-boat uſed in the herring-fiſhery.

BULLETIN, a certificate given to ſea-officers and ſailors, when they are regiſtered in a port, to teſtify their qualities, age, privileges, and time of ſervice.

BURINS. See TAPPES.

BUTIN, the pillage or plunder of a prize taken from an enemy.

* This manœuvre, according to the beſt of my information, is entirely unknown to our mariners; it is performed by lining, or doubling, the flukes of an anchor, with two pieces of plank, to ſtrengthen them, and prevent their turning in a bad anchoring-ground.

C.

CABANE, a flat-bottomed paſſage-boat, with a deck, navigated on the river Loire.

CABANES, the cabins or apartments wherein the officers and ſailors ſleep or meſs aboard a ſhip. See TEUGUE.

CABESTAN, the capſtern or crab of a ſhip.

Virer au CABESTAN, to heave the capſtern round with bars.

CABILLOT, a toggel; alſo a wooden pin for belaying ropes.

CABLE, the cable; alſo a meaſure of 120 fathoms, called by the Engliſh ſeamen a cable's length.

CABLE *à pic*, the ſituation of the cable when the ſhip is cloſe a-peek on her anchor.

CABLE *de touei*, a ſtream-cable, or large hauſer.

CABLE *tourné*, or *qui à un tour*, or *demi-tour*, a foul hauſe, a croſs or elbow in the hauſe.

Bitter le CABLE, to bit the cable, or clap it on the bits. See BITTER.

Couper, or *tailler le* CABLE, to cut the cable in the hauſe.

Donner le CABLE *à un vaiſſeau*, to give a cable's end to another ſhip; to take a ſhip in tow at ſea.

Filer du CABLE, to ſlack out or veer away the cable. See FILER.

Laiſſer traîner un CABLE *ſur le ſillage du vaiſſeau*, to drag a cable in the ſhip's wake in order to prevent her ſailing ſwiftly, when ſhe is chaſed by a veſſel of inferior force, which is decoyed by this ſtratagem within reach of her cannon.

Lover un CABLE, to coil a cable.

CABLEAU, the painter, or mooring-rope of a boat.

CABLER, to make large ropes or cables.

CABOTAGE, the art of a coaſting-pilot; as the knowledge of the ſhore, the tides, ports, rivers, capes, ſoundings, &c. on any particular coaſt.

CABOTER, to coaſt, or ſail along the ſhore between cape and cape.

CABOTIERE, a large flat-bottomed lighter, with a long rudder.

CABRE, ſheers, a machine reſembling the ſheers of a ſhip, 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.

CADENE, a chain by which a galley-ſlave is confined to his oar.

CADENES *de hauban*, the chains of the ſhrouds, the chain-plates.

CADRE, a bed frame, reſembling the frame of a cott, wherein the ſea-officers ſleep: theſe are uſually bottomed with ſmall cords by the French, and ſlung by the corners without a cott.

CAGE. See HUNE.

CAGOUILLE, a ſort of volute or ornament on the extremity of the prow of polacres, xebecs, tartans, &c.

CAIC, the yawl or ſkiff of a galley; alſo a ſmall Poliſh veſſel, navigated in the Black Sea.

CAIES, a ridge of rocks, or ſand-banks; called in the Weſt Indies, keys.

CAILLEBOTIS, the gratings of the hatches.

CAJOLER, to ply to windward with the tide, to work by ſhort tacks.

CAISSE *de poulie*. See ARCASSE and MOUFLE.

CAJUTES, the cabins which are ranged along the inſide of a ſhip, to ſleep in.

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; alſo a ſloping or ſhelving on the ſea-coaſt; likewiſe the lead of a fiſhing-line uſed to ſink the bait.

Donner

Donner la CALE, to duck or plunge an offender from the yard-arm into the ſea, by way of puniſhment.

Donner la grand CALE, to keel-haul; a puniſhment peculiar to the Dutch.

CALE-BAS, a down-haul, or down-haul tackle.

CALE-HAUBAN, a breaſt back-ſtay for the top-maſt or top-gallant-maſt.

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, let go amain, or at once.

CALFAS, or rather CALFAT, caulking.

CALFAT, or CALFATEUR, a caulker.

CALFAT alſo ſignifies a caulking-iron. CALFAT *double*, a making-iron.

CALFATER, to caulk a ſhip or boat.

CALFATIN, a caulker's boy, who ſpins or twiſts his oakum.

CALIBRE, the bore of a cannon or other fire-arm, or the diameter of a cannon-ball.

CALIBRE *de vaiſſeau*, the model of a ſhip.

CALIORNE, a winding-tackle; a tackle formed by a rope paſſing 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 ſtoves, &c.

CAMPAGNE *ſur mer*, a voyage, a cruiſe at ſea for a ſeaſon, or limited ſpace of time.

CANAL, a canal, ſtreight, or channel.

CANAL *de l'étrave*, the concavity in the top of the ſtem, wherein the bowſprit reſts.

CANAL, or CREUX *autour d'un poulie*, the hole in a block between the ſhell and the ſheave, through which the rope paſſes.

CANDELETTE, or BOSSE *de baſſoir*, the cat tackle and hook. See CAPION.

CANEFAS, or CANEVAS, canvas or ſail-cloth. See TOILE.

CANON, a cannon or piece of ordnance.

CANON *à la ſerre*, a gun houſed athwart, with the top of its muzzle bearing againſt the upper edge of the port.

CANON *alongé contre le bord*, a gun houſed lengthways, cloſe to the ſhip's ſide, abreaſt of its own port.

CANON *aux ſabords*, a gun levelled to the point-blank range.

CANON *de courſier*, the bow-chaſe of a row-galley.

CANON *démarré*, a cannon drawn in to be charged.

CANON *détopé*, 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.

CANONNER, to cannonade, to fire a broadſide.

CANONNIER *de vaiſſeau*, the gunner of a ſhip.

Second CANONNIER, the gunner's mate.

CANONNIERS, the quarter-gunners or artillery-men of a ſhip.

CANOT, a ſhip's boat, cutter, or yawl.

CANOT *de bois*, a canoe.

CANOT *jaloux*, a crank boat.

CANOTS, Indian canoes of various kinds.

CANTANETTES, the light-ports in the ſtern of a galley.

CANTIBAI, a name given by ſhipwrights to timber which is full of cracks, &c.

CANTIMORON. See CATIMORON.

CAP, the head or prow of a ſhip.

Porter le CAP *ſur l'ennemi*, to bear towards the enemy.

Ou as-tu le CAP? how is the head? how does the ſhip wind?

CAP, a cape, head-land, or promontory.
Doubler le CAP, to double, or ſail round, a cape.
CAP *de more*. See CHOUQUET.
CAP *de mouton*, the dead-eye of a ſhroud or ſtay.
CAP *de mouton à croc*, an iron-bound dead-eye, with a hook.
CAP *de mouton de martinet*, the dead-eye of a crow-foot. See TRELINGAGE.
CAPACITE' *d'un vaiſſeau*, the burthen of a ſhip.
CAPE, or GRAND PACFI, the mainſail.
Etre à la CAPE, to lie-by under the main-ſail, or ſome other of the courſes.
CAPE'ER, CAPIER, or CAPEYER, *aller à la cape, mettre le vaiſſeau à la cape*, to lie under the mainſail when all the other ſails are furled.
CAPELER *les haubans*, to fix the ſhrouds on the maſt-head.
CAPION, the ſtern-poſt of a galley. See RODE.
CAPION *de proue*, the ſtem of a galley.
CAPION *à copion*, from ſtem to ſtern.
CAPITAINE *d'un vaiſſeau de guerre*, the captain of a ſhip of war.
CAPITAINE *d'armes*, a captain of marines.
CAPITAINE *de frégate legére, de brulot, de galiote*, a maſter and commander.
CAPITAINE *du hauthord*, the captain of a ſhip of the line.
CAPITAINE *de ports*, the commandant of a detachment of marines, appointed to guard a dock-yard, and the ſhipping in the harbour.
CAPITAINE *des matelots*, an officer reſembling our captain of the fore-caſtle.
CAPITAINE *en ſecond*, the ſecond captain, or firſt lieutenant, of a ſhip of war.
CAPITAINE *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 cat the anchor.
CAPONNER *l'ancre*, to cat or draw up the anchor to the cat-head.
CAPOSER, to bring a ſhip to, with her helm a-lee.
Faire CAPOT, to cant, over-ſet, or turn topſy-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 Borneo.
CARAMOUSSAL, or CARAMOUSSAIL, a merchant-ſhip of Turky, conſtructed with a very high ſtern.
CARAQUE, a name given by the Portugueſe to ſhips employed in the Brazil and the Eaſt Indian trade.
CARAVELLE, a ſmall ſquare-ſterned Portugueſe veſſel, navigated with lateen ſails; and eſteemed very expeditious, and therefore uſed in buſineſs that requires diſpatch.
CARCASSE, the carcaſe or ribs of a ſhip before the planks are laid on, or after they are ripped off.
CARENAGE, a careening wharf.
CARENE, the outſide of a ſhip's bottom. This word is ſometimes uſed for the keel.
CARENE *entier*, to heave down a ſhip keel-out.
Demie CARENE, a parliament-heel, or boot-topping.
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 vcu*, a ſlab-line.
CARGUER, to clue up a ſail, 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 gooſe-wing of a ſail.

CARGUES, a general name for the brails of a ſail, comprehending the clue-lines, bunt-lines, leech-lines, &c.

CARGUES *d'artimon*, the brails of the mizen.

Mettre les baſſes voiles ſur les CARGUES, to haul up the courſes, or haul the courſes up in the brails.

Mettre les huniers ſur les CARGUES, to clue up the top-ſails.

CARGUES *bouline*, the leech-lines.

CARGUES *de fond*, the bunt-lines.

CARGUES *de hune*. See RETRAITE *de hune*.

CARGUES *deſſous 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, *contre-quille*, the kelſon.

CARLINGUE *de cabeſtan*, the ſtep of the capſtern.

CARLINGUE *de pied de mât*, the ſtep of the maſt, with its block.

CARNAU, the lateen fore-ſail of a ſettee or polacre.

CARREAU. See LISSE *de platbord*.

CARTAHU, girt-line, or gurt-line.

CARTE *marine*, a chart or map of the ſea, repreſenting its banks, rocks, ſhoals, bays, havens, &c.

CARTE *plate*, or *au point commun*, the plain chart.

CARTON, a book containing a collection of charts in folio.

CARTOUCHE, a cartridge to contain a charge of powder for a cannon or other fire-arm.

CATARACTES, water-falls.

CATIMARON, a catamaran, or Indian raft.

CATURS, armed veſſels of Bantam.

CAYES, keys, or chains of rocks, nearly even with the ſurface of the ſea.

CEDRE, *bois de* CEDRE, cedar-wood, which is excellent for ſhip-building.

CEINTES, a name formerly given to the wales. See PERCEINTES and LISSES.

CENTRE *de peſanteur*, the center of gravity.

CERCLE *d'étambraie*, or *de cabeſtan*, an iron hoop that lines the hole of the deck, within which the capſtern turns upon its ſpindle.

CERCLES *de boute-hors*, the ſtudding-ſail boom-irons.

CERCLES *de hune*, 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 chaudiere*, the chains of the copper, or kettle, which boils victuals in the coboſe, for the ſhip's crew.

CHAINES *de port*, the boom or chain of a harbour. See BARRE.

CHAINES *de vergues*, the top-chains.

CHALAND, or BAC, a ſort 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 its ſtool, which ſupports the poop-lanthorn.

CHANDELIER *de pierrier*, the iron crutch of a ſwivel gun; alſo the wooden ſtock, hooped with iron, in whoſe ſocket it reſts, and is turned.

CHANDELIERS *de chaloupe*, the crutches of a boat, which ſuſtain the main-boom, or the maſt and ſail, when they are lowered, for the conveniency of rowing.

CHANDELIERS *d'échelle*, the ſtanchions which ſupport the entering ropes at the gang-way.

CHANDELIERS *de liſſes*, the iron crutches, or double ſtanchions, of the quarters, &c. fixed in a veſſel of war, to extend the double nettings. See FILARET.

CHANDELIERS, *de petite bâtiments*, the crutches on the ſtern or quarter of a boom-ſail veſſel. See CHANDELIERS *de chaloupe*.

CHANGER, in a naval ſenſe, generally implies to tack, ſhift, or relieve.

CHANGER *de bord*, to tack or veer. See VIRER *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, & les mettre ſur le mât*, to brace the head-ſails to the wind, to lay the head-ſails to the maſt.

CHANTIER, the ſtocks upon which a ſhip is laid down to be built.

CHANTIER, or ATTELIER, alſo ſignifies a ſhipwright's yard or wharf.

CHANVRE, hemp employed to make the ſails and cordage of a ſhip.

CHAPE, the inner box of a ſea-compaſs.

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 chapelling of a ſhip, or ſuffering her to be taken aback, ſo that ſhe cannot recover her courſe till ſhe has gone quite round. This ſeldom happens, unleſs when the veſſel is cloſe-hauled in light winds, and is uſually occaſioned by the negligence of the ſteerſman.

Faire, or *prendre* CHAPELLE, to build a chapel at ſea, or chapel a ſhip.

CHARGE, the cargo, burthen, or lading of a ſhip. This is alſo called *chargement*.

Etre 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 ſcuttled caſk, to contain water for the ſhip's crew to drink on the deck.

CHAROI. See CHARROI.

CHARPENTIER *de navire*, a ſhipwright; alſo the carpenter of a ſhip.

CHARTE-PARTIE, a charter-party, or compact made between the owner of a ſhip and the merchant, or contractor, who hires her for a limited time; 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-chaſe, or bow chaſe. See PIECE *de chaſſe*.

CHASSER *ſur ſon ancre*, to drag the anchor, to bring the anchor home.

CHAT, a cat; a ſhip ſo called.

CHATEAU, a general name for the fore-caſtle and quarter-deck of a deep-waiſted veſſel.

CHATEAU *d'arriere*, or *de poupe*, the quarter-deck and poop.

CHATEAU *d'avant*, or *de proue*, the forecaſtle.

CHATTE, a ſmall two-maſted veſſel, 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*, or *à goudron*, a pitch-kettle.

CHAUFFAGE, breaming-fuel, furze, or faggots, 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 soutes*, 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 over-ſet, capſize, or turn any thing topſy turvy.

CHAUSSE, 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.

CHEBEC, or CHABEK, a xebeck.

CHEF, the ſtem or head of a boat.

CHEF is alſo a junk, or end of a cable, uſed as an headfaſt to a ſhip, when ſhe is ready to be launched, and which is to retain her after ſhe floats, till her anchor is carried out, or let fall from the bow.

CHEF *d'eau*, high-water. See HAUTE *marée*.

CHEF *d'eſcadre*, a commodore.

CHEMIN, a range of ſkeeds laid by ſeamen, to roll full caſks upon, either on ſhore or aboard.

CHEMIN *du halage*, a path on the ſide of a river, or canal, for horſes to track boats and veſſels along the ſtream.

CHEMISE *à feu*, or SOUFRE'E, a tarpawling, or a piece of old canvas, dipped in a compoſition of oil, petrol, camphire, and other combuſtible materials, and nailed to the planks of an enemy's ſhip, when it is intended to ſet her on fire.

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 *de traverſin de bittes*, the lining or doubling of the bitts, which is employed to prevent the cable from galling them when the ſhips ride with a great ſtrain.

CHEVILLE, an iron bolt, of which there are ſeveral ſorts uſed in the conſtruction of a ſhip: as,

CHEVILLE *à boucle*, a ring-bolt.

CHEVILLE *à boucles & à goupilles*, a ring which is faſtened with a forelock.

CHEVILLE *à croc*, a hook-bolt for the gun ports.

CHEVILLE *à goupilles*, a forelock-bolt, or bolt fitted to to receive a forelock.

CHEVILLE *à grille & à boucles*. See GOUJON.

CHEVILLE *œillettes d'affut*, 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 wherein it is driven.

CHEVILLE *d'affut*, a gun-carriage bolt.

CHEVILLE *de fer à charger le canon*, langrage-ſhot.

CHEVILLE *de pompe*, the ſhort pump-bolt, or bolt to connect 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.

CHEVILLER, to bolt a ſhip, or drive the bolts which faſten one part to another.

CHEVILLOTS, belaying-pins, fixed in the rails fore and aft.

CHEVRE, a gin, or triangle with pullies.

CHICAMBAUT, or CHICABAUT, a bumkin. See BOUTE-LOF.

CHICANER *le vent*, to ply or beat to windward. See LOUVIER.

CHIORME, or rather CHIOURME, the troop or crew of ſlaves belonging to one row-galley, together with the volunteers who row at the oars.

CHIRURGIEN *major*, the ſurgeon of a ſhip.

CHOPINE, or CHOPINETTE *de pompe*, the lower pump-box.

CHOQUER *la tournevire*, to ſurge the capſtern; to lift up the rope paſſing round the body of the capſtern, that it may not ride while the capſtern turns.

CHOSES

CHOSES *de la mer*, or *du flot*, wreck, or whatever is found floating at ſea, or within certain limits of the ſea-coaſt.

CHOUQUET, a cap of the maſt-head.

CHUTE *de voiles*, the depth of the ſails.

CIEL *embrumé*, a cloudy, heavy, or dark ſky.

CIEL *fin*, fine weather, a clear ſky.

CINGLAGE, or SINGLAGE, the run of a ſhip for twenty-four hours, or the courſe and diſtance ſhe has made between noon and noon.

CINGLAGE alſo imports the pay or wages of mariners.

CINGLER, or SINGLER, to ſail with a favourable wind on a particular courſe.

CINQUENELLE, or CINCENELLE, a general name for the the tackling of the great guns, by which they are faſtened to the ſhip's ſides, &c.

CINTRAGE, or CEINTRAGE, a name given to any kind of laſhing, or frapping, which ſurrounds the object it is intended to ſecure.

CINTRER, or CEINTRER *un vaiſſeau quand il largue*, to frap a ſhip.

CIVADIERE, the ſprit-ſail.

CLAIRON, a clear ſpot in a cloudy ſky.

CLAMP, a ſheave, or ſmall wheel, placed in a mortiſe, as in the foot of a top-maſt, to paſs a rope through.

CLAN, a mortiſe or hole cut in a plank, maſt, &c. lengthwiſe, to admit a ſheave.

CLAN, or CLAMP *de beaupré*. See COUSSIN.

CLAN, a ſort of breaſt-hook in a large lighter.

CLAPET *de pompe*, the clapper of a pump-box.

CLAPETS, leathern flaps nailed on the outſide of the ſcuppers, inſtead of ſcupper-hoſes.

CLASSE, a diviſion of pilots, gunners, ſeamen, &c. engaged to ſerve in any naval armament for a limited time, after which they are relieved by another diviſion ſent from the ſhore.

CLAVETTE, or GOUPILLE, a forelock.

CLEF. See CHEF.

CLEF *de beaupré*, or BARROT *de coltis*, the collar-beam, which is raiſed a little above the ſecond deck, to fortify the bowſprit.

CLEF *de pierrier*, the forelock of a pedrero or ſwivel-gun.

CLEF *de pompe*, a ſort of wooden pump-bolt, to confine the brake within the cheeks or ears of the pump. See CHEVILLE *de potence*.

CLEF *des étains*, or *contre-port*, a triangular cheek of timber, formerly uſed to connect the faſhion-pieces with the ſtern-poſt.

CLEF *de ton du mât*, or CLEF *de mât de hune*, the iron or wooden fid of a top-maſt.

CLEFS *des guindas*, the cheeks of the windlas.

CLERC *du guet*, the clerk who aſſembles and muſters the militia appointed to guard the ſea-coaſt.

CLERCS *de la ſecretaire*, or *du greffe de l'amirauté*, the meſſengers of the admiralty.

CLINCAR, a ſort of flat-bottomed clinker-built pram, or lighter, of Sweden and Denmark.

CLOCHE *de plongeurs*, a diving-bell.

CLOISSON, a range of ſtanchions to ſupport the bulk-heads, or partitions, which ſeparate one cabin from another.

CLOPOTEUSE, turbulent or agitated; an epithet given to the ſea when it runs high.

CLOU, an iron ſpike, or nail, of any ſize.

CLOUS *à river*, a rivet, or riveting-nail to be clenched at both ends.

CLOUS *des ſabords*, doubling-nails, to line the gun-ports.

CO-BOURGEOIS, a co-partner in, or part-owner of, a ſhip.

COCHES *d'affut de bord*, the notches or ſteps of a ſea-carriage.

COEFFE', aback. *Un vaiſſeau* COEFFE', a ſhip laid aback.

COEFFER, to back a ſail, to lay aback, or to the maſt.

COFFRE *à feu*, a powder-cheſt, fixed on the deck or ſide of a ſhip, to be diſcharged upon a boarding enemy.

COFFRE *à gargousses*, a cartridge-chest, which contains the filled cartridges in a ship's magazine.

COFFRE *de bord*, a sea-chest, 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 mât*, the wedges of a mast, by which it is confined in the partners, or in the cap.

COITES, the ways, or cradles, upon which a ship gradually descends, when she is launched into the water.

COITES *de guindas*, the cheeks or bits of the windlas. See CLEF *de guindas*.

COLLET *d'étai*, the eye of a stay placed over a mast-head.

COLLIER *d'étai*, the collar or lower part of a stay.

COLLIER *du ton*, or *du chouquet*, 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 puddening of a boat's stem.

COLOMBIERS, two shoars employed to launch a ship into the water.

COLONNE, a line of ships, a line of battle.

COLTIS, the breast or front of a ship's fore-castle, comprehended between the two cat-heads athwart, and descending from the top of the fore-castle to the platform of the head.

COMBAT *naval*, a general or particular sea-fight.

COMBUGER *les futailles*, 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'escadre*.

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; as, "Fore-castle, there! main-top, there! main-top, hoay!" &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.

COMMANDES, knittles or seizings.

COMMANDEUR, the master or commander of a ship.

COMMIS, the supercargo of a merchant-vessel.

COMMIS *des bureaux des douanes*, the surveyors of the customs who visit shipping.

COMMIS *du munitionnaire*, or COMMIS *à la distribution des vivres*, a clerk or steward to the commissary or purser of a ship of war.

COMMIS *général des convois & congés*, an overseer or inspector of the customs with regard to shipping.

COMMISSAIRE *de la marine* imports in general a civil officer, or commissioner of the marine, of which there are several: as,

COMMISSAIRE *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*.

COMMISSAIRE *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 state; to provide for their being equipped, manned, and victualled, for the expedition to which they are destined; to press 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 attend a fleet; to give them orders, either to sail with the 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 send them back in due time to the appointed place. 3. To attend the affairs of the dock-yards and harbours, and controul 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

4. To take care that the oldeſt 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 nowiſe depart from the draught which has been eſtabliſhed 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 ordonnances relative thereto are faithfully executed; and to ſee that the ſhips are properly ſituated, and each one moored in the birth aſſigned.

It is alſo the office of the *commiſſaire général* to keep a liſt 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 liſt; and each of them is furniſhed with a certificate, repreſenting theſe articles.

The *commiſſaire général* is not, however, always charged with theſe ſeveral employments himſelf. There are under his department, in different places, or according to the times, other commiſſaries, who ſhare ſuch ſervices with him: as, COMMISSAIRE *ordinaires de la marine*; COMMISSAIRES *ayant inſpection ſur les vivres d'un port*, an agent victualler; COMMISSAIRE *préposé pour l'enrôlement des matelots*, clerk of the cheque; COMMISSAIRE *pour les conſtructions des vaiſſeaux*; and COMMISSAIRE *des ports*, maſter-attendant.

COMMISSAIRE *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.

COMMISSAIRE *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, gunpowder, ammunition, inſtruments, and implements of war. He has alſo the command of the gunners, matroſſes, 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 COMMISSAIRES *généraux*, one for the weſtern 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 dock-yard, the ſtore-keepers accounts in a port, and the out-fits 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 ſtore rooms jointly with the *garde-magazin*. 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 warren 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.

COMPAGNE, the cabin of the ſteward 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, or dividers, 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 magnetical virtue.

COMPAS *renverſé*, a ſwinging compaſs whoſe face is downwards; it is uſually hung overhead in the great cabin, to ſhew the ſhip's courſe to the captain.

COMPASSER. See POINTER *la carte*.

COMPOST, a tide duty, or revenue, ariſing from ſhipping.

CONFLU-

CONFLUENT, the place where two rivers are united.

CONGE', a paſs, or permiſſion, granted to the maſter of a merchant-ſhip, by the office of admiralty, when he is ready to ſail.

CONNOISSANCE, the ſkill and intelligence of a pilot; alſo a proſpect of the land and ſea-coaſts.

CONNOISSEMENT, 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), *le 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-conſtructeurs*, 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 counſellors, an advocate, and a royal proctor; of a regiſter in chief, and two ſerjeants 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 vaiſſeaux*, 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, or vaſt tract of land.

CONTRAT *à la groſſe*. See BOMERIE.

CONTRE-AMIRAL, the rear-admiral of France.

CONTRE-BANDE, prohibited goods.

CONTRE-BITTES, the ſtandards which ſupport the cable-bits.

CONTRE-BRASSER, to brace about the yards.

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-RODE *de pouppe*.

CONTRE-CAPION *de proue*, the upper part of the ſtemſon of a galley. See CONTRE-RODE *de proue*.

CONTRE-CARENE, the kelſon of a galley. See CARLINGUE.

CONTRE-E'TAMBOT, the knee of the ſtern-poſt, by which it is attached to the keel.

CONTRE-E'TAMBOT, or FAUX-E'TAMBOT, is alſo the falſe ſtern-poſt.

CONTRE-E'TRAVE, the apron; a piece of timber which ſupports the ſcarf 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 the line in its former diſpoſition on the other tack.

CONTRE-MARE'E, a ſpring-tide.

CONTRE-QUILLE, the dead-wood placed on the keel fore and aft. See FAUSSE-QUILLE.

CONTRE-RODE *de pouppe*, the lower part of the falſe-poſt, or counter-ſtern-poſt of a row-galley. See CONTRE-CAPION *de pouppe*.

CONTRE-RODE *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 ſalute at Sea.