

Glossary of Nautical and Shipbuilding Terms

A

ABEAM

At right angles to the keel.

ACCESS HOLE

A hole through casing, bulkhead, floor or deck to enable one to reach work or gear.

ACCOMMODATION LADDER

Stairs slung at the gangway.

AFT, AFTER

Toward the stern or rear of ship. Between the stern and the amidship section of a vessel.

AFTER BODY

That part from midship to the stern or rear.

AFTER HATCHWAY

The hatchway nearest the stern.

AFTER PEAK

A compartment just forward of the stern post. It is generally almost entirely below the load water line.

AFTER PEAK BULKHEAD

The bulkhead at the stern next to the after peak; always watertight.

AFTER PERPENDICULAR

A vertical line at right angles to the base line at a point designated by the naval architect.

AIR CASING

A ring-shaped plate coaming surrounding the stack and fitted at the upper deck, just below the umbrella. It protects the deck structure from heat and helps ventilate the fire room.

AIR PORT

An opening in the vessel's side or deck house for ventilation.

ALOFT

Above the deck.

AMIDSHIP(S)

In the longitudinal, or fore and aft center of a ship. Halfway between stem and stern (front and rear).

ANCHOR

An iron implement for holding a ship at rest in the water by means of a fluke or hook which grips the bottom. (*From the Greek word for hook.*)

ANGLE

The point where two lines meet. Sometimes used as a shorter term for angle iron.

ANGLE BAR

A bar "L" shaped, or two flanges at 90 degrees.

ANGLE CLIP

A piece of angle iron used to fasten one part of a ship's structure to another.

ANGLE COLLAR

Circular angular section fastened around a column to hold the column to the deck.

APRON PLATE

A small plate on forecastle deck to cover stem, sometimes used to support a chock.

ASSEMBLE

To collect or put into place different parts.

ATHWART

Across, from side to side; transverse; at right angles to the keel.

ATHWART SHIP

At right angles to the keel. Same as abeam.

AUXILIARY FOUNDATIONS

The supports for pumps, condensers, distillers, etc.

B

BALLAST TANKS

Tanks carried in various parts of a ship for water ballast, to keep the vessel on an even keel.

BASE LINE

A horizontal level line at the lowest point of the mold lines and the top of the keel plate.

BATTEN

A narrow strip of wood for fairing lines. Also a strip of wood to fasten objects together.

BEAM

The extreme width of a ship. Also a transverse horizontal member supporting a deck.

BED PLATE

A structure fitted for support of the feet of the engine columns, as well as to provide support for crankshaft bearings. It also helps distribute engine weight and stresses to the ship's structure. The bed plate consists of a series of transverse girders, connecting fore and aft members of girders.

BILGE

The rounded portion of a vessel's shell that connects the bottom with the sides.

BILGE KEEL

A fin fitted on the bottom of a ship at the bilge to reduce rolling. It commonly consists of a plate running fore and aft attached to the shell plating by angle bars. It materially helps in steadying a ship and does not add much to the resistance to propulsion.

BILGE PLATE

Any plate in a bilge strake.

BITTS

Iron heads fixed on any deck, for belaying of hawsers, warps, ropes, etc.

BINNACLE

Originally spelled "bittacle." A bin or cupboard in which was stored a compass, log board, a lamp at night, and other navigation gear.

BOAT CHOCKS

Frames fitted upon deck conforming to the shape of the bottom of the boat which is bedded in it.

BOATSWAIN or BO'SUN

The Bo'sun was the officer in charge of rigging, sails and sailing equipment. Ships were usually commanded by boatswain in the eleventh century. *From the Saxon word "swein" meaning boy or servant.*

BO'SUN'S CALL

The Bo'suns Call or Whistle was once the only method, other than human voice, of passing orders to men on board ship. Since a shouted order may not have been heard above the wind and seas during storms, the instructions to hoist sails, haul or let go ropes, etc were conveyed by different notes and pitches on the high-pitched whistle. First used on English ships in the thirteenth century, the whistle became known as the "Call" about 1630 when the Lord High Admiral of the Royal Navy wore a gold whistle as a badge of rank.

BODY PLAN

A plan consisting of two half transverse elevations or end views of a ship, both having a common vertical center line, so that the right-hand side represents the ship as seen from ahead and the left-hand side as seen from astern. On the body plan appear the forms of the various cross sections, the curvature of the deck lines at the side, and the projections as straight lines of the water lines, bow and buttock lines and the diagonal lines.

BOILER CASING

A wall protecting the different deck spaces from the heat of the boiler room.

BOILER ROOM

That part of the ship where the boilers are placed, connected with boiler hatch to top deck.

BOLSTER PLATE

A piece of plate adjoining the hawse hole, to prevent the chafing of the hawser against the cheeks of a ship's bow. A plate for support like a pillow or cushion.

BOOBY HATCH

The cover of a scuttle-way or small hatchway such as that which leads to the forecabin or fore peak.

BOOM, CARGO

A boom extending from the mast like a derrick arm, to handle cargo.

BOOM REST

A saddle in which the boom is lashed down and made fast.

BOOM TABLE

A platform built up of channels, plates, and angles around both masts about on a level with the bridge. The cargo booms swivel on this table.

BOSOM

The inside of an angle bar.

BOSOM BAR

An angle bar of sufficient length to connect the ends of two angle bars, usually three rivet holes on each side, fitting in the bosom or inside of the angles.

BOSS

Any protuberance on parts. For example: The boss on the stern casting is the part that the propeller shaft runs through.

BOSS FRAME

A frame bent to allow room for the stern tube, or tail shafts in the case of twin-screwships.

BOSS PLATE

A curved plate covering (one on each side) the boss of a propeller post and the curved portion of frames in way of the stern tube of a screw steamer. This plate is of extra thickness.

BOTTOM PLATING

That part of the shell plating which is below the water line.

BOUNDING BAR

An angle which surrounds a plate in a frame or a bulkhead to make connections. A shape binding or connecting two plates.

BOW

The front or forward end of a ship.

BOW PLATE

Any of the shell plates in the bow of a ship.

BRACKET

A steel plate, commonly with a reinforcing flange, used to stiffen or tie beam angles to bulkheads, frames to longitudinals, etc.

BREADTH

The side to side measurement of a vessel at any given place. The ends of the cross beams are considered the outward breadth measurements.

BREADTH, EXTREME

The width of a ship, including the thickness of plates.

BREADTH, MOLDED

Measured amidships at its greatest breadth to outside of frames.

BREADTH, REGISTERED

Measured amidships at its greatest breadth to outside plating.

BREAST BEAM

The beam in the poop and forecastle decks, the beams nearest the amidships from the decks.

BREAST HOOK

A triangular shaped plate fitted between decks connecting panting stringers in the bow for the purpose of rigidly fastening the stem and shell plating.

BRIDGE

A partial deck extending from side to side of a vessel amidships. It is common in steam vessels, affording a convenient station for the officer in command. It is also known on British ships as the hurricane or bridge deck.

BRIDGE HOUSE

The erection or superstructure fitted about amidship on the upper deck of a ship. The officer's quarters, staterooms and accommodations are usually in the bridge house.

BRIDGE, LONG OR CAT WALK

On tankers, a narrow walk connecting forward deck house to after deck house. On large passenger ships, a bridge having considerable length fore and aft.

BROW

A small curved angle or flanged plate fitted on the outside of the shell of a ship over an air port to prevent water running down the ship's side from entering the open port.

BROW OR BROW PLATE

A plate forming a riser on the port and starboard and fore and aft sides of 'tween deck hatches. It makes possible trucking cargo up on the 'tween deck hatch cover so that it can be hoisted through the shelter deck cargo hatch.

BUCKLED PLATE

A plate warped in or out, making it out of line; a plate thicker at the center than at the edges.

BULB ANGLE

An angle bar with its long leg terminating in a bulbed toe.

BULKHEAD

A watertight partition extending from the double bottom to the top main deck, so constructed that in case of accident in one compartment, damage is confined to that compartment.

BULKHEAD, FOREPEAK

The bulkhead farthest forward, generally called the collision bulkhead.

BULKHEAD (LONGITUDINAL)

A partition wall of plating running in a fore and aft direction.

BULKHEAD (TRANSVERSE)

A partition wall of plating running in an athwartship direction across a portion of the whole breadth of a ship.

BULWARK

A term applied to the strake of shell plating above a weather or shelter deck. It helps to keep the deck dry and also serves as a guard against losing cargo or men overboard.

BUMBOAT

A boat selling supplies, provisions and articles to ships. *Derived from "boomboat" meaning boats permitted to lie at booms.*

BUNKER

A compartment in which fuel is stored.

BUOYS

Floating beacons which by shape and color give the mariner valuable navigational information.

BUOYANCY

The capacity for floating which a vessel possesses.

BUTT JOINT

A joint made by fitting two pieces squarely together on their edges, which is then welded or butt strapped.

BUTTOCKS

The traces formed by the intersection of longitudinal vertical planes parallel to the central longitudinal vertical plane of the ship, with the forward and after surface of the ship's hull, these traces when occurring in the fore body are called bow lines and when in the after body buttock lines. However, the term buttocks is often used to denote both bow and buttock lines.

BUTT STRAP

A plate to connect two plates or bars together at the ends.

C

CALK

To tighten a lap or other seam with a chisel.

CAMBER

The weather decks of ships are rounded up or arched in an athwartship direction for the purpose of draining any water that may fall on them to the sides of the ship where it can be led overboard through scuppers. In brief, the camber is the crown or arch of a weather deck.

CANT

A term signifying an inclination of an object from a perpendicular; to turn anything so that it does not stand perpendicularly or square to an object.

CANT BEAM

Any of the beams supporting the deck plating or planking in the overhanging part of the stern of a vessel. They radiate in fan shape from the transom beam to cant frames.

CANT FRAMES

The frames (generally bulb angles) at the end of a ship which are canted; that is, which rise obliquely from the keel.

CARGO HATCH

An opening in a ship's deck for the loading and discharging of any kind of cargo.

CARGO PORT

A large opening in a vessel's side through which cargo is passed on and off.

CASING

The extra case or bulkhead built around the ship's funnel, engine room or boiler room to protect the surrounding parts from heat.

CENTER LINE

The fore and aft line at the middle of the ship.

CENTER LINE BULKHEAD

A bulkhead running from the forepeak or collision bulkhead to the afterpeak bulkhead, except in the engine space. The neutral center of the center line bulkhead is on the center line of the ship.

CHAIN LOCKER

The compartment, near and below the hawse holes at the bow, for stowing the anchor chains.

CHAIN PIPE

A pipe of large diameter, through which the chains pass into the chain lockers.

CHALK LINE

A small line, strong enough to with stand being drawn very taut over a surface. The line is first chalked, then drawn taut between two points and "snapped," thus leaving an impression of the chalk on the surface to be marked.

CHARLIE NOBLE

The Galley smokestack.

CHECK LINE

Used in shaping plates, etc., to make sure that the templates have not changed in size by shrinking, expanding or warping.

CHOCKS

Deck fittings for mooring line to pass through.

CLEAT

A piece of wood used to belay ropes.

CLIP

Short length of bar, generally an angle, used to attach shapes to the ship structure.

COAMING

A frame bounding a hatch for the purpose of stiffening the edges of the opening and forming the support for the cover. It also prevents any water on deck from washing down to the deck below through the companionway.

COAMING

Plates, heavier than bulkhead plates, at the top and bottom of deck house, bulkheads, and division bulkheads between decks, for the purpose of stiffening and adjusting height to suit the shape of the ship.

COFFERDAM

A void or empty space separating two or more compartments for the purpose of insulation, or to prevent the liquid contents of one compartment from entering another in case of a leak.

COLLAR

An angle ring used around a pipe or mast, or a flat plate made to fit around a girder or beam passing through a bulkhead or deck. It serves to make various spaces watertight, oil tight, or dust tight.

COLLISION BULKHEAD

A watertight bulkhead at the forepeak extending to main deck. This bulkhead prevents the entire ship from being flooded in case of a collision.

COLUMN

A pillar or stanchion.

COMPANIONWAY

A set of steps or ladder leading up to deck from below.

COUNTER

The overhang of the stern aft of the stern post.

COUNTERSINK

A hole tapered so that a rivet, bolt, or screw head will come flush with the surface of the material.

CRADLE

Frames used during construction of a ship conforming to the curvature and shape. They are generally made of flat bars and shapes and support the shell until the shell is tied in the bulkheads and framing.

CRIBBING

Timbers used to support bottom of ship while it is under construction.

CROSSTREE

A structure on the mast built up of plates and angles for the purpose of holding the shroud pads.

CROW'S-NEST

A platform and protective coaming setting on the crosstree on the foremast, to accommodate the look-out aloft while the ship is at sea.

D

DAVITS

A crane that projects over the side of a ship or hatch. A set of cranes or radial arms on the gunwale of a ship, from which are suspended the lifeboats.

DEAD FLAT

The midship portion of a vessel throughout the length of which a constant shape of cross-section is maintained.

DEADLIGHTS

Heavy glass in portholes; also heavy glass sometimes placed in decks.

DEAD RISE

The angle which the straight portion of the bottom floor of the midship section makes with the base line. It is expressed by the number of inches rise above the base line in the half-breadth of the vessel.

DEAD RECKONING

A reckoning kept so as to give the theoretical position of a ship without aid of objects on land, of sights, etc. It consists of plotting on a chart the distance believed to have been covered, and the course steered. *From deduced reckoning, abbreviated first to "dead reckoning."*

DERRICK

A hoisting apparatus consisting of a tackle rigged at the end of a beam. *From the name of Thomas Derrick, a 17th century English hangman who devised a spar with a topping lift and purchase instead of the old-fashioned rope method.*

DECK

A deck in a ship corresponds to the floor in a building. Decks are named or numbered by the naval architect designing the ship and bear these names and numbers from that time on.

DECK BEAM

A beam which supports a deck.

DECK BEAM STRINGER PLATE, DECK STRINGER PLATE, DECK BEAM STRINGER

A plate stringer placed on the beam ends of any deck, the stringers take their names from the beams of the various decks on which they are laid.

DECK-BRIDGE

A partial deck extending from side to side of ship about amidships.

DECK-FORECASTLE

A partial deck at bow of ship, raised above weather deck.

DECK GIRDERS

Continuous longitudinals fastened under the deck.

DECK HOUSE

A small house erected upon the deck of a ship for any purpose.

DECK-HURRICANE OR BOAT DECK

The uppermost deck; deck where boats are stowed.

DECK LINE

The line from forward to aft where a deck touches the ship's side.

DECK-LOWER

The first deck above tank top.

DECK-MAIN

The deck at the top of the main body frames. Above the main deck the frames are smaller and lighter in weight.

DECK PILLAR

A pillar fitted to support a deck.

DECK PLAN

A drawing showing the layout of a deck.

DECK PLATING

Plates covering deck beams and thus forming an iron steel deck.

DECK-POOP

The raised deck on the after part of a ship.

DECK-PROMENADE

A deck above upper deck, set aside for use of first-class passengers on passenger ships.

DECK STRINGER ANGLE BAR OR GUNWALE BAR

An angle bar used to secure stringer plate of any deck to shell plating.

DECK TRANSVERSALS

See deck beams.

DEEP FLOORS

Floors in the fore and aft ends of a vessel, so called on account of their greater depth.

DEEP TANKS

These usually consist of ordinary hold compartments but strengthened to carry water ballast. They are placed at either or both ends of the engine and boiler space. They usually run from the tank top up to or above the lower deck.

DEEP WATER LINE

The line to which a vessel is submerged with a full cargo on board.

DEPTH MOLDED

Measured amidships from the top of keel to the top of beam at the upper deck.

DISPLACEMENT

Total weight of ship while afloat, including everything aboard.

DISTORTION

The result of excessive strains that cause a plate or a form to lose its proper shape.

DOGS

Holding devices used on doors, hatch covers, air ports and other hinged parts of a ship.

DONKEY ENGINE

An auxiliary engine to operate the lifting apparatus on deck.

DOUBLE BOTTOM

A tank whose bottom is formed by the bottom plates of a ship, used to hold water for ballast, for the storage of oil, etc.

DOUBLER PLATE

An extra plate of the same strength or stronger than the original plating secured to the original plating for additional strength.

DRAUGHT MARKS

The stern and stem are marked in feet to show the draught or depth of the vessel.

DRIFT PIN

A small tool used to draw adjoining parts in line so that the rivet holes will coincide.

DRY DOCK

A dock into which a vessel is floated, which when raised lifts the boat out of the water.

E

ENGINE ROOM

Where the engines of a ship are confined, next to the boilers.

ENSIGN

Ensign Bearer, shortened to Ensign, was the rank of a young officer in the early French Army. Adopted by the United States Navy in 1862. *From the old Norman "enseigne" for "flag."*

ERECTION

The process of hoisting into place and bolting up the various parts of the ship's hull, machinery fittings, etc.

F

FABRICATE

To shape, assemble, and secure in place the component parts in order to form a complete whole. To manufacture.

FAIRING A LINE

Straightening lines supposed to be straight or smoothing out into a smooth curve, lines supposed to be curved.

FAIRLEAD

A term applied to fittings or devices used in preserving the direction of a rope, chain or wire, so that it may be delivered fairly or on a straight lead to the sheave or drum, etc.

FAIRWATER

A term applied to plating fitted in the shape of a frustrum of a cone, around the ends of shaft tubes and struts to prevent an abrupt change in the stream lines. Also found at ends of heavy steel armor.

FANTAIL

The upper and round part of the stern. The frames or cants are arranged like the tail of the famous breed of pigeons, fantail.

FATHOM

A marine unit for measuring depth. Today one fathom equals six feet. *From the Anglo-Saxon "faehom" for the act of stretching two arms wide as a rough measurement of six feet.*

FIDLEY DECK

A partially raised deck over the engine and boiler rooms, always around the smokestack.

FILLET

Where two surfaces meet, forming a corner, any material in the corner to partially fill it is a fillet. Usually the fillet is concave.

FLANGE

The turned edge of a shape or plate, which acts to resist bending strain.

FLARE

The spreading out from the central vertical plans of the fore-body of a ship with increasing rapidity as the section rises from the water line to the rail.

FLAT

A term applied to a partial deck built without any camber.

FLAT KEEL

The bottom center line plate of the ship.

FLOOR

A plate placed vertically in the bottom of a ship on every frame and running athwartship, from bilge to bilge.

FLUSH DECK

A deck whose top side is flush.

FLUSH HEAD RIVET

A rivet, the head of which does not extend above the surface of the plate, angle bar, etc., in which it is driven.

FORE AND AFT

In line with the ship's keel; fore and aft deck line girders.

FORE BODY

That part from the amidships to the front of stem.

FORECASTLE or FOC'SLE

Crew's quarters on the forward part of the ship generally below the main deck on cargo ships and above the main deck in tankers. *The word forecastle or foc'sle has survived from the 12th century, when the Norman ships had castles of wood placed fore and aft on the decks to fight from.*

FORE, FORWARD

Toward the stem or front. Between the stem and amidships.

FORE PEAK

The narrow extremity of a vessel's bow. Also the hold space within it.

FORE RAKE

The forward part of the bow which overhangs the keel.

FORWARD PERPENDICULAR

A vertical line perpendicular to the base line at a point designated by the naval architect. Usually frames start numbering from the forward perpendicular, which is the zero frame.

FOUNDATION PLATE, SOLE PLATE

A plate to which an engine or pump, etc., is bolted. A plate forming part of a foundation.

FRAME ANGLE BARS

The angle bars of which a frame of any kind is constructed.

FRAME HEAD

The section of a frame that rises above the deck line.

FRAME LINES

Lines of a vessel as laid out on the mold loft floor, showing the form and position of the frames.

FRAME MOLD

A template for the frame of a ship.

FRAMES

The ribs of a ship.

FRAMES, CANT

A group of frames (cant frames) extending over the rudder forming the stern of the ship; frames not at right angles to the keel.

FRAME SPACING

The distance between frames.

FRAMES, REVERSE

Angles at top of floor plates; angle forming part of a frame, but in a reversed position to the angle joining the shell plating.

FRAMES, SIDE

Frames in the side above and connecting with the margin plates.

FREEBOARD

The distance from the water line to top of bulwark, amidships.

FREEING PORT

An opening in the bulwark or rail for discharging large quantities of water, when thrown by the sea upon the ship's deck. Some ships have what are called "swing gates" that allow water to drain off but which automatically close from the pressure of sea water.

FUNNEL

A large sheet iron tube, extending from the uptake high above the deck, through which the smoke and gases pass.

FURNACED PLATE

A plate that requires heating in order to shape it as required.

G

GADGET

Any little handy contraption such as a scraper or special sailmaker's palm, etc.

GALLEY

The kitchen of a vessel.

GALVANIZING

The process of coating one metal with another, ordinarily applied to the coating of iron or steel with zinc. The chief purpose of galvanizing is to prevent corrosion.

GANGPLANK

A board with cleats, forming a bridge reaching from a gangway of a vessel to the wharf.

GANGWAY

The opening in the bulwarks of a vessel through which persons come on board or disembark. Also a gangplank.

GARBOARD

The plating next to the flat keel, or what is known as strake A.

GEAR - (STEERING GEAR, RUNNING GEAR, CLEANING GEAR, ETC.)

A comprehensive term used in speaking of all the implements, apparatus, machinery, etc., that are used in any given operation.

GIB

A metal fitting that holds a member in place, or presses two members together.

GIRDER

A heavy supporting beam.

GIRTH

The measurement around the body of a ship The half girth is taken from the center line of the keel to the upper deck beam end.

GOOSENECK

A return, or 180 degree bend, having one leg shorter than the other. An iron swivel making up the fastening between a boom and a mast. It consists of a pin and an eyebolt, or clamp.

GRATING

An open iron lattice work used for covering hatchways and for forming a platform in engine room, stair landings, etc.

GRIPE

The sharp forward end of the dished keel on which the rudder is hung.

GROMMET

A ring of candle wicking used as a washer or gasket around bolts and studs to make a watertight joint.

GROUND WAYS

Stationary timbers, or tracks, laid on the ground or foundation cribbing, upon which the sliding bmbers or ways (supporting a vessel to be launched) travel.

GUDGEON

A metallic eye cast on the stern post, on which the rudder is hung.

GUNWALE

The line where a shelter deck stringer meets the shell. Pronounced gunnel.

GUNWALE BAR

An angle on the deck connecting both deck and shell.

GUSSET PLATE

A tie plate, used for fastening posts frames, beams, etc., to other objects.

GUTTER, WATERWAY

The gutter or runway between the gunwale and gutter angle bars, forming a channel for water to run to deck scuppers.

GUYS

Wire or hemp rope or chains to support booms, masts, davits, etc.; guys are employed in pairs. Where a span is fitted between two booms, for example, one pair only is required for the two.

H

HALF BEAMS

Short beams extending from a machinery or boiler casing or from the hatch side coaming to the side of the ship.

HALF-BREADTH PLAN

A plan of one-half of a vessel, divided by a center line drawn through the stem and stern posts. It shows the water, bow, and buttock lines.

HATCH BARS

The bars by which the hatches are fastened down.

HATCH BATTENS

Thin strips of wood or steel fitted tight against the coamings to hold the hatch covering or tarpaulin in place.

HATCH COVERS

Covers for closing up hatchways.

HATCH STRONG BACK

A member built up of plates and angles to provide a support for the hatch cover.

HATCHWAY

One of the large square openings in the deck of a ship through which freight is hoisted in or out, and access is had to the hold. There are four pieces in the frame of a hatchway. The fore and aft pieces are called coamings and those athwartship are called head ledges. The head ledges rest on the beams and the carlings extending between the beams. There may be forward, main and after hatchways, according to the size and character of the vessel.

HATCHWAY COAMING

Vertical plates forming the border around a hatchway.

HAWSE

That part of a ship's bow in which are the hawse holes for the anchor chains. *From an old English name for throat.*

HAWSE HOLE

A hole in the bow through which a cable or chain passes. It is a cast steel tube, having rounded projecting lips both inside and out.

HAWSE PIPE

A cast steel pipe connected to the hawse hole running from the shell to the deck, for chains to pass through.

HAWSE PLUG OR BLOCK

A stopper used to prevent water from entering the hawse hole in heavy weather.

HAWSER

A cable used in warping and mooring.

HEADER

A bar or angle under a deck the same size as deck beams. It is used around stair openings in deck, small hatch openings, or at dead end of longitudinals.

HEEL

The intersecting point or corner of the web and flange of a bar.

HELM

The rudder, steering wheel and tiller.

HOLD

An interior part of a ship, in which the cargo is stored. The various main compartments are distinguished as the forward, main, and after holds, or by numbers such as 1, 2, 3, 4, etc.

HOLD FAST

A dog or brace to hold objects rigidly in place.

HOME

See Tumble Home.

HORNING

Setting the frames of a vessel square to the keel after the proper inclination to the vertical due to the declivity of the keel has been given.

HULL

The body of a vessel, not including its masting, rigging, etc.

I

I-BEAMS

Steel beams with cross section like the letter "I."

IDLERS

Those on board ship who from being liable to constant day watch are not subject to night watch.

INBOARD

From the side to the center of ship.

INNER BOTTOM

The top of a double bottom. The tank top.

INNER STRINGER BAR

Any angle bar or flat bar on the inner part of a stringer plate.

INSIDE STRAKE

A strake the edges of which are overlapped by those of the outside strakes.

INTERCOSTALS

Plates which fit between floors, frames, or beams, as stiffeners.

INTERMEDIATE BEAMS

Beams placed between deck beams, if the spacing of the latter is unusually large.

INTERMEDIATE FRAMES

Those frames in a cellular double bottom to which no floor plates are connected.

J

JACK LADDER

A ladder with wooden steps and side ropes.

JACOB'S LADDER

A rope ladder with wooden rounds.

JOGGLE

To lap a joint by keeping one edge straight and bending the other in order to leave both surfaces even on one side. An offset in a plate, the depth of which is equal to the thickness of the plate forming the lap and that is not offset.

K

KEEL

The "backbone" of a ship. A series of connected plates running fore and aft on the bottom of the center line of the ship.

KEEL BLOCKS

Blocks on which the keel of a vessel rests when being built, or when she is in dry dock.

KEELSON

A vertical strake of plates on the keel at the center line, running fore and aft from stem to stern. It is sometimes called the center line girder or center keelson.

KING POSTS

The main pillar posts of the ship. Also called samson post. A post or pillar forming support for a cargo boom.

KNEE

An angle or channel from deck beam to shell frame taking the place of a bracket.

KNOT

A unit for measuring speed. 1 Nautical mile per hour.
1 knot is 0.51 meter in the 1 second.

This why "she goes 10 knots" is right, and "she goes 10 knots an hour" is wrong.

Note: Since the nautical mile measures 6080 feet against the 5280 feet in the land mile, there is a difference in the speed of a ship in "knots" and the speed of an automobile in "miles per hour" (eg. 10 knots = 11.5 mph)

KNUCKLE

An abrupt change in direction of plating, frames, keel, deck, tank top, and other structures of a vessel. Most frequently used with reference to the line at the apex of the angle dividing the upper and lower part of the stern or counter. See knuckle line.

KNUCKLE LINE

A line around the stern of a ship, on the cant frames, which divides the upper and lower parts of the stern. Also an abrupt turn in any plate, bulkhead, tank top, or deck. The line where a flanged bracket is pressed is also called a knuckle line.

L

LADDER

Inclined or vertical steps on board ship taking the place of "stairs."

LANDING

The distance from the edge of a plate or bar to the center of the first rivet hole.

LANDING STAIRS

Tread on stairs enlarged to form a platform.

LAP

A joint in which one part of a plate overlaps another, thus avoiding the use of a butt strap.

LAUNCH

To place a vessel in the water, after completion.

LAYING OFF

Marking plates, bars or shapes for shearing, punching, bending, and identification from a template or print.

LAY OUT

To develop on a working surface, lines to their true dimensions.

LENGTH BETWEEN PERPENDICULARS (L.B.P.)

Measured from the forward perpendicular to the after perpendicular.

LIFT A TEMPLATE

To construct a template to the same size and shape as the part of the ship to be duplicated.

LIFT FROM THE HULL

As a rule, templates are made for most plates and bars, but sometimes it is necessary to "lift" by placing a frame of wood around the opening for the missing plate, and when nailed, to transfer the holes of the adjoining plates by pencil mark, and when a sufficient amount of landing has been given, the plate should be the proper size.

LIFTING

Transferring marks, shapes, and measurements from a ship drawing, or model, to a plate or other object, by means of templates.

LIGHTENING HOLES

A hole cut in a plate to make it lighter and yet not reduce its strength. Sometimes large enough to be called a manhole.

LIGHT LOAD LINE

The water line when the ship rides empty.

LIGHT PORT

An opening in a ship's side, provided with a glazed lid or cover for the admission of light.

LIMBER HOLES

Holes in the bottoms of floors for drainage, or at the top of floors for gas to escape.

LINER

A piece of flat steel which may or may not taper to a feather edge. Used to fill out a lap or to form a middle layer between two objects. Also for leveling foundations.

LIST

If one side of a vessel lies deeper in the water than the opposite side, caused by the shifting of cargo, etc., it is said to list.

LENGTH OVER ALL (L.O.A.)

Measured from the most forward part of the fore end to the most after part of the after end of the hull.

LOAD WATER LINE (L.W.L.)

A line painted on the side of the vessel to which the vessel sinks when carrying its full load. The water line when a vessel is carrying its full load.

LOCKER

A storage compartment in a ship.

LOFT

See mold loft.

LOFTSMAN

A man who lays out the ship's lines in the mold loft and makes the molds and templates.

LONGITUDINAL

A bulkhead, frame, or longitudinal stiffener, running fore and aft.

LOWER DECK

The deck next above the tank top.

M

MAIN BEAM - LONGITUDINAL

The two largest beams supporting a deck between which are cargo hatches.

MAIN BEAM - TRANSVERSE

Large beams at hatch ends, same size as longitudinal main beams.

MAIN BODY

The hull proper, without deck-house, etc.

MAIN BODY FRAMES - MAIN FRAMES

Frames below the main deck of a vessel.

MAIN BREADTH LINE

The greatest width of a ship. If a ship's sides tumble home, the main breadth line will be at the point where the tumble home begins.

MAIN DECK

The principal strength deck in a ship, atop the heaviest or main frames.

MAIN DECK STRINGER INNER ANGLE BAR OR WATERWAY BAR

An angle bar forming inner side of waterway.

MAIN DECK STRINGER OUTER ANGLE BAR OR GUNWALE BAR

An angle bar connecting main deck stringer to shell plating.

MANHOLE

A hole in a tank, boiler or compartment on a ship, designed to allow the passage of a man for examination, cleaning, and repairs.

MARGIN PLATE

A tank top plate carrying a knuckle.

MAST

A hollow steel pipe or tube made up of plates and doublers tapering smaller at the top, placed on the center line of the ship.

MESSROOM

A dining room on a ship.

MIDSHIP

The vertical transverse section located at the mid point between the forward and after perpendiculars. Usually this is the largest section of the ship in area.

MILE

The ordinary unit for measuring distance.

There are two different types of mile, the nautical and the statute.

The nautical mile is 6080.2 feet and is used by navigators to measure distance at sea and in the air.

For all practical purposes, 1 minute of latitude equals 1 nautical mile.

The statute mile is 5280 feet and is used to measure distances on land.

1 nautical mile = 1.15 statute miles.

1 statute mile = 0.87 nautical miles.

MITER

To match angles; an angled cut made for a joint.

MOLD

A pattern or template. Also a shape of metal or wood over or in which an object may be hammered or pressed to fit.

MOLDED DEPTH

The extreme height of a vessel amidships, from the top of the keel to the top of the shelter deck.

MOLDED LINE

A working point, used to guide the structural alignment in accordance with the design.

MOLD LOFT

The large enclosed floor where the lines of a vessel are laid out and the molds or templates made.

MOORING

Securing a vessel in position by cables or lines.

MOORING LINES

Cables or hawse lines used to tie up a ship.

MOORING PIPE

A round or oval opening in the bulwark framed with a cast iron rim or collar used for passing the mooring ropes, cables, etc., through

MUSHROOM VENTILATOR

A short cast iron tube having a movable iron rod passing through its center. On top of the rod is fixed a round metal cup, which may be lifted to admit air or closed to prevent water entering tube, usually fitted over cabins.

N

NAUTICAL MILE

The 60th part of an equatorial degree, equal to about 6,080 English feet; therefore 6 nautical miles represent 7 English miles, approximately.

NAVAL ARCHITECT

One who designs ships.

NAVAL ARCHITECTURE

The science of designing vessels.

NAVIGATION BRIDGE

The bridge used for taking observations, or directing the handling of the ship.

NEUTRAL CENTER

The plane which is the geometrical center of the thickness of a plate.

NOSE PLATE

A junction plate for the stem ends of port and starboard strakes above the top of the stem casting.

O

OAKUM

A material made of tarred rope fibers, used for calking seams in a wooden deck.

OFFSET

To bend out of line sharply. The points given by the draftsman to the loftsmen for putting down lines.

OILTIGHT

Packed and calked to prevent flow or waste of oil.

ON BOARD

On or in a ship.

ORLOP DECK

The lowermost deck in a ship having four decks, or lower deck. See deck, lower.

OUTBOARD

Used to designate from the center to the sides of a ship.

OUTBOARD PROFILE

A plan representing the longitudinal exterior of a vessel, showing a side of the shell, all deck erections, masts, yards, rigging, rails, etc.

OUTER BOTTOM

That portion of the shell plating of a vessel forming the bottom.

OUTER SKIN

The outside plating of a vessel.

OUTSIDE PLATING

See shell plating.

OUTSIDE STRAKE, OVERLAPPING STRAKE

A strake of plating which overlaps inside strakes with its upper and lower edges.

OVERHANG OR COUNTER

The amount of a ship's hull projecting above and beyond a perpendicular from the water line at stem or stern.

OVERLAP OF PLATING

That portion of a strake of shell plating, etc., covering that of another strake.

OXTER PLATE

The name of a plate that fits in the curve at the meeting of the shell and the stern post at the counter.

P

PANTING

The pulsation in and out of the bow and stern plating as the ship alternately rises and plunges deep into the water.

PANTING STRINGER

A horizontal stiffener with a breast hook giving added strength against panting.

PARAVANE

A water plane with a protecting wing placed on bottom forward end of the keel stem. An airplane shaped device swung overboard on end of a cable off mine sweepers, to cut cables.

PEAK TANK

Tanks in the forward and after ends of a vessel. The principal use of peak tanks is in trimming the ship. Their ballast is varied to meet required changes in trim. Should the after hold be empty, the vessel would ride so high that the propeller would lie half out of water and lose much of its efficiency. Filling the after peak tank forces the propeller deeper into the water.

PILLAR

Any steel bar or column, fitted vertically, to support a deck, or any part of a ship's structure. Also called a stanchion.

PINTLE

A tapered metal pin which fastens the rudder to the stern post and affords an axis of oscillation as the rudder is moved from side to side for steering.

PITCH

The distance between the center of two contiguous objects, such as teeth of a wheel, etc.; also the distance a screw propeller would advance in one revolution, if turning in a steadfast medium.

PLATEN

A flat working surface for layout and assembly work.

PLATES, DIAGONAL

Plates fitted diagonally.

PLATFORM

Plating joined horizontally, forming an elevated stand or flooring.

PLATING

Flat steel stock of various thicknesses.

PLAY

The difference between the diameter of a shaft rod, etc., and that of the hole in which it works.

PLIMSOLL LINE

The mark stenciled in and painted on a ship's side, designated by a circle and horizontal lines to mark the highest permissible load water lines under different conditions.

PLUG WELD

Welded up oblong holes in a plate that laps on another plate or casting.

PONTOON

A portable tank used to give buoyancy.

POOP

The structure or raised deck at the after end.

POOP BULKHEAD

A bulkhead placed at the fore end of a poop between the shelter deck and the poop deck.

POOP DECK BEAMS

The beams on which a poop deck is laid.

POOP DECK WATERWAY

The space between the gunwale and the gutter angle bars on a poop.

POOP LADDER

A ladder leading from a shelter deck to a poop deck.

POOP RAIL

A rail surrounding the poop deck.

PORT

An opening in a vessel's side, in a bulwark, etc., used for various purposes.

PORT BROW

A flange protruding above a port to keep drip from entering.

PORT HOLE

An opening in the ship's shell plating.

PORT LID

A shutter for closing a port hole in stormy weather.

PORT SIDE

The left-hand side of the ship looking forward, toward the bow or stem.

POUCHES

Strong bulkheads placed across the hold to prevent the cargo from shifting in vessels that are laden in bulk.

PRICK PUNCH

A small punch with a keen point used to transfer the holes from the template to the plate.

PROFILE PLAN

The side elevation of a ship's form.

PROOF STRAIN

A limited test applied to anchors, chains, etc., to prove the trustworthiness of the material from which they were manufactured.

PROPELLER

The means by which a vessel is driven through the water.

PROPELLER ARCH

The arched section of the hull above the propeller.

PROPELLER BLADE FLANGE

A flange on blades that are bolted to propeller boss.

PROPELLER BLADES

The flat arms that take hold on the water as propeller turns.

PROPELLER BOSS

The hub to which removable blades are bolted.

PROPELLER SCREW

A propeller so called because blades are at an angle to line of axis, similar to the thread of a screw.

PROPELLER SHAFT, TAIL SHAFT

The shaft to which the propeller is keyed or fastened.

PROW

The part of the bow extending from the load water line to the top of the bow.

PUNCHED RIVET HOLE

A rivet made by a punching machine.

Q

QUADRANT

A nautical instrument, on the arc of which is a finely graduated scale showing degrees and minutes, with adjustable reflectors, etc.; used to find the altitude of heavenly bodies, angular distances, etc.; on a marine engine, quadrant bars are part of the reversing gear. On a steering gear, the rudder quadrant is a section of a wheel or sheave fastened to the rudder head.

QUADRUPLE RIVETING

The riveting together of parts by four rows of rivets.

QUARTER MAN

An officer having charge of a subdivision of workmen in a navy yard.

QUARTERMASTER

An able seaman, almost exclusively employed for steering a vessel; on large steamers four to six men so rated relieve each other every hour or two. A petty officer in the navy.

QUARTERS (OF A SHIP)

Living space for the crew.

QUICKEN

To shorten the radius of a curve; as, to quicken a sheer is to make it more pronounced.

R

RABBET

An edge having material removed to accommodate other material to be applied on that edge.

RACK

A shelf, framework, etc., in which objects are secured to prevent them from moving about.

RAIL

A guard made of flat pieces of wood, or steel bars or rods, joined, and connected to the upper edge of the bulwark plating, or fitted upon the summits of stanchions surrounding an upper deck, bridge, poop, or forecastle, etc.

RAIL STANCHIONS

The iron stanchions, about three feet high, placed about the same distance apart, fitted with several tiers of guard ropes or chains, to enclose the sides and ends of a bridge, forecastle or poop, and sometimes an upper deck.

RAISED QUARTER DECK

A structure interrupting the after portion of a shelter deck, raised several feet above it, extending from side to side of a vessel.

RAKE

The inclination of a vessel's mast, funnel, stem, etc., from its upright angle with the keel. The rake may be either forward or aft. The elevation of the out end of a bowsprit above the level of its inner end.

REAMING

Using a reamer to make rivet holes fair and smooth on the inside.

RECESS BULKHEAD

A bulkhead of any recessed portion of a hold or compartment.

RECESS OF TUNNEL

The elevated and extended portion of a tunnel. At the after end such an enlargement of tunnel is called "stuffing box recess," while at the forward end it is known as "thrust recess."

REDUCTION GEARS

The gears that reduce turbine speed to propeller speed. They constitute an important part of a turbine installation and may be located forward or aft of the turbines. The reduction is generally made in two stages.

RESERVE BUOYANCY (OF A VESSEL)

The lifting power. It may be measured by the volume of watertight hull above the load water line.

REVERSE FRAME

An angle bar with its heel against another angle to give the other angle additional strength.

RIBBAND

Strips of material temporarily holding parts of a ship in position.

RIDER FRAME

Any frame riveted or welded on another frame for the purpose of stiffening it.

RIDER PLATES

Plates set on top of the center keelson. The strake of plates at the center line of each deck.

RIGGER

One whose occupation is to rig or unrig vessels, take up or down the yards, etc.

RIGGING

Manila and wire ropes, lashings, etc., used to support booms, masts, spars, etc. Also, handling and placing heavy weights and machinery.

RISER

A vertical plate between steps in a stairway.

RIVET

A metal pin by which the plating and other parts of iron and steel vessels are joined. Rivets are known by their heads, such as: Flush, pan, snap, plug, tap, countersunk, mushroom, and swollen neck.

RIVET HOLES

The punched or drilled holes in plating, frames, etc., into which the rivets are driven for connection.

RIVETING

To fasten with rivets.

ROLLER CHOCKS

Chocks with a short vertical roller fixed to ease a line passing through.

ROW OF RIVETS

A continuous line of rivets.

RUDDER

A swinging vane, built up of casting and plates, hung to the stern post of a ship, by which the ship is steered.

RUDDER ARM

"L" shaped casting flanged to rudder stock forming an arm to control the rudder.

RUDDER, BOW

A rudder placed at the bottom of the forward stem and maneuvered from the fore peak.

RUDDER FLANGE

The flange which ties the main part of the rudder to the rudder trunk.

RUDDER, PILOT

A small rudder fastened to the after part of the regular rudder which by hydraulic action pulls the main rudder to either side.

RUDDER POST OR RUDDER STOCK

That portion of the rudder casting bearing the gudgeon eyes or "hinge ears" and rudder flange.

RUDDER TRUNK TUBE

A cylinder made up of plates which enclose the rudder trunk or stock.

RUN

The narrowing of a vessel's after bottom.

S

SAGGED

When from some cause a vessel's form is so altered that the ends of the keel are much above the level of its midship portion, it is said to be "sagged."

SCARF or SCARPH

A lapped joint made by beveling off, or otherwise cutting away the sides of two plates at the ends.

SCREEN BULKHEAD

An arrangement to prevent the cold air from striking the boilers directly.

SCREW BOSS

The thicker central portion of a screw propeller, to which movable blades are attached by studs and nuts.

SCREW PROPELLER

A propeller having blades or paddles set at an angle and having a pitch like a screw thread which, when driven by a shaft, forces the vessel to move.

SCRIEVE BOARD

A large section of flooring in the mold loft on which the frame molded lines of the ship is drawn in full size.

SCUPPER PIPE

Pipe connected to deck scupper to allow water to run below decks, to prevent waste water flowing down the sides of ship.

SCUPPERS

Openings in the shell plating just above deck plating to allow water to run overboard.

SCUTTLE

A small hatch.

SEAM

The line where the edges of plates meet when joining each other.

SECTION

A drawing representing the internal parts of a vessel as if she had been cut straight through, either longitudinally or athwartships.

SHAFT ALLEY

A watertight passage, housing the propeller shafting from the engine room to the bulkhead at which the stern tubes commence. It provides access to the shafting and its bearings and also prevents any damage to the same from the cargo in the spaces through which it passes.

SHAFT ALLEY TUNNEL

An enclosure of watertight construction, extending along the middle of engine room bulkhead on tank top to the stuffing box, at the after end. It contains the shaft which is elevated.

SHAFT, SPARE

An extra tail shaft. (Steamers generally carry one or more stowed in the shaft alley.)

SHAFT STRUT

A term applied to a bracket supporting the after end of the propeller shaft and the propeller in twin or

multiple screwed vessels having propeller shafts fitted off from the center line.

SHEARING

Cutting or trimming the edges of steel member.

SHEER

The upward curvature of the lines of a vessel toward the bow and stern.

SHEER PLAN

A vertical longitudinal center line section of a vessel.

SHEERSTRAKE

The topmost strake of shell plating extending from stem to stern.

SHELL

The outside plating of a ship from stem to stern.

SHELL DOUBLING OR DOUBLER

An extra plate added to strengthen the shell.

SHELL PLATING

The plating forming the outer skin of a vessel.

SHELTER DECK OR WEATHER DECK

The top deck of a vessel reaching from shell to shell.

SHIM

A piece of metal or wood placed under the bedplate or base of a machine or fitting for the purpose of truing it up.

SHIP FITTER

A mechanic who makes templates, marks, assembles, and fastens in place plates and shapes for the hull of a ship. Should be able to do any fitting on ship.

SHIP'S LOG

A book with a record of every occurrence and incident concerning the ship.

SHIPWRIGHT

A ship builder, or one who works about a ship. Does wood carpentry on the ship and keeps ships faired. Builds launching ways and launches ship.

SHORE

One of the many wooden props by which the ribs or frames of a vessel are externally supported while building, or by which the vessel is held upright on the ways.

SHORING

The act of supporting anything by shoring it up.

SHROUD PADS

Devices for attaching shrouds or guy cables to crosstree and bulwark.

SKELETON (OF A VESSEL)

The hull without the outside and inside plating.

SKIN

The plating of a ship.

SKYLIGHT

A framing of metal fitted over an opening in a deck, with window glass inserted for the admission of light into a cabin, engine room, etc.

SLIDING WAYS

A structure of heavy timbers placed between ground ways and cradle to support the ship during launching.

SLUICE

An opening in the lower part of a bulkhead fitted with a sliding watertight gate or door having an operating rod extending to the upper deck or decks.

SOFT PATCH

A plate put on over a break or hole, and secured with stud bolts. It is made watertight with a gasket such as canvas saturated with red lead.

SOUNDING PIPE

A pipe leading from main deck to double bottom of sufficient size to allow a round piece of metal attached to a line to be lowered to ascertain the amount of liquid in the double bottom.

SPACING OF RIVETS

The distance from the center of one rivet hole to the center of the next, depending on the diameter of the rivets and the purpose for which they are employed.

SPAR

A pole used for a hoist or in scaffolding.

SPILING

The curve of a plate or strake as it narrows to a point.

SPLINE

A flexible strip used for fairing lines.

SPLINE PLATE

A vertical plate on center line of nose plate above stem casting.

SPOT-FACED

Indicates that an annular facing has been made about a bolt hole to allow a nut or head to seat evenly.

STABILITY

The tendency in a boat to keep an upright position or to return to it when careened over.

STAGE

A platform of boards or planks, hung in ropes or otherwise supported for a person to stand upon when leaning, scraping or painting the outside or inside of a vessel.

STAGGER

To zigzag a line, or row of rivet holes, etc.

STAGGERED OR ZIGZAG RIVETING

Two rows of riveting with alternating spaces.

STANCHION

A pillar or iron post for supporting the decks, etc.

STAPLING COLLARS OR STAPLES

Forged angle bars fitted around continuous members passing through bulkheads or decks, for water tightness or oil tightness.

STARBOARD SIDE

The right-hand side, looking from aft forward

STAYS

Bars used for binding or supporting or holding parts together.

STEALER OR STEALER PLATE

A plate taking two strakes used near either end of the ship.

STEERAGE

The after part of a vessel having the poorest accommodations and occupied by the steerage passengers, or those paying the lowest fare.

STEERING GEAR FLAT

The deck above the stern overhang, on which the rudder steering mechanism is installed.

STEM

The bow of the ship, the part where the port and starboard meet up forward.

STERN

The after or rear end of the vessel.

STERN CASTING OR FRAME

A heavy steel casting or forging at stern of vessel supporting the rudder and to which the shell plate strakes are fastened.

STERN POST

A massive casting of special design, shaped to allow the propeller blades to revolve. The rudder is fitted on the after post.

STERN TUBE

The bearing which supports the propeller shaft where it emerges from the ship. A cast steel cylinder, fitted with brass bushings which are lined with lignum vitae or metal bearing surfaces, upon which the propeller shaft, enclosed in a brass sleeve, rotates.

STIFFENER

An angle bar or stringer fastened to a surface to strengthen it and make it rigid.

STOPWATER (In riveted ships)

A packing of felt or canvas and red lead to prevent water from passing through metal parts where calking is impracticable.

STOPWATER (In welded ships)

A plug weld where a hole was cut through a plate at a point opposite which a butt of plates occurs. It is used to make a tight joint.

STRAKE

A continuous row of plates.

STRINGER

A longitudinal stiffener for the side of a ship, made of angle bar, bulb angle channel or plates, etc. Depending upon their locations, stringers are known as bilge stringers, side stringers, hole stringers, etc.

STRINGER PLATE

The outboard strake of plates next to the shell.

STRINGER, STAIRWAY

A channel or flanged plate used in making the sides of a set of stairs.

STRONG BACK

A bar for locking cargo port doors and watertight scuttles.

STRONG BEAM

A portable beam to hold hatch covers and deck loads.

STRONG BEAM OR TROLLEY BEAM

A portable beam over engine and boiler room space in the engine and boiler room casing carrying a traveling hoist.

STRUT

Strips of flat iron used to brace one part with another.

SUNK FORECASTLE

A forecastle partly above and partly below the level of an upper deck.

SUNK POOP

A poop set part way down into the 'tween decks. In a case of this kind, the poop deck is but a little above the next deck forward.

SUPERSTRUCTURE

Any structure built above the top full deck, such as a deck house, bridge, etc.

SWASH BULKHEADS

Longitudinal or transverse bulkheads fitted in a tank to decrease the swerving action of the water. Their function is greatest when the tanks are partially filled. Without them the unrestricted action of the liquid against the sides of the tank would be severe.

SWASH PLATE

A plate fitted in a tank to retard the flow or surge of liquid cargo or ballast when the ship rolls or pitches.

SYMBOLS

Marks of identification.

T

TAIL SHAFT

The aft section of the shaft which received the propellers.

TANKS

Are of two kinds: First, those built in permanently and part of the ship's structure, used for the reception of water ballast, fuel, oil, or liquid cargo; second, those constructed specially and removable if necessary. These vary greatly in size and shape and the purpose for which used.

TANK TOP

The plating laid on the floors of a ship which forms the top side of the tank sections or double bottom.

TANK VESSEL (TANKER)

A vessel specially constructed and equipped with tanks for carrying liquids in bulk.

TAP

To cut threads inside of a hole. A tool for tapping.

TAUT

Stretched tight.

TEE IRON, TEE BAR

Bar iron with cross section like the letter "T."

TEMPLATE

Patterns made in the mold loft from wood strips, cardboard, or heavy paper.

TEMPORARY BULKHEAD

A bulkhead fitted for temporary purposes.

TIPPING BRACKETS

Flat bar or plate brackets placed at various points on deck girders, beams, stiffeners or longitudinals as reinforcement.

TOE

The edge of a flange on a bar.

TONGUE

The tongue of a stern post or propeller post is the raised middle section which is fastened to the vertical keel. As a rule the tongue is raised twice as high as the sides of the dished keel.

TRANSOM FRAME

The last transverse frame of a ship's structure. The cant frames, usually normal to the round of the stern, connect with it.

TRANSOM PLATE

The plate between the fantail and the hull.

TRANSVERSE

Placed at right angles to the keel, such as a transverse frame, transverse bulkhead, etc. See also abeam and athwart.

TRANSVERSE BULKHEAD

A bulkhead placed athwartships.

TREAD

A step in a stairway.

TRIMMING TANKS, PEAK TANKS

Tanks at the extreme ends of a vessel. By filling or emptying one or the other, a ship may be easily trimmed by the head or stern as required.

TRIPLE RIVETING

To fasten by three rows of rivets.

TRUCK PLATE

A flat plate fitted to the stern post and flanged to take strakes of stern plating.

TUMBLE HOME

The distance the ship's side falls in towards the center line above the load water line. (Opposite to flare.)

TUNNEL RECESS

The elevated and extended after portion of a tunnel.

TURBINE

A form of engine in which all driving parts rotate. There are various types in marine use.

TURNBUCKLES

Used to pull objects together. A link threaded on both ends of a short bar, one left-handed, the other right-handed.

TURTLE BACK

The top of a wheelhouse, forecastle, etc., having the form of a turtle's back.

'TWEEN DECKS

The space between any decks.

U

UMBRELLA

A metal shield in the form of a frustrum of a cone, fitted to the outer casing of the smokestack over the air casing to keep out the weather.

UPPER WORKS

Superstructures, or deck erections located on or above the weather deck. Sometimes used with reference to a ship's entire above-water structure.

UPTAKE

The part connecting smoke box to funnel. Sometimes the term is used to include the smoke box.

V

VENTILATOR

A device for furnishing fresh air to compartments below deck or exhausting foul air.

VERTICAL CENTER KEELSON, VERTICAL KEEL

A keelson of strong vertical plates fitted at the center line upon the keel and to which the (half) floor plates are connected by welding or by vertical angle bars.

W

WAKE

The motion of water left by a moving ship.

WALKWAY OR CAT WALK

Used on oil tankers. An elevated runway from poop to midship, and midship to fore castle deck. It affords means of safe passage for crew members when deck is awash in stormy weather.

WATER BALLAST

Sea water used for ballast, let into the double bottom, or into a water-ballast tank, or trimming tanks.

WATER BALLAST TANKS

Tanks in the double bottom used for ballast.

WATER LINES

Lines drawn parallel with the surface of the water at varying heights on a ship's outline. In the sheer plan, they are straight and horizontal; in the half breadth plan they show the form of the ship at each of the successive heights marked.

WATER LINE LIGHT

The line to which a vessel is submerged without cargo on board.

WATER LINE LOADED

The line to which a vessel is submerged with full cargo.

WATERTIGHT BULKHEAD

A bulkhead that will not let water pass from one side of it to the other.

WATERTIGHT COMPARTMENT

A compartment having a watertight bulkhead at each end.

WATERWAY

A gutter at the edge of a deck for draining water to scuppers.

WATERWAY BAR OR GUTTER ANGLE BAR

An angle or flat bar attached to a deck stringer plate forming the inboard boundary of a waterway and serving as an abutment for the wood deck plating.

WAYS

The framework of timber, etc., on which a vessel is built, from which she is launched into the water.

WEATHER DECK

A deck exposed to the wind and sea, i.e., not fully covered by a deck above and with side plating coming up to it.

WEB

The plate or its equivalent in a beam or girder, which connects the upper and lower flanges or laterally extending members.

WEB FRAME

A frame built up transversely with a plate or plates to give greater stiffness.

WEDGES

Tapered pieces of wood or iron, used extensively to force parts into place.

WEEPING

When water oozes through the seams of a vessel's shell, or a steam boiler, etc., they are said to weep.

WELDING

Connecting two separate pieces of steel, iron or other metal with a gas flame or an electric arc, so that they become all one piece.

WELL

That portion of any upper deck (weather deck) -between a bridge and a fore-castle bulkhead.

WELL DECK VESSEL

A vessel having a long poop, or raised quarter-deck, and the bridge house combined, and a fore-castle; the deepening between these structures forming the "well."

WHEEL HOUSE

A house over the wheel.

WINCH

A machine used for loading and discharging cargo, or for hauling in lines.

WINCH HEAD

A drum (usually of small diameter and concave) on a winch. Designed for taking and holding the turns of a rope.

WINDLASS

A special form of winch used to hoist the anchors. It has two drums designed to grab the links of the anchor chains and is fitted with ratchet and braking device suitable for "paying out" chain.

WING TANKS

Tanks formed by a bell and bulkheads, not reaching to center line bulkhead.

WORK

Tasks performed by the volunteers on the BROWN.

X**Y****Z****ZEE BARS**

Steel bars with cross section like letter "Z."