

**CLASS 114, SHIPS****SECTION I - CLASS DEFINITION**

This class includes marine vehicles and accessories, as merchant vessels, warships, submarines, torpedoboats, etc., their spars, sails, and fittings specific thereto and not otherwise classifiable.

**SECTION II - REFERENCES TO OTHER CLASSES**

## SEE OR SEARCH CLASS:

- 33, Geometrical Instruments, subclasses 713 through 731, and see the notes thereto for depth sounding devices and related art.
- 182, Fire Escape, Ladder, or Scaffold, subclass 1 for a horizontally pivoted ladder wherein a step remains level, subclasses 83-86 for a wall attached platform and ladder, and subclasses 93-99 for a wall attached ladder.
- 244, Aeronautics and Astronautics, subclasses 3.1 through 3.3 for control or stabilizing means for missiles and subclasses 75.1-99.9 for apparatus and devices for controlling aircraft generally of the manned typed. Subclasses 76-82 is the generic subclass for the automatic steering of mobile craft in two and three dimensions. See subclasses 175-197 and the classes specified in the notes thereto for the classes which provide for electrically controlled or actuated apparatus for automatically controlling the motion and/or steering of mobile craft and for a statement as to the line between the classes.
- 440, Marine Propulsion, appropriate subclasses for marine vehicle propulsion devices, per se, and especially subclasses 38 through 47 for marine jet drive propulsion and subclasses 49-83 for screw propeller-type propulsion.
- 441, Buoys, Rafts, and Aquatic Devices, appropriate subclasses for rafts.
- 505, Superconductor Technology: Apparatus, Material, Process, subclasses 150 through 239 for high temperature ( $T_c > 30$  K) superconducting systems or devices, particularly subclass 164 for projectile or launching device or system.

## SUBCLASSES

- 1 WARSHIPS:**  
This subclass is indented under the class definition. Ships and similar structures for offensive and defensive purposes, elements or details specific thereto, and inventions relating to the construction and building of such vessels not otherwise classifiable.
- 2 Rams:**  
This subclass is indented under subclass 1. Vessels provided with bow or stern extensions below the waterline for ramming purposes or ships having battering-rams or augers.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
41, for rams used in ice-breaking.
- 3 Battering:**  
This subclass is indented under subclass 2. Vessels having reciprocating or thrusting rams designed to batter in or puncture the hull of a vessel; also vessels provided with augers or boring devices to effect the same ends.
- SEE OR SEARCH CLASS:  
81, Tools, subclass 463 and see the notes thereto for other impact tools.
- 4 Floating batteries:**  
This subclass is indented under subclass 1. Floating forts designed to be anchored in harbors usually of circular section and cylindrical or globular in form, and though such forts may have means of propulsion they differ from the general type of warships and form a distinctive class.
- (1) Note. These devices differ from turrets in that turrets are fortified structures mounted upon, rotating with, or being elevated upon other structures, while floating batteries form a single structure, being rotated or elevated as a whole.
- 5 Turret:**  
This subclass is indented under subclass 1. Warships having mounted thereon an armored short or flat tower, generally cylindrical or conical in shape within which guns are operated. These structures usually rotate upon or are elevated or lowered on the vessel carrying them.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
4, for revolving vessels.
- SEE OR SEARCH CLASS:  
89, Ordnance, subclass 36.13 for turret-type shields.
- 6 Combined elevating and rotary:**  
This subclass is indented under subclass 5. Warships provided with revoluble turrets that may be elevated or depressed at will.
- 7 Elevating:**  
This subclass is indented under subclass 5. Turrets that may be elevated or depressed on the vessel that supports them.
- 8 Rotary:**  
This subclass is indented under subclass 5. Turrets that are revoluble upon the vessel supporting them.
- 9 Armored:**  
This subclass is indented under subclass 1. Miscellaneous armor-clad vessels in which turret features are not claimed and which involve novelty in protected hulls or decks, etc., either through belts or sheathing of armor-plate which may be placed to form deflecting-surfaces or by means of temporary shields and screens.
- SEE OR SEARCH CLASS:  
109, Safes, Bank Protection, or a Related Device, appropriate subclasses, particularly subclass 49.5 for nonvehicular screens or shields for persons; subclass 58.5 for gun ports, and subclasses 78-85 for penetration-resistive rigid wall structures not involving a combination with a gun or gun mount.  
428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a single or plural layer web or sheet, and especially subclasses 457 through 472.3 for a composite product including a layer of metal, and subclasses 615-686 for a metallic composite defined in terms of the composition of its components.
- 10 Deflectors:**  
This subclass is indented under subclass 9. Devices for protecting warships by means of armor arranged to form deflecting-surfaces to receive the impact of projectiles and cause their rebound.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
5, through 8, for turrets.
- 11 Belting and plating:**  
This subclass is indented under subclass 9. Inventions in protecting warships by armor, involving the structure, assembling, and securing of armor-plates or equivalent upon the hull, decks, or elsewhere to form sheaths or belts.
- 12 Compound:**  
This subclass is indented under subclass 11. Armor-plating composed of a plurality of superposed parts jointed or locked together to form an integral plate or in which the belting or plating is of a compound character formed of different materials, including buffers or equivalent, or structurally united or in which the plating is composed of a plurality of layers of plates.
- 13 Buffers:**  
This subclass is indented under subclass 12. Armor belting and plating in which yielding or elastic means are provided either at the backing or supports or between the elements of the compound armor or plates.
- 14 Screens and shields:**  
This subclass is indented under subclass 9. Devices in which protection is secured to the vessel or crew by means of a screen or shield secured to the vessel or which is portable.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
174, for stoppers.  
175, for gun port.
- SEE OR SEARCH CLASS:  
89, Ordnance, subclass 36.12 for shields of gun-mounts.

- 109, Safes, Bank Protection, or a Related Device, appropriate subclasses, particularly subclass 49.5 for nonvehicular screens or shields for persons; subclass 58.5 for gun ports and subclasses 78-85 for rigid penetration-resistant walls or armor not involving a combination with a gun or gun mount.
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses for a single or plural layer web or sheet stock material, and especially subclass 911 (a cross-reference art collection) for such product having a penetration resistant layer.
- 15 Concealment:**  
This subclass is indented under subclass 1. Means for rendering a warship invisible or indistinguishable at a distance by particular combinations of paints or through resemblance to surroundings.
- 18 TORPEDO BOATS:**  
This subclass is indented under the class definition. Torpedo-boats that run on the surface or awash and that are not submergible. All have means for placing, launching, or discharging torpedoes or are themselves the carrier of the explosive.
- (1) Note. Torpedoboats differ from torpedoes in that they are manned and controlled by a crew while torpedoes carry no crew, are not designed for such purpose and are much smaller.
- 19 Spar:**  
This subclass is indented under subclass 18. Torpedoboats carrying torpedoes at the end of a spar, the torpedo being exploded on contacting the hull of the vessel toward which it is directed, being launched from the spar toward the hull, or discharged at will.
- 20.1 TORPEDOES:**  
This subclass is indented under the class definition. Subject matter including fish or automobile torpedoes, the power or propulsion being self-contained and nearly always actuating screw-propellers, which propel the torpedo on the surface or at any desired depth.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
238, for torpedo launching.
- SEE OR SEARCH CLASS:  
102, Ammunition and Explosives, subclasses 406 through 423 for submarine mines; subclasses 347-352 for pyrotechnic rockets, and subclasses 374-381 for aerial missiles having a reaction motor propulsion means.
- 318, Electricity: Motive Power Systems, appropriate subclasses for electric motor systems which might be used to either steer or propel a torpedo, particularly subclasses 580 through 589, and 648-649 for automatic control of electric motors in response to direction, inclination, or angular position.
- 20.2 With power plants:**  
This subclass is indented under subclass 20.1. Subject matter wherein means are provided for driving the torpedo through the water.
- 20.3 With net cutting:**  
This subclass is indented under subclass 20.1. Subject matter wherein means are provided for cutting a net.
- 21.1 With external control:**  
This subclass is indented under subclass 20.1. Subject matter including fish or automobile torpedoes controlled from a shore or other station by electrical or radiant energy means, e.g., radio, electric conductors, etc., for steering.
- (1) Note. This subclass is the generic subclass in Class 114 for the electrical control of movable bodies which are classified in Class 114, e.g., ships and torpedoes, etc., and provides for such inventions where the device claimed is not limited to being a device other than a torpedo.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
144 through 172, for mechanism for controlling the direction or motion of a ship by means of rudders, speed-retarders, etc.

## SEE OR SEARCH CLASS:

244, Aeronautics, subclasses 175 through 197 and the classes specified in the Notes thereto for electrically actuated or controlled apparatus and devices for automatically controlling the motion and/or steering of mobile devices, and for a statement as to the line between the classes.

318, Electricity: Motive Power Systems, appropriate subclasses for electric motor systems which might be used to either steer or propel a cable controlled torpedo.

**21.2 With remote control:**

This subclass is indented under subclass 21.1. Subject matter wherein means are provided for controlling the device remotely.

**21.3 With homing means:**

This subclass is indented under subclass 20.1. Subject matter wherein means are provided with some type of homing features.

**22 Separable sections:**

This subclass is indented under subclass 20.1. Fish-torpedoes formed of a plurality of separable sections or parts, one of which contains the explosive, the remaining sections being capable of a subsequent use.

**23 Steering mechanism:**

This subclass is indented under subclass 20.1. Torpedoes of this type wherein the invention relates to the steering mechanism.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

21, for other than automatic or self-contained devices.

## SEE OR SEARCH CLASS:

318, Electricity: Motive Power Systems, appropriate subclasses for electric motor systems which might be used to steer a torpedo.

**24 Gyroscope:**

This subclass is indented under subclass 23. Steering mechanisms for fish-torpedoes in which a gyroscope disk or wheel controls the

steadiness of the torpedo's course, direction, speed, etc.

## SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 5 through 5.9 for gyroscopes of general application.

**25 Depth regulation:**

This subclass is indented under subclass 20.1. Devices for keeping torpedoes at a predetermined depth below the surface while on its course or flight.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

312, through 342, for such regulating devices as are applicable to submarines.

## SEE OR SEARCH CLASS:

102, Ammunition and Explosives, subclass 414 for submarine mines having depth regulation means responsive to hydrostatic pressure.

**26 SCOWS:**

This subclass is indented under the class definition. Vessels of the well-known type approximately flat-bottomed or square-ended; also oyster-floats.

**27 Dumping and unloading:**

This subclass is indented under subclass 26. Scows having means for discharging a load by overturning, opening doors at bottom or sides, by tilting platforms, by conveyers, carriers, by sectional, hinged, or separable parts, or by flooding or washing away, etc.

## SEE OR SEARCH CLASS:

414, Material or Article Handling, subclasses 137.1 through 143.2 for means to load a scow or means to unload a scow other than by dumping into the water; subclasses 137.7-137.8 for the combination of means to load a scow with means to dump the load into the water; and subclass 140.06 for means to bodily lift a vessel out of the water onto land and then dumping the vessel.

- 28 Sectional:**  
This subclass is indented under subclass 27. Scows formed of a plurality of sections, hulls, or parts.
- 29 Hinged:**  
This subclass is indented under subclass 28. Dumping-scows in which the sections are hinged together and hold the load when united and dump it when separated, the sections turning on the hinges usually placed amid-ships.
- 30 Separable:**  
This subclass is indented under subclass 28. Dumping and sectional scows, the load being dumped by the separation of the sections.
- 31 Platform:**  
This subclass is indented under subclass 27. Scows carrying loads on platforms or decks rather than in holds and having means or structure to facilitate dumping or unloading.
- SEE OR SEARCH CLASS:  
414, Material or Article Handling, subclasses 137.1 through 143.2 as explained in subclass 27 of this class (114), and subclasses 467-559 for a self-loading or unloading vehicle, i.e., a vehicle having a load receiving portion and a means to move a load thereto or therefrom.
- 32 Tilting:**  
This subclass is indented under subclass 31. Scows in which a platform carrying the load is adapted to be tilted and dumped the load.
- SEE OR SEARCH CLASS:  
414, Material or Article Handling, subclasses 467 through 559 as explained in subclass 31 of this class (114), and particularly subclasses 469-497 thereunder; also, subclasses 628-629 and 639-656 for an elevator having a tiltable carrier, and subclasses 697-717 and 743 for a vertically swinging load support having a tiltable means for engaging the load.
- 33 Carriers:**  
This subclass is indented under subclass 32. Scows having tilting platforms which are movable laterally before tilting, affording greater facility in tilting the platform to discharge the load overboard.
- 34 Conveyors:**  
This subclass is indented under subclass 31. Scows of this type in which an endless belt, carrier, conveyer, or equivalent conveys and discharges the load by its movement.
- 35 Side doors:**  
This subclass is indented under subclass 31. Scows wherein the load is discharged by opening doors or gates at the sides of the scow, the platform usually being inclined and the load held in place by the closed gates.
- 36 Bottom doors:**  
This subclass is indented under subclass 27. Dumping-scows discharging loads by the opening of doors or gates in the bottom of the scow.
- 37 Flooding gates:**  
This subclass is indented under subclass 36. Dumping-scows having bottom doors and additional gates for admission of water to flood the load and facilitate dumping or discharge.
- 38 Turnover:**  
This subclass is indented under subclass 27. Scows adapted to be reversed or turned over to dump the load.
- 39.11 METHOD OF SAILING SAILPOWERED WATERCRAFT:**  
This subclass is indented under the class definition. Process for navigating a marine vehicle propelled by the wind, the vehicle having (a) a portion which furnishes buoyancy when in contact with the water and to which the main supporting surfaces and other parts are attached, i.e., hull, (b) in combination with either (1) an extent of material by which the wind is used to propel the marine vehicle through the water, i.e., sail, (2) mast, (3) spar, or (4) rigging.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 39.12, for a sailboard hull and rig means apparatus.
- 39.21 through 39.32, for apparatus for sail powered propulsion of a marine vehicle in combination with a buoyant hull.
- 271 through 292, for a planing-type hull, per se.

**39.12 SAILBOARD AND RIG MEANS THEREFOR:**

This subclass is indented under the class definition. Subject matter wherein the marine vehicle includes (a) a portion which furnishes buoyancy when in contact with the water and to which the main supporting surfaces and other parts are attached, i.e., hull, (b) the buoyant hull being elongated and of a width comparable to the shoulder width of a user, intended to be propelled by the wind, and supporting the user, and (c) the user supporting wind affected structure, e.g., mast, boom, sail, etc., for propulsion and navigation of the hull.

- (1) Note. Many of the marine vehicles included herein have a mast and a boom with a sail attached thereto connected to, but unsupported by the hull deck such that the vehicle's user must directly grasp and manipulate the boom in order to erect the mast and sail and thereby navigate the vehicle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 39.21 through 39.32, for a buoyant hull propelled by the wind, but with the mast and sail supported by the hull and not the rider.
- 89 through 101, for a sailboat or sailboard mast or spar, per se.
- 102.1 through 115, for sailboat rigging, per se.
- 102.29 through 102.33, for a sail, per se.

SEE OR SEARCH CLASS:

- 441, Buoys, Rafts, and Aquatic Devices, subclasses 65 through 79 for the sailboard hull in the absence of rig means, i.e., surfboards, and subclass 74 for a sailboard hull, per se.

**39.13 With rig means providing vertical lift:**

This subclass is indented under subclass 39.12. Subject matter wherein the arrangement of the wind affected structure, e.g., mast, spar, sail, etc., on the buoyant hull causes an upward force having a component at right angles to the horizon to be imparted to the hull by the wind.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 39.21 through 39.32, for a buoyant hull propelled by the wind, but with the mast and sail supported by the hull and not the rider.

**39.14 Having specific board shape or construction:**

This subclass is indented under subclass 39.12. Subject matter wherein a particular structural aspect of the configuration of the buoyant hull or its composition is detailed.

SEE OR SEARCH CLASS:

- 441, Buoys, Rafts, and Aquatic Devices, subclass 74 for a sailboard hull, per se.

**39.15 With hydrofoil (e.g., keel, skeg, rudder, etc.):**

This subclass is indented under subclass 39.12. Subject matter wherein the buoyant hull is provided with a blade projecting downwardly into the water which creates a thrust against the water in a direction perpendicular to the plane approximated by the blade.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 39.24, for a sailboat having a hydrofoil which provides vertical lift to the hull.

**39.16 APPARATUS HELD BY OR ATTACHED TO RIDER TO CONTROL SAILBOARD OR SAILBOARD RIG:**

This subclass is indented under the class definition. Subject matter wherein structure intended to be propelled by the wind is (a) supported by or (b) connected to the user and (c) utilized to manipulate either (1) an elongated buoyant hull of a width comparable to the shoulder width of a user, with the hull supporting the user and the user supporting wind affected structure, e.g., mast, boom, sail, etc., for propulsion and navigation of the hull, i.e.,

sailboard, or (2) wind affected structure, e.g., mast, sail, or spar, etc., therefor.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.12 through 39.15, for a sailboard and rig means therefor.

**39.17 Rig righting device:**

This subclass is indented under subclass 39.16. Subject matter wherein structure is provided for the user to grasp to restore the wind affected structure to a position in which the sail is upright.

**39.18 Harness means:**

This subclass is indented under subclass 39.16. Subject matter wherein the structure is an arrangement engaging a portion of the body of a user and connected to the wind affected structure, e.g., sail, mast, spar, etc., which is used for propulsion and navigation of the hull.

SEE OR SEARCH CLASS:

244, Aeronautics and Astronautics, subclass 151 for a parachute harness.

**39.19 Foot strap means:**

This subclass is indented under subclass 39.16. Subject matter wherein the buoyant hull has structure on an upper surface thereof which extends upwardly to encircle a portion of the foot of a user.

**39.21 WATERCRAFT WITH MEANS USED IN PROVIDING SAILPOWER:**

This subclass is indented under the class definition. Subject matter wherein (a) the marine vehicle includes a portion which furnishes buoyancy when in contact with the water and to which the main supporting surfaces and other parts are attached, i.e., hull, and (b) the hull which is propelled by the wind being in combination with either (1) an extent of material by which wind is used to propel the marine vehicle through the water, i.e., sail, (2) mast, (3) spar, or (4) rigging.

- (1) Note. The mere mention of a sailboat without at least a nominal recitation of a hull will be insufficient for placement in this and the indented subclasses and such subject matter will be found elsewhere in the class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.25, for a specific sailboat hull shape, per se.

89 through 101, for a sailboat mast or spar, per se.

102.1 through 115, for sailboat rigging, per se.

102.29 through 102.33, for a sail, per se.

**39.22 With means used for converting from non-sailing watercraft:**

This subclass is indented under subclass 39.21. Subject matter wherein the marine vehicle includes rearrangeable elements for transforming it from a marine vehicle to a marine vehicle propelled by the wind.

SEE OR SEARCH CLASS:

440, Marine Propulsion, subclasses 12.5 through 12.7, for a self-propelled vehicle having land and water propulsion means.

**39.23 With means for uprighting capsized watercraft:**

This subclass is indented under subclass 39.21. Subject matter wherein the marine vehicle has a mechanism for restoring it to a position in the water with an upper surface of the hull horizontal from a position in which the hull was overturned.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

61.11, for means for uprighting a multiple displacement hull marine vehicle.

**39.24 With hydrofoil for providing vertical lift to hull:**

This subclass is indented under subclass 39.21. Subject matter wherein the hull is provided with a blade which is (a) horizontal or at a small angle to a horizontal plane and (b) aligned with the direction of travel such that when the hull is in motion, the force of the water striking the blade creates a resultant upward force that raises the hull with respect to the water surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.15, for a sailboard having a hydrofoil.

- 274 through 282, for a planing-type hull having a hydrofoil.
- 39.25 Having specifically defined hull shape:**  
This subclass is indented under subclass 39.21. Subject matter wherein a particular structural aspect, e.g., shape, contour, etc., of the (a) perimeter or (b) cross section of the hull is detailed.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
56.1 through 63, for a displacement-type hull having a specifically defined hull shape.  
271 through 292, for a planing-type hull having a specifically defined hull shape.
- 39.26 Multiple hulls:**  
This subclass is indented under subclass 39.21. Subject matter wherein the marine vehicle has a plurality of distinct hulls.
- (1) Note. The multiple hull marine vehicles in this and the indented subclasses need not have all hulls normally traveling on the surface of the water, but also include one hull on the water surface and one submerged hull.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
61.1 through 61.25, for a ship having multiple displacement-type hulls.  
271 through 292, for a ship having multiple planing-type hulls.
- 39.27 With connecting means as three-dimensional frame with vertically spaced apex (e.g., tetrahedral frame, etc.):**  
This subclass is indented under subclass 39.26. Subject matter wherein the hulls are interconnected by an arrangement of elongate members forming a polyhedron having a peak spaced above a base.
- 39.28 With connecting means permitting relative movement between hulls:**  
This subclass is indented under subclass 39.26. Subject matter wherein structure interconnecting one hull with another allows displacement of one hull with respect to the other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
61.15 through 61.19, for a ship having multiple displacement-type hulls and connecting means permitting relative movement between hulls.  
283, for a ship having multiple planing-type hulls and connecting means permitting relative movement between hulls.
- 39.29 With specific means acted upon by wind to provide sailpower:**  
This subclass is indented under subclass 39.21. Subject matter wherein a particular structural aspect, e.g., shape, contour, etc., of the extent of material by which the wind is used to propel the hull through the water, i.e., sail, is detailed.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
102.29 through 102.33, for a sail, per se.
- 39.3 Reaction rotor-type (e.g., Magnus effect, etc.):**  
This subclass is indented under subclass 39.29. Subject matter wherein the extent of material by which the wind is used to propel the hull through the water is an airfoil rotating through more than 360 degrees about an axis.
- (1) Note. The airfoil may be of the type having a single element rotated about a central longitudinal axis or may be a plurality of integral elements rotated about a common axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
102.29 through 102.33, for a reaction rotor-type sail for a marine vehicle.
- SEE OR SEARCH CLASS:  
244, Aeronautics and Astronautics, especially subclasses 10 and 21 for a heavier-than-air aircraft having a cylindrical rotor.  
416, Fluid Reaction Surfaces (I.E., Impellers), especially subclass 4 for a rotary fluid reaction surface, e.g., Magnus effect, etc., per se, and subclass 55 for an impeller combined with a vehicle.



**39.31 Having spaced sail surfaces defining airfoil:**  
This subclass is indented under subclass 39.29. Subject matter wherein the extent of material by which the wind is used to propel the hull through the water is a plurality of separated elements.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

102.32, for a sail constructed from a plurality of connected panels movable relative to each other.

102.33, for a sail constructed from a plurality of edge connected panels.

**39.32 Having specific mast mounting means:**  
This subclass is indented under subclass 39.21. Subject matter wherein a particular structural aspect of a device for connecting to the hull a tall vertical spar that rises from the hull to support the extent of material by which the wind is used to propel the hull through the water is detailed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

90 through 94, for a mast, per se.

93, for a mast step.

**40 ICE BREAKERS:**  
This subclass is indented under the class definition. Vessels or boats designed and operated to break and cut up ice-floes or to open channels for the passage of vessels.

**41 Rams:**  
This subclass is indented under subclass 40. Ice-breakers adapted to break up the ice by ramming, the bow or stern structure being designed for that purpose, the cutting being produced by the blows and wedging caused by the speed and impact of the vessel.

**42 Cutters:**  
This subclass is indented under subclass 40. Ice-breakers having saws or cutters for disrupting the ice, usually actuated by means independent of the speed of the boat or not due to the momentum of the vessel.

SEE OR SEARCH CLASS:

299, Mining or In Situ Disintegration of Hard Material, subclasses 24 through 28 for apparatus of general utility for mining or disintegrating ice in a naturally occurring location.

**43 ICE BOATS:**

This subclass is indented under the class definition. Boats or vessels designed to be used on water or ice and sometimes land; the boat's structure is essential.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 841 through 11.36 for skates; 809-826 for skis; and 845-28.18, for sleds.

**44 VESSEL RAISING AND DOCKING:**  
This subclass is indented under the class definition. Miscellaneous means or devices for raising sunken or submerged vessels, floating dry-docks, or devices specific to such use.

**45 Floating dry docks:**

This subclass is indented under subclass 44. Means for raising vessels by use of semi-submergible docks, nearly all of which are floating vessels and constructed to receive the vessel upon its bottom or upon a platform or equivalent way, the dock being raised by changing the line of flotation through buoyancy by ejecting or pumping water from the water-tanks or by changing ballast.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

49, and 53, for structures that are to be entirely submerged.

258, through 263, for mother ship, floating landing platform, and harbor.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, subclass 4 for stationary or land dry docks.

**46 Sectional:**

This subclass is indented under subclass 45. Floating drydocks formed of a plurality of movable and independent sections that united form the dock or in which one or more sections may be used to dock other sections or vessels.

- 47 End gates:**  
This subclass is indented under subclass 45. Integral structures provided with gates or caissons adapted to be closed and inclose the vessel in a dock, from which the water may be expelled to expose the hull of the vessel.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclass 6 for gates associated with stationary or land dry docks.
- 48 Elevators:**  
This subclass is indented under subclass 45. Floating drydocks having a platform upon which the hull of the vessel is supported and which is elevated or depressed upon the dock by buoyant action secured by emptying water-tanks or by hoisting.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclass 3 for elevators in stationary or land dry docks in which the elevator is usually raised by hoisting.
- 49 Camels, caissons, and pontoons:**  
This subclass is indented under subclass 53. Devices between which a vessel is raised by their buoyant action, the structures not being designed to be sunk (see search notes, below).
- (1) Note. The camels, caissons, or pontoons are partially submerged by opening watervalves and the vessels secured by straps, chains, etc., and by changing the buoyancy of the structures by expelling water from tanks or on rise of tide the vessel is raised.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
53, for similar structures designed to be sunk and secured to sunken or submerged vessels.
- SEE OR SEARCH CLASS:  
441, Buoys, Rafts, and Aquatic Devices, subclasses 35 through 54 for rafts.
- 50 Submerged:**  
This subclass is indented under subclass 44. Devices for raising sunken vessels; also means for forcing air into a vessel and expelling the water after sealing up openings.
- 51 Hoisting:**  
This subclass is indented under subclass 50. Means for raising sunken vessels by hoisting or for hauling vessels off shoals or bars. The sunken vessel is hoisted toward some floating vessel which supports the hoisting apparatus.
- SEE OR SEARCH CLASS:  
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for a driven, cable-pulling device for hauling or hoisting a load.
- 52 Air tanks:**  
This subclass is indented under subclass 50. Vessels, tanks, or receptacles for containing air adapted when filled to raise a sunken vessel by their combined buoyant force.
- 53 Camels, caissons, and pontoons:**  
This subclass is indented under subclass 52. Structures adapted to receive water and be sunk, attached to sunken vessels, and have the water expelled, thus raising the vessel by buoyant force.
- 54 Inflatable bags:**  
This subclass is indented under subclass 52. Bags or receptacles for containing air adapted to be attached or secured to or in sunken vessels when empty and by inflation raise the same by buoyancy.
- 55 Sand and mud loosening:**  
This subclass is indented under subclass 50. Devices or means for removing the sand or mud about a submerged hull.
- 55.5 MOTORIZED SELF-PROPELLED WATER-SKI OR WATERSCOOTER-TYPE VEHICLE (E.G., PERSONAL WATER-CRAFT, ETC.):**  
This subclass is indented under the class definition. Subject matter wherein the marine vehicle (a) includes a portion which furnishes buoyancy when in contact with the water and

to which the main supporting surfaces and other parts are attached, i.e., hull, (b) the buoyant hull is capable of supporting a user, and propelled to skim over the surface of the water by a motor carried by the vehicle, (c) the motor being operatively connected to propelling means below the surface of the water, (d) the buoyant hull being steered by the user, and (e) wherein a length of the hull is comparable to the body length of a user and the width of the hull is either somewhat greater than the user's foot but much narrower than the shoulder width of the user, e.g., water-ski, etc., or comparable to the shoulder width of the user, e.g., waterscooter, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39.12 through 39.15, for a sailboard, or a sail propelled marine vehicle.

343 through 364, for a boat, per se.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 845 through 28.18 for a land vehicle provided with a surface slidably engaging the supporting surface over which the vehicle moves.

440, Marine Propulsion, appropriate subclasses for marine vehicle propulsion devices, per se, and especially subclasses 38 through 47 for marine jet drive propulsion and subclasses 49-83 for screw propeller-type propulsion.

441, Buoys, Rafts, and Aquatic Devices, subclasses 65 through 79 for a non-self-propelled water skimming device, and especially subclasses 68-73 for a water ski, per se, and subclass 74 for a surfboard.

#### **55.51 Having hull compartment drain or vent:**

This subclass is indented under subclass 55.5. Subject matter wherein the hull includes means (a) to permit the escape of liquid from an enclosed area in the hull or (b) to permit the ingress or egress of a gas, e.g., air, etc.

- (1) Note. An exhaust gas pipe coupled to the engine and extending from a compartment housing the engine is not considered a vent.

SEE OR SEARCH CLASS:

440, Marine Propulsion, subclasses 40 through 43 for direction control for a marine fluid jet-type drive, subclass 88 for means for handling engine fluids, and subclass 89 for means for handling engine exhaust gas.

#### **55.52 Having pivoted steering and towing mast for rider:**

This subclass is indented under subclass 55.5. Subject matter wherein the marine vehicle has (a) a control handle for controlling the direction of travel of the vehicle, (b) the handle is connected to the hull to permit rotation about a horizontal axis and (c) the handle when grasped by a user transmitting pulling force from the hull to the user.

- (1) Note. Many of the marine vehicles classified herein are designed to accommodate a standing or kneeling user.

SEE OR SEARCH THIS CLASS, SUBCLASS:

144 through 172, for a ship steering mechanism, per se.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 845 through 28.18 for a runner supported land vehicle, and subclasses 14.21-14.28 for a runner supported land vehicle having a steering handle accommodating a standing occupant.

440, Marine Propulsion, subclasses 40 through 43 for direction control for a marine fluid jet-type drive.

#### **55.53 Having releasable hull compartment cover:**

This subclass is indented under subclass 55.5. Subject matter wherein the marine vehicle has an enclosed area within the hull, an opening of which has an overlying moveable lid for access to the enclosed area.

SEE OR SEARCH THIS CLASS, SUBCLASS:

201 through 203, for a hatch or cover for a deck opening of a ship.

## SEE OR SEARCH CLASS:

- 49, Movable or Removable Closures, appropriate subclasses for a movable or removable closure, per se.
- 160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for a hatch in the form of flexible and portable panels, including those of flexible material and of plural strips, slats, or panels which are interconnected for relative movement.
- 296, Land Vehicles: Bodies and Tops, appropriate subclasses, especially subclasses 37.1 through 37.16 for an auxiliary article compartment for a vehicle traveling on land.

**55.54 With ski, pontoon, or hydrofoil providing vertical lift:**

This subclass is indented under subclass 55.5. Subject matter wherein the hull is provided with either (a) an elongated boardlike member having a width somewhat greater than a user's foot and a normally upturned leading edge, (b) an elongated floating member or, (c) a blade projecting into the water which creates a force against the water in a direction perpendicular to the plane approximated by the boardlike member, floating member, or blade when the vehicle is traveling through the water to raise the hull with respect to the water.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 39.15, for a sailboard having a hydrofoil.
- 39.24, for a sailboat having a hydrofoil.

## SEE OR SEARCH CLASS:

- 441, Buoys, Rafts, and Aquatic Devices, subclasses 68 through 73 for a water ski, per se.

**55.55 And rider straddles seat:**

This subclass is indented under subclass 55.54. Subject matter wherein the user rides the vehicle with one leg on each side of the part on which the user sits.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 363, for a seat support for a rider of a boat.

## SEE OR SEARCH CLASS:

- 180, Motor Vehicles, subclass 9.25 for an endless track propelled vehicle wherein the attendant straddles the seat and subclasses 190-193 for a snowmobile.
- 280, Land Vehicles, appropriate subclasses especially subclasses 845 through 28.18 for a land vehicle having a runner.
- 297, Chairs and Seats, appropriate subclasses for a seat, per se.

**55.56 Having standing rider:**

This subclass is indented under subclass 55.5. Subject matter wherein the user rides the vehicle while in an upright position with the user's weight supported by the user's feet.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 363, for a foot support for a rider of a boat.

## SEE OR SEARCH CLASS:

- 180, Motor Vehicles, subclasses 9.1 through 9.64 for an endless track propelled vehicle and subclasses 190-193 for a snowmobile.
- 280, Land Vehicles, subclasses 14.21 through 14.28 for a runner supported land vehicle wherein the occupant stands.

**55.57 Having rider straddling seat:**

This subclass is indented under subclass 55.5. Subject matter wherein the user rides the vehicle with one leg on each side of the part on which the user sits.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 363, for a seat support for a rider of a boat.

## SEE OR SEARCH CLASS:

- 180, Motor Vehicles, subclass 9.25 for an endless track propelled vehicle wherein the attendant straddles the seat and subclasses 190-193 for a snowmobile.
- 280, Land Vehicles, appropriate subclasses, especially subclasses 845 through 28.18 for a land vehicle having a runner.

297, Chairs and Seats, appropriate subclasses for a seat, per se.

**55.58 Rider is prone or supine:**

This subclass is indented under subclass 55.5. Subject matter wherein the user rides the vehicle in a lying down position with either (a) the front or (b) the back of the user's body turned toward the surface it rests on.

SEE OR SEARCH CLASS:

280, Land Vehicles, subclasses 845 through 28.18 for a land vehicle having a runner.  
441, Buoys, Rafts, and Aquatic Devices, subclass 74 for a surfboard.

**56.1 DISPLACEMENT-TYPE HULL (E.G., SPECIFIC AFTBODY, ETC.):**

This subclass is indented under the class definition. Subject matter wherein (a) a particular structural aspect, e.g., shape, cross-section, contour, etc., of that portion of the marine vehicle which furnishes buoyancy when in contact with the water and to which the main supporting surface, e.g., deck, etc., and other parts are attached, i.e., hull, is detailed, and (b) the marine vehicle when in contact with the water is at all times only supported by the volume of water moved out of its proper place by the hull.

- (1) Note. In the marine vehicles classified herein, the hull or an attachment to the hull is such that as the hull moves through or across the surface of the water, a force is not generated tending to either raise the vehicle out of the water or to change the fore and aft drafts of the vehicle relative to each other.
- (2) Note. In the marine vehicles classified herein, some portion of a hull extends above the surface of the water when the vehicle is in use.
- (3) Note. This and the indented subclasses deal with a specific detail of the shape, cross-section, contour, etc., of the water-contacting surface of a marine vehicle hull. All of the original patents within the scope of this project have been placed in compliance with this line. However, the patents currently found in other subclasses, not included within the

scope of this project, have not been checked for compliance with this line and will be screened at a later date.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39.25, for a sailpowered watercraft having a specifically defined hull shape.  
65 through 88, for the construction of the hull of a marine vehicle or of a non-hull marine vehicle component, e.g., cabin, bulkhead, decking, etc.  
271 through 292, for planing-type hulls or hull attachments which alter trim or provide a dynamic lift to the marine vehicle.  
355 through 359, for a method for constructing or making the hull of a boat or the structure of the boat hull.

SEE OR SEARCH CLASS:

244, Aeronautics and Astronautics, subclasses 105 through 107 for air ships adapted to marine use.  
440, Marine Propulsion, appropriate subclasses for specific features involved in marine vehicle propulsion.

**57 Screw propeller type:**

This subclass is indented under subclass 56.1. Inventions in the exterior form of vessels propelled by screw-propellers.

**58 Paddle wheelers:**

This subclass is indented under subclass 56.1. Inventions in the form of vessels propelled by wheels.

**59 Spindle:**

This subclass is indented under subclass 56.1. Vessels of spindle form having nearly circular cross-section amidships and tapering toward bow and stern.

**60 Canal and ferry boats:**

This subclass is indented under subclass 56.1. Inventions relating to the form of vessels designed for canal, ferry, or tow service.

SEE OR SEARCH CLASS:

440, Marine Propulsion, subclasses 33 through 36 for towing devices.

- 61.1 Multiple hulls:**  
This subclass is indented under subclass 56.1. Subject matter wherein the marine vehicle has a plurality of distinct hulls.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
39.26 through 39.28, for a sailpowered watercraft having multiple hulls.  
62, for a hull having a concave bottom.
- 61.11 With capsizing prevention or uprighting means:**  
This subclass is indented under subclass 61.1. Subject matter wherein the marine vehicle has a mechanism (a) for inhibiting the hull from moving from a position in the water in which the hull has an upper surface horizontal to an overturned position or (b) for restoring it to a position in the water with an upper surface of the hull horizontal from a position in which the hull was overturned.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
39.23, for means for uprighting a sailpowered watercraft.  
121 through 126, for ship ballasting, *per se*.  
283, for a planing-type hull having a laterally disposed skid or pontoon.  
360, for a boat with means to prevent capsizing or sinking.
- 61.12 Including a submerged hull (e.g., semisubmerged watercraft, etc.):**  
This subclass is indented under subclass 61.1. Subject matter wherein the marine vehicle includes a hull immersed, i.e., completely covered, in the water.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
121 through 126, for ship ballasting, *per se*.  
244 through 245, for a submersible towed object.  
256, for a floating or semisubmersible storage vessel.  
257, for submersible storage tanks.  
274 through 282, for a planing-type hull having a hydrofoil.
- 283, for a planing-type hull having a laterally disposed skid or pontoon.  
312 through 342, for submersible devices, e.g., habitats, independently propelled submersible vessels, etc.
- 61.13 Vertically spaced from another submerged or semisubmerged hull:**  
This subclass is indented under subclass 61.12. Subject matter wherein each immersed hull is separated from and positioned at a different water level above or below either (a) another immersed hull, or (b) another hull which has a portion below the surface of the water.
- (1) Note. The submerged hull may be at the same water level as another submerged or semi-submerged hull, but must be at a different water level with respect to some other submerged or semi-submerged hull.
- 61.14 Having plural spaced struts connecting each submerged hull and platform:**  
This subclass is indented under subclass 61.12. Subject matter wherein each immersed hull is attached to a raised horizontal surface by a support positioned a distance apart from another support.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
264 through 266, for a floating platform having multiple support legs or a float assembly.  
274 through 282, for a planing-type hull having a hydrofoil.
- 61.15 With connecting means permitting relative movement between hulls:**  
This subclass is indented under subclass 61.1. Subject matter wherein structure interconnecting one hull with another allows displacement of one hull with respect to the another.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
39.28, for sailpowered watercraft having connecting means permitting relative movement between hulls.  
123, for a ship ballasting float.  
283, for a ship having multiple planing-type hulls and connecting means per-

mitting relative movement between hulls.

**61.16 Connecting means is pivotable arm:**

This subclass is indented under subclass 61.15. Subject matter wherein the means interconnecting one hull with another is a member which is either (a) rotatable about or (b) angularly moveable about an axis.

**61.17 Arm pivots about a vertical axis:**

This subclass is indented under subclass 61.16. Subject matter wherein the member is rotatable about or angularly moveable about a line perpendicular to a horizontal plane.

**61.18 Connecting means permits transverse linear horizontal movement of hulls toward each other:**

This subclass is indented under subclass 61.15. Subject matter wherein the means interconnecting one hull with another limits movement of the hulls laterally toward or away from each other to a straight line in a plane parallel to the horizon.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

123, for a ballasting float for a ship.  
283, for a planing-type hull having a laterally disposed skid or pontoon.  
352 through 353, for a sectional boat.

**61.19 Hull pivots about a vertical axis:**

This subclass is indented under subclass 61.15. Subject matter wherein the hull is rotatable about or angularly movable about a line perpendicular to a horizontal plane.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

123, for a ballasting float for a ship.  
283, for a planing-type hull having a laterally disposed skid or pontoon.  
352 through 353, for a sectional boat.

**61.2 Having a specifically defined hull shape:**

This subclass is indented under subclass 61.1. Subject matter wherein a particular structural aspect, e.g., shape, contour, etc., of the (1) perimeter or (2) cross-section of the hull is detailed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.14, for a sailpowered sailboard having a specific board shape or construction.  
39.25, for a sailpowered watercraft having a specific hull shape.  
61.27 through 61.3, for a specific hull shape of a non-multiple-hull-type marine vehicle.  
271 through 292, for a planing-type hull having a specific shape.

SEE OR SEARCH CLASS:

D12, Transportation, subclasses 300 through 318 for watercraft hull designs.

**61.21 Having lower hull portion asymmetrical with respect to a central vertical plane through that particular hull:**

This subclass is indented under subclass 61.2. Subject matter wherein the hull has a lower part at or below the surface of the water which is lopsided with respect to a flat surface perpendicular to the horizontal, the flat surface extending fore and aft and passing through the center of that hull.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

61.27 through 61.3, for a specific hull shape of a non-multiple-hull-type marine vehicle.  
271 through 292, for a planing-type hull having a specific shape.

SEE OR SEARCH CLASS:

D12, Transportation, subclasses 300 through 318 for watercraft hull designs.

**61.22 Having plural crossbeams supporting rigid deck means:**

This subclass is indented under subclass 61.1. Subject matter wherein more than one transverse strut connects and sustains a stiff platform and each of the struts extends horizontally from one hull to another.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

343 through 364, for a boat, per se.

**61.23 Trampoline-type deck means:**

This subclass is indented under subclass 61.1. Subject matter wherein a platform for supporting a user extends horizontally between hulls and is constructed from flexible material which is stretched taut.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.26 through 39.28, for a sailpowered watercraft having multiple hulls.

SEE OR SEARCH CLASS:

482, Exercise Devices, subclasses 27 through 29 for a trampoline, per se.  
D12, Transportation, subclass 304 for sailboat designs having plural hulls.

**61.24 Having seat:**

This subclass is indented under subclass 61.1. Subject matter wherein the marine vehicle has a structure primarily designed for supporting a user in a sitting position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

363, for a seat support for a boat.

SEE OR SEARCH CLASS:

297, Chairs and Seats, appropriate subclasses, for seats, per se.

**61.25 Inflatable-type hull:**

This subclass is indented under subclass 61.1. Subject matter wherein the hull has a compartment which is capable of being filled up by a gas.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

345, for an inflatable boat.

SEE OR SEARCH CLASS:

441, Buoys, Rafts, And Aquatic Devices, subclasses 40 through 42 for an inflatable raft.

**61.26 Having specific dimensional or speed ratio (e.g., Froude number, etc.):**

This subclass is indented under subclass 56.1. Subject matter wherein a particular structural aspect of the hull in terms of a proportion of either (a) its physical measurements, e.g.,

length, width at its widest point, depth taken one to another, etc. or (b) its maximum displacement in a linear direction per unit of time taken to one of its physical measurements, e.g., square root of its maximum length, etc., is detailed.

**61.27 Having specific forebody:**

This subclass is indented under subclass 56.1. Subject matter wherein a particular structural aspect, e.g., shape, contour, cross-section, etc., of a front portion, e.g., bow, etc., of the hull is detailed.

(1) Note. The juncture between the forebody and the midbody, and between the midbody and aftbody usually occurs at a point of pronounced change of curvature of the hull as viewed in plan view.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

61.2 through 61.21, for a specifically defined hull shape of a marine vehicle having multiple displacement hulls.

65 through 88, for the construction of the hull of a marine vehicle or of a non-hull marine vehicle component e.g., cabin, bulkhead, decking, etc.

271 through 292, for specific details of a planing-type hull.

290, for a ship keel, per se.

355 through 359, for a method for constructing or making the hull of a boat or the structure of the boat hull.

SEE OR SEARCH CLASS:

D12, Transportation, subclasses 300 through 318 for watercraft hull designs.

**61.28 Including bulb:**

This subclass is indented under subclass 61.27. Subject matter wherein the front portion of the hull includes a forwardly projecting bulge which contacts the water.

(1) Note. Many of the bow bulbs classified herein extend both above and below the waterline of the marine vehicle.



**61.29 And specific aftbody:**

This subclass is indented under subclass 61.27. Subject matter wherein a particular structural aspect, e.g., shape, contour, cross-section, etc., of a rear portion, e.g., stern, etc., of the hull is detailed.

**61.3 And specific midbody (e.g., waist, etc.):**

This subclass is indented under subclass 61.29. Subject matter wherein a particular structural aspect, e.g., shape, contour, cross-section, etc., of a middle portion, i.e., that portion of the hull extending between the front portion and rear portion, of the hull is detailed.

- (1) Note. The juncture between the forebody and the midbody, and between the midbody and aftbody usually occurs at a point of pronounced change of curvature of the hull as viewed in plan view.

SEE OR SEARCH THIS CLASS, SUBCLASS:

61.31, for a non-multiple-hull marine vehicle having a specific midbody detailed.

**61.31 Having specific midbody (e.g., waist, etc.):**

This subclass is indented under subclass 56.1. Subject matter wherein a particular structural aspect, e.g., shape, contour, cross-section, etc., of a middle portion, i.e., that portion of the hull extending between the front portion and rear portion, of the hull is detailed.

- (1) Note. The juncture between the forebody and the midbody, and between the midbody and aftbody usually occurs at a point of pronounced change of curvature of the hull as viewed in plan view.

SEE OR SEARCH THIS CLASS, SUBCLASS:

61.2 through 61.21, for a specifically defined hull shape of a marine vehicle having multiple displacement hulls.

61.3, for a nonmultiple hull marine vehicle having a specific forebody, midbody and aftbody.

65 through 88, for the construction of the hull of a marine vehicle or of a non-hull marine vehicle component e.g., cabin, bulkhead, decking, etc.

271 through 292, for specific details of a planing-type hull.

290, for a ship keel, per se.

355 through 359, for a method for constructing or making the hull of a boat, or the structure of the boat hull.

SEE OR SEARCH CLASS:

D12, Transportation, subclasses 300 through 318 for designs of a watercraft or hull.

**61.32 Having specific bottom:**

This subclass is indented under subclass 56.1. Subject matter wherein a particular structural aspect (e.g., shape, contour, cross-section) of that part of the hull which is below the waterline from bilge to bilge is detailed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

61.2 through 61.21, for a specifically defined hull shape of a marine vehicle having multiple displacement hulls.

65 through 88, for the construction of the hull of a marine vehicle or of a non-hull marine vehicle component e.g., cabin, bulkhead, decking, etc.

271 through 292, for specific details of a planing-type hull.

290, for a ship keel, per se.

355 through 359, for a method for constructing or making the hull of a boat or the structure of the boat hull.

SEE OR SEARCH CLASS:

D12, Transportation, subclasses 300 through 318 for designs of a watercraft or hull.

**61.33 V-shaped bottom:**

This subclass is indented under subclass 61.32. Subject matter wherein that part of the hull which is below the waterline from bilge to bilge has a transverse cross-section configuration of V-shape.

**62 Concave bottom:**

This subclass is indented under subclass 61.32. Forms of hull presenting a more or less concave surface to the water from bilge to bilge, bilges to keel, or longitudinally.

- 63 Flat bottom:**  
This subclass is indented under subclass 61.32. Inventions in ship's forms in which flat bottoms are used with or without keels or in which the bottom is nearly flat or horizontal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
26 through 38, for flat bottom scows.
- 65 BUILDING:**  
This subclass is indented under the class definition. Inventions relating to the construction of vessels except warships or submarine types and not otherwise classifiable.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
56.1 through 63, for inventions in external form or water-resistance surface.  
343 through 364, for small boats.
- 66 Observation boats:**  
This subclass is indented under subclass 65. Boats having glass bottoms or windows for the purpose of viewing marine life and scenery.
- 67 Antifriction surfaces:**  
This subclass is indented under subclass 65. Devices providing means for diminishing the resistance between the water and the vessel when moving through the water and effective in increasing the speed. The present types comprise friction-roller surfaces, conveyers, and air-distributing means or attachments to produce a better cutting edge.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
232, and 233, for devices for distributing oils or liquids between the ship's skin and the water.
- SEE OR SEARCH CLASS:  
440, Marine Propulsion, subclasses 38 through 47 for vessels having means to expel air or water about the surface of the submerged hull with sufficient effect and force to propel the vessel.
- 68 Insubmergible vessels:**  
This subclass is indented under subclass 65. Vessels provided with means for preventing a vessel from sinking, involving sufficient bulkheads or compartments to keep it afloat or providing impenetrable or puncture-proof skins or sides with or without linings or fillings of waterproof or leak stopping character.
- 69 Linings and fillings:**  
This subclass is indented under subclass 68. Vessels of insubmergible or nonsinkable type having linings or fillings in the sheathing that through yielding surfaces, waterproof, or leak stopping qualities prevent the admission of water.
- 70 Canal and ferry boats:**  
This subclass is indented under subclass 65. Vessels designed and constructed for the above service and including those carrying trains and cars.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
60, for form of boats.
- 71 Cabins:**  
This subclass is indented under subclass 65. Inventions relating to vessels having cabin structures or means for supporting them.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
189, for separate structures.
- 72 Freighters:**  
This subclass is indented under subclass 65. Vessels designed for carrying, securing, and preserving freight or cargo.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
26, for scows.  
70, for canal and ferry boats.  
258 through 263, for vessels designed to accommodate watercraft or aircraft.
- SEE OR SEARCH CLASS:  
410, Freight Accommodation on Freight Carrier, appropriate subclass for accommodation of lading on a freight carrier, which could be a ship; particu-

- larly subclasses 52-95 for accommodation of a load bearer, e.g., a container or pallet, etc., thereon board.
- 73 Bulk cargo:**  
This subclass is indented under subclass 72. Vessels constructed to carry cargo in bulk, as ore, grain, coal, etc., whether of the hopper type or otherwise.
- 74 Liquid:**  
This subclass is indented under subclass 73. Bulk cargo freighter vessels, constructed to carry liquid or gaseous fluids. Waterborne tanks which are tight and not obviously unseaworthy are included.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
256, for marine storage tanks not adapted for towing or other transportation movement. Examples of structure considered to be excluded from subclass 74 under this note are: (1) exterior form not tanker or boat-like; (2) obviously unseaworthy, as entirely open bottom; (3) free interchange between contents between contents of tank and ambient buoying liquid.
- 75 Antishifting devices:**  
This subclass is indented under subclass 73. Inventions relating to means for keeping the cargo from moving about during the movements of the vessel.
- SEE OR SEARCH CLASS:  
410, Freight Accommodation on Freight Carrier, appropriate subclass for accommodation of lading on a freight carrier, which could be a ship; subclasses 52 through 95, particularly for inventions in means in engagement between the freight carrier and a load bearer, e.g., container, etc., to inhibit shifting during transit, particularly subclasses 70-95 for securingly retaining the load bearer on the freight carrier under such condition.
- 76 Ceilings and floors:**  
This subclass is indented under subclass 73. Devices for sustaining and covering cargoes, preventing access of water or moisture, etc.
- 77 Sectional:**  
This subclass is indented under subclass 65. Composite vessels constructed of a plurality of independent parts structurally united or decked to form a single vessel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
352 through 353, for sectional boats.
- 78 Bulkhead and compartment:**  
This subclass is indented under subclass 65. Vessels having bulkheads or compartments as elements of combinations.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
116 through 120, for bulkheads, per se, and doors.
- 79 Iron:**  
This subclass is indented under subclass 65. Various types of construction for iron vessels or in which iron or metal is an essential element of the hull structure.
- 80 Corrugated:**  
This subclass is indented under subclass 79. Ships in which corrugated iron is used.
- 81 Tubular:**  
This subclass is indented under subclass 79. Ships in which iron tubes are used in construction.
- 82 Wood:**  
This subclass is indented under subclass 65. Vessels in which wood is the principal material used in construction.
- 83 Bracing and staying:**  
This subclass is indented under subclass 65. Means for bracing, staying, trussing, etc., the timbers, frames, sheathing, and decks of vessels.

- 84 Sheathing and planking:**  
This subclass is indented under subclass 65. Various means and methods of constructing the sides of vessels, involving the use of planks or sheaths or placing additional sheaths or linings thereon or therein.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
11, and indented subclasses for metal or armor belts or sheaths.
- 85 Decks:**  
This subclass is indented under subclass 65. Methods and means for constructing vessels' decks or relating thereto.
- SEE OR SEARCH CLASS:  
404, Road Structure, Process, or Apparatus, appropriate subclasses for process and apparatus for making similar walkway and deck-like structure.
- 86 Calking and seaming:**  
This subclass is indented under subclass 65. Methods and means for filling or closing the seams between planking, etc., and making them watertight.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
224, for tools, implements, and machines for putting in the calking material and paying or puttying seams.
- 87 Knees:**  
This subclass is indented under subclass 65. Braces or knees used in shipbuilding.
- 88 Joints:**  
This subclass is indented under subclass 65. Specific means or devices for uniting timbers, plates, frames, seats, and thwarts, etc.
- SEE OR SEARCH CLASS:  
403, Joints and Connections, appropriate subclasses for joints of general utility.
- 89 SPARS:**  
This subclass is indented under the class definition. Inventions in ships' spars, e.g., masts, yards, booms, gaffs, etc., their attachments, connections, and manner of mounting, raising, and securing them.
- 90 Masts and masting:**  
This subclass is indented under subclass 89. Inventions in masts, their material, form, construction, and position, and means for securing them.
- 91 Swinging:**  
This subclass is indented under subclass 90. Devices for pivoting masts, adapting them to be turned down, up, around at will, or automatically.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
39, for swinging masts.  
143, for swinging masts with rocking keels.
- 92 Cross and trestle trees:**  
This subclass is indented under subclass 90. Inventions in the above-mentioned devices or their equivalents, trestle-trees being defined as fore-and-aft pieces secured on each side of a mast or resting on the hounds to support the rigging, cross-trees, etc.
- (1) Note. Cross-trees are athwartships timbers supported by bibs and trestle-trees to sustain top frames or extend topgallant shrouds.
- 93 Coats, shields, and steps:**  
This subclass is indented under subclass 90. Devices for protecting a mast or the deck through which it passes, rendering the joint impervious to water, and devices or means for securing the heel or foot of the mast to the ship's timbers, keel, or keelson, etc., and fastening it in place.
- 94 Heads and irons:**  
This subclass is indented under subclass 90. Caps and trucks or structure of the upper end or head of the mast and the various types of metal bands or irons, etc., that are secured to masts not otherwise classifiable.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
98, for "irons," e.g., pivoted gaffs, booms, etc.

**95 Yards:**

This subclass is indented under subclass 89. Inventions in the horizontally-disposed spars extending athwartships to which the sails of square-rigged vessels are secured, as courses, topsails, topgallant, and royal sails.

**96 Trusses and parrels:**

This subclass is indented under subclass 95. Devices for hanging, supporting, or securing the yards of vessels, trusses usually being of iron, to which the lower yard is pivoted or secured, and parrels being hoops, rings, or chains encircling the mast and secured to the yards.

**97 Gaffs, booms, etc.:**

This subclass is indented under subclass 89. All ship-spars except masts and yards (separately classified) and their connections to masts or yards.

**98 Pivoted:**

This subclass is indented under subclass 97. Gaffs, booms, etc., which are pivoted or the means or devices for pivoting them to the masts or other supports.

SEE OR SEARCH THIS CLASS, SUBCLASS:

19, for torpedoboats carrying torpedoes at the end of a spar.

**99 Crotches and supports:**

This subclass is indented under subclass 97. Devices for supporting booms, usually a support having a crotch in its upper end in which the boom rests.

**100 Spar irons:**

This subclass is indented under subclass 89. Bands or irons of various types which are attached or secured to yards, booms, gaffs, etc., and which are not classifiable in subclasses 94, 96, 98, 101, 112, and 218.

**101 Fair leaders and chocks:**

This subclass is indented under subclass 89. Devices to secure the free running of ropes, cables, etc., adapted to be secured to spars or ship-timbers or structurally a part of spars or attached to tops, cross-trees, decks, pinrails, etc.

**102.1 SAIL OR CONTROL MEANS THEREFOR:**

This subclass is indented under the class definition. Subject matter having (a) an extent of material by which wind is used to propel the marine vehicle through the water or (b) apparatus for manipulating the extent of material with respect to other marine vehicle structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39.11, for a sailboard hun and rig means to provide navigation and propulsion thereof.

39.12 through 39.15, for a sailboard hun and rig means to provide navigation and propulsion thereof.

39.21 through 39.32, for a marine vehicle hull and means to propel the hull by sailpower.

39.29 through 39.31, for a marine vehicle hull in combination with specific sail structure.

**102.11 Sail assembly freely held by rider:**

This subclass is indented under subclass 102.1. Subject matter wherein both the extent of material by which wind is used to propel the marine vehicle through the water and the apparatus for manipulating the extent of material are supported with respect to the vehicle solely by the user.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39.16 through 39.19, for an apparatus held by or attached to a rider to control a sailboard or a sailboard rig.

SEE OR SEARCH CLASS:

244, Aeronautics and Astronautics, subclass 16 for glider-type aircraft, subclasses 153-155 for kites, and subclass 902 for parachute-type wings.

280, Land Vehicles, subclass 810 for a wind sail for propelling or braking a skier or skater.

**102.12 Having means to tension or stretch sail:**

This subclass is indented under subclass 102.1. Subject matter having apparatus to either (a) pull on, or (b) apply stress to the extent of

material by which wind is used to propel the marine vehicle through the water.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.29 through 39.31, for a marine vehicle hull in combination with specific sail structure.

**102.13 Having airflow control device for sail:**

This subclass is indented under subclass 102.1. Subject matter wherein structure is provided to (a) direct a portion of the wind before, or (b) redirect a portion of the wind after it has contacted the extent of material by which the wind is used to propel the marine vehicle through the water from the wind's normal path to enhance the wind's affect on the extent of material.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39.29 through 39.31, for a marine vehicle hull in combination with specific sail structure.

102.16 through 102.21, for means to orient the sail with respect to the marine vehicle.

102.22 through 102.27, for means to vary the shape or camber of the sail.

**102.14 Fairing:**

This subclass is indented under subclass 102.13. Subject matter wherein the structure provided to direct or redirect a portion of the wind is a member or formation the primary purpose of which is to produce an aerodynamic leading edge to the extent of material for propelling the marine vehicle through the water.

**102.15 Having means to stow, load, or unload sail:**

This subclass is indented under subclass 102.1. Subject matter wherein apparatus is provided to facilitate either (a) storage of the extent of material, or (b) connection of the extent of material to in-use supporting structure, or (c) removal of the extent of material by which the wind is used to propel the marine vehicle through the water from its in-use supporting structure.

- (1) Note. Many of the patents found herein provide apparatus for shifting the sail from its use position where it is connected to and supported by a mast, spar,

or cable, i.e., stay, to a compartment for non-use storage or from such a compartment to its connected and supported use position.

**102.16 Including means to orient sail:**

This subclass is indented under subclass 102.1. Subject matter wherein there is a mechanism to adjust the alignment of a straight line, i.e., chord line, joining trailing and leading edges of the extent of material with respect to the marine vehicle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

102.13 through 102.14, for airflow control means for a sail.

102.22 through 102.27, for means to vary the shape of a sail.

**102.17 Having gearing:**

This subclass is indented under subclass 102.16. Subject matter wherein the mechanism used to adjust the alignment of the straight line, i.e., chord line, connecting the leading and trailing edges of the extent of material includes a system having (a) a toothed (1) wheel, (2) cylinder, or (3) other machine element, that meshes with (b) another toothed (1) wheel, (2) cylinder, or (3) machine element to transmit motion, or to change speed or direction of the mechanism.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, appropriate subclasses for power transmission mechanisms involving gearing, per se.

**102.18 Having rope or line (e.g., sheet, etc.):**

This subclass is indented under subclass 102.16. Subject matter wherein the mechanism includes a flaccid, elongated element which can transmit force only when under tension.

**102.19 And traveler:**

This subclass is indented under subclass 102.18. Subject matter wherein the mechanism has (a) an apparatus fixed with respect to a hull of the marine vehicle and (b) an element slidably connected to the apparatus for movement therealong, (c) the slidable element being operatively connected to the extent of material

through the flaccid, elongated element for adjusting its alignment.

- (1) Note. Many of the patents found herein have the fixed apparatus fastened transversely to the deck aft of a fore-and-aft sail with the slidable element operatively connected to the sail, and the slidable element moved along the fixed apparatus by the user of the marine vehicle.
- (2) Note. Many of the patents found herein have a means for selectively fixing the position of the slidable element with respect to the fixed apparatus.

SEE OR SEARCH THIS CLASS, SUBCLASS:  
204 through 205, for travelers, per se.

**102.2 And winch (e.g., capstan, driven pulley, windlass, etc.):**

This subclass is indented under subclass 102.18. Subject matter wherein the mechanism has (a) a rotatable drum which is caused to turn about its axis of rotation by a source of power, (b) the flaccid, elongated element being wound around the drum and (c) the drum applying a tensioning force to the flaccid, elongated element.

- (1) Note. The winch may be of the line accumulating type or of the line traction type.

SEE OR SEARCH CLASS:  
254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses for winches and winching arrangements, per se.

**102.21 And sheave or pulley:**

This subclass is indented under subclass 102.18. Subject matter also including an element having a generally circular perimeter which (a) engages the flaccid, elongated element and (b) is freely, i.e., nonpowered, rotatable about an axis through its center in response to movement of the flaccid, elongated element over its perimeter.

**102.22 Having means to vary shape of sail (e.g., camber, etc.):**

This subclass is indented under subclass 102.1. Subject matter having structure to change the surface contour, e.g., curvature, etc. of the extent of material by which the wind is used to propel the marine vehicle through the water.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 39.29 through 39.31, for a marine vehicle hull in combination with specific sail structure.
- 102.13 through 102.14, for airflow control means for a sail.
- 102.16 through 102.21, for means to orient the sail with respect to the marine vehicle.

SEE OR SEARCH CLASS:

- 244, Aeronautics and Astronautics, appropriate subclasses for means to vary the shape of an airfoil for aircraft.

**102.23 Inflatable-type:**

This subclass is indented under subclass 102.22. Subject matter wherein the extent of material has a compartment which is capable of being filled up by a gas.

**102.24 Batten:**

This subclass is indented under subclass 102.22. Subject matter wherein the structure to change the surface contour is a strip of flexible material extending from a trailing edge toward a leading edge of the extent of material for rigidifying a portion thereof.

- (1) Note. Many of the patents have the battens received in pockets which extend from the trailing edge toward the leading edge of the extent of material.

**102.25 Having separate adjustment means for batten:**

This subclass is indented under subclass 102.24. Subject matter wherein the strip of flexible material has a mechanism which acts on it to permit the strip's effect on the extent of material to be varied.

**102.26 For plural battens in a horizontal plane:**

This subclass is indented under subclass 102.25. Subject matter provided with an additional strip of flexible material, extending from a trailing edge toward a leading edge of the extent of material for rigidifying a portion thereof, which is disposed at a common vertical level with respect to the horizon.

**102.27 Having specific construction:**

This subclass is indented under subclass 102.24. Subject matter wherein a particular structural aspect of the strip of flexible material is detailed.

**102.28 Spinnaker pole:**

This subclass is indented under subclass 102.1. Subject matter wherein (a) a long, slender element, e.g., boom, spar, etc., is detailed which is connectable (1) at one of its ends to a mast, and (2) at its opposite end supports one corner of a triangular extent of material for propelling the marine vehicle through the water, (b) the extent of material having (1) an apex, (2) a base, (3) two equal length sides and (4) supported only at its corners and apex, i.e., spinnaker.

SEE OR SEARCH THIS CLASS, SUBCLASS:

89 through 101, for masts or spars, per se.

**102.29 Specific sail structure or arrangement:**

This subclass is indented under subclass 102.1. Subject matter wherein a particular structural aspect or configuration of the extent of material by which the wind is used to propel the marine vehicle through the water is detailed.

(1) Note. This and the indented subclasses deal with a specific detail of the structure or configuration of a marine vehicle sail.

SEE OR SEARCH THIS CLASS, SUBCLASS:

39.29 through 39.31, for a marine vehicle hull in combination with specific sail structure.

104 through 107, for a specific sail arrangement and reefing or furling of the sail.

SEE OR SEARCH CLASS:

139, Textiles: Weaving, appropriate subclasses for weaving of fabric material, and woven fabrics, per se.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses for manufacturing processes and apparatus including a step of adhesively bonding parts together.

244, Aeronautics and Astronautics, subclasses 142 through 152, for a parachute and subclass 145 for parachute canopy construction.

428, Stock Material or Miscellaneous Articles, appropriate subclasses for stock material composites, per se.

**102.3 Spinnaker:**

This subclass is indented under subclass 102.29. Subject matter wherein the extent of material is triangular in shape having (a) an apex, (b) a base, (c) two equal length sides, and (d) is supported only at its two corners and apex.

(1) Note. Many of the spinnaker sails classified herein have the apex connected to the mast and the other corners supported by a spar or boom connected to the mast.

**102.31 Of laminate or composite construction:**

This subclass is indented under subclass 102.29. Subject matter wherein the extent of material is fabricated either from (a) a plurality of layers bonded together one over the other, or (b) a layer of material having a plurality of flexible pliant elements which run along stress lines of the extent of material in an unwoven manner, i.e., on a surface of the fabric, in addition to the normal fabric threads.

SEE OR SEARCH CLASS:

139, Textiles: Weaving, appropriate subclasses for weaving of fabric material, and woven fabrics, per se.

156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses for manufacturing processes and apparatus including a step of adhesively bonding parts together.



- 428, Stock Material or Miscellaneous Articles, appropriate subclasses for stock material composites, per se.
- 102.32 Constructed from a plurality of connected panels movable relative to each other:**  
This subclass is indented under subclass 102.29. Subject matter wherein the extent of material is fabricated from a number of sections, each section being connected to and shiftable one with respect to another.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
102.33, for a sail constructed from a plurality of edge connected panels fixedly connected to each other.
- SEE OR SEARCH CLASS:  
139, Textiles: Weaving, appropriate subclasses for weaving of fabric material, and woven fabrics, per se.  
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses for manufacturing processes and apparatus including a step of adhesively bonding parts together.
- 102.33 Constructed from a plurality of edge connected panels:**  
This subclass is indented under subclass 102.29. Subject matter wherein the extent of material is fabricated from a number of sections, each section being connected to and shiftable one with respect to another.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
102.32, for a sail constructed from a plurality of panels connected to and moveable relative to each other.
- SEE OR SEARCH CLASS:  
139, Textiles: Weaving, appropriate subclasses for weaving of fabric material, and woven fabrics, per se.  
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses for manufacturing processes and apparatus including a step of adhesively bonding parts together.
- 104 Reefing and furling:**  
This subclass is indented under subclass 102.1. Inventions for taking in or shortening sail.
- 105 Fore-and-aft sails:**  
This subclass is indented under subclass 104. Means and methods of reefing and furling those sails which are set normally in a fore-and-aft line, as jibs, stay-sails, spankers, and sails of the sloop or schooner rig types.
- 106 Rolling:**  
This subclass is indented under subclass 105. Devices for shortening fore-and-aft sails by rolling them upon rollers, said rollers being the booms, gaffs, etc., or rollers attached thereto or to stays, etc.
- 107 Rolling:**  
This subclass is indented under subclass 104. Devices for shortening the sails of other than fore-and-aft types on rollers, the rollers being the yards or attached thereto or to the masts.
- 108 Fastening device for sail:**  
This subclass is indented under subclass 102.1. Mechanical devices, usually metallic, by means of which sails are secured to their support, these devices usually being secured to the sail, and which are not classifiable in subclasses 112, 113, 114, and 115.
- 109 Rigging screws and stretchers:**  
This subclass is indented under subclass 102.1. Means for tightening up or shortening shrouds or other standing rigging and permanently placed, the turning of screw producing greater tension between the ends of shrouds, etc.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
223, for portable rigging-screws.
- SEE OR SEARCH CLASS:  
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 199-263 for portable implements or apparatus for tensioning flexible material from which the implements or apparatus are detached after the material is tensioned.

- 111 Running rigging:**  
This subclass is indented under subclass 102.1. Means for making or setting sails, hoisting means, or relating thereto.
- 112 Mast travelers:**  
This subclass is indented under subclass 102.1. Devices by which the hoops or sail-fasteners are made to travel up and down on masts and longitudinally on yards or spars when the sails are being set or furled, etc., the sail-fastening device having an element movable in a guide, slot, or iron attached to or structurally a part of the mast or spar.
- (1) Note. This subclass includes all travelers attached to spars or which are not secured to the rail or deck.
- 113 Hoops and connections:**  
This subclass is indented under subclass 102.1. The title is self-explanatory, the connections usually being a part of the hoop rather than a sail-fastener, the latter forming a part of or secured to the sail or its bolt-rope.
- 114 Cringles and hanks:**  
This subclass is indented under subclass 102.1. Eyes, loops, grommets, etc., or their metal equivalents worked in or secured to the sides or leaches of sails at the bolt-ropes, the eye or loop adapted to receive the hook of a tackle or equivalent or to sail-fastening devices secured to jibs and stay-sails or fore-and-aft sails and having a plurality of loops, one for the stay, another for the bolt-rope of sails, and which are usually in the same plane and adapted to secure the free running of the sail on its stay or support.
- 115 Clews:**  
This subclass is indented under subclass 102.1. So-called "spectacle" or other irons or devices secured to the lower corners of sails to which the sheets are attached.
- (1) Note. The spectacle-iron or iron clew is usually formed with three eyes, to which the leach-rope, the foot-rope of the sail, and the sheet or sheet-block are attached.
- SEE OR SEARCH CLASS:**  
403, Joints and Connections, subclass 210 for eye-forming thimbles on the end of a rope or cable.
- 116 BULKHEADS AND DOORS:**  
This subclass is indented under the class definition. Inventions in bulkheads usually adapted to form watertight compartments of vessels.
- 117 Doors:**  
This subclass is indented under subclass 116. Bulkheads provided with doors.
- SEE OR SEARCH CLASS:**  
48, Gas: Heating and Illuminating, subclass 124 for doors for closing the mouth of retorts.  
49, Movable or Removable Closures, appropriate subclasses for closures of the type provided for and see the search notes in section IV, References to Other Classes of Class 49 for the loci of closures in other classes.  
91, Motors: Expansible Chamber Type, appropriate subclasses.  
109, Safes, Bank Protection, or a Related Device, subclasses 58 through 87 for wall and panel structures, closures, and closure adjuncts.  
144, Woodworking, subclass 271 for a wood-bending steamer.  
160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for doors or flexible material and doors made of plural strips, slats, or panels interconnected for relative motion.  
418, Rotary Expansible Chamber Devices, appropriate subclasses for rotary expansible chamber devices, per se.  
422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 310 through 312 for elements or adjuncts.
- 118 Automatic:**  
This subclass is indented under subclass 117. Doors of bulkheads adapted for self-closure or in which the closing is automatic, as on the entry of water to a certain height, the doors being closed by swinging or rotating.

- SEE OR SEARCH CLASS:  
49, Movable or Removable Closures, subclasses 10 through 12 for a stream spanning closure responsive to the amount or velocity of water in the stream and subclasses 21-23 for a closure released for movement or directly actuated by an ambient fluid, e.g., rain or snow, etc.
- 119 Sliding:**  
This subclass is indented under subclass 118. Automatic closing doors of the bulkheads, said doors being sliding.
- 120 Sliding:**  
This subclass is indented under subclass 117. Bulkhead-doors which close by sliding.
- SEE OR SEARCH CLASS:  
49, Movable or Removable Closures, subclasses 404 through 459 for a closure mounted for sliding movement.
- 121 BALLASTING:**  
This subclass is indented under the class definition. Devices designed to steady and trim vessels, prevent careening, rolling, pitching, etc.
- 122 Antirolling:**  
This subclass is indented under subclass 121. Means to prevent the rolling, pitching, etc., due to wave motion.
- 123 Floats:**  
This subclass is indented under subclass 121. Means providing buoyant floats, caissons, etc., secured to the vessel and floating alongside, preventing careening, capsizing, etc.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
39.11 through 39.32, for combinations with boats, spars, sails, etc.
- 124 Shifting weights:**  
This subclass is indented under subclass 121. Devices in which weights are adapted to move about or to be moved to distribute the weight and change the position of the center of gravity to steady, trim, or ballast a vessel when sailing or in a seaway.
- 125 Water tanks:**  
This subclass is indented under subclass 121. Devices in which ballasting is secured by watertanks adapted to be filled or emptied, thereby distributing weight, which steadies and trims the vessel in sailing, etc.
- 126 Fins and boards:**  
This subclass is indented under subclass 121. Ballasting devices in which lee or weather boards or fins, plated, blades, etc., are adapted to project from the vessel's sides or keel laterally, obliquely, or horizontally to form a resistance-surface to prevent careening or capsizing and to enable a vessel to point or sail closer to the wind and prevent making leeway.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
135, and 142, for center-boards, lateral, which partake of the nature of fins and leeboards, though used as center-boards or keels.  
152, for diving-fins.
- 127 CENTERBOARDS:**  
This subclass is indented under the class definition. Vessels having boards, plates, planks, etc., placed longitudinally amidships and projecting in line with the keel or approximate thereto and adapted to be raised or lowered to increase the resistance-surface and prevent capsizing or sudden careening, thereby steadying and trimming the vessel, usually preventing making to leeward, and enabling a vessel to point or sail closer to the wind. Centerboards are usually short in length and move in a recess or casing formed in the bottom of the vessel and raised, lowered, or adjusted at will.
- 128 Steering:**  
This subclass is indented under subclass 127. Centerboards adapted to be turned more or less obliquely or athwartships and capable or adapted to be used for steering.
- (1) Note. The devices of this type are centerboards in that they are adapted to be lowered as centerboards and serve the purpose of such or are too long to be considered as mere rudders.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
149, for rudders placed upon or in line with the keel and not adapted to be raised or lowered as centerboards, or the invention relates to the means for steering rather than to the principles of centerboards.
- 129 Multiple:**  
This subclass is indented under subclass 127. Devices in which more than one centerboard is used and in line with the keel longitudinally.
- 130 Vertical drop and pivoted swing:**  
This subclass is indented under subclass 127. Devices in which the centerboard is adapted to be lowered vertically and then swung down to greater depth at will or tilted or turned transversely athwartships.
- 131 Sectional:**  
This subclass is indented under subclass 130. Centerboards of vertical drop and swing type and made of a plurality of movable parts.
- 132 Pivoted:**  
This subclass is indented under subclass 127. Centerboards pivoted at or near one end, adapted to swing down to greater or less depth, and adjustable at will.
- 133 Sectional:**  
This subclass is indented under subclass 132. Pivoted centerboards composed of a plurality of separate parts usually movable or pivotally connected.
- 134 Fan:**  
This subclass is indented under subclass 133. Folding sectional boards in which the parts fold together fan-like and having a common pivot on which the sections turn.
- 135 Lateral:**  
This subclass is indented under subclass 132. Centerboards displaced laterally from the keel and not in line therewith.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
126, for fins and boards.
- 136 Lateral swing:**  
This subclass is indented under subclass 132. Centerboards adapted to be swung obliquely across the line of the keel, but not primarily for steering.
- 137 Lateral tilt:**  
This subclass is indented under subclass 132. Centerboards that are adapted to tilt horizontally or obliquely up or down against the keel, being usually hinged at or in line therewith.
- 138 Vertical drop:**  
This subclass is indented under subclass 127. Centerboards that are adapted to be raised or lowered vertically, both ends being adjustable at will either separately or simultaneously, and in most cases the centerboard is moved as a whole and not merely one end.
- 139 Sectional:**  
This subclass is indented under subclass 138. Centerboards adapted to be moved vertically and composed of a plurality of movable parts.
- 140 KEELS:**  
This subclass is indented under the class definition. Keels and their structure and means and methods of securing them, whether fixed or movable.
- (1) Note. Keels differ from centerboards in being longer, being usually the length of the boat, or being, when short, immovably fixed to the hull.
- 141 Vertical adjustment:**  
This subclass is indented under subclass 140. Keel structures which are adapted to be moved vertically as a whole and which extend from bow to stern and not merely centerboards.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
130, 131, 138, and 139, for centerboards.
- 142 Bilge:**  
This subclass is indented under subclass 140. Keels laterally displaced from the true keel, i.e., located upon the sides or bilge of the vessel's bottom.

**143 Rocking:**

This subclass is indented under subclass 140. Keel structures that are adapted to rock or swing upon pivots laterally or longitudinally and which are keels rather than centerboards.

**144 STEERING MECHANISM:**

This subclass is indented under the class definition. Devices for changing the direction or speed of a vessel's motion by means of rudders, brakes, speed-retarders, etc.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

21, and 23-24, for torpedoes with steering control means.  
162, for tillers.  
293 through 311, for drag anchors for speed-retarding and steering.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, appropriate subclasses under Mechanical Movements.  
91, Motors: Expansible Chamber Type, appropriate subclasses for expansible chamber motors for operating steering mechanism.  
180, Motor Vehicles, subclasses 6.2 through 6.7 for a motor vehicle which is steered by creating a difference between the driving effort developed by one or more traction elements located on one side of the vehicle and the driving effort developed by one or more traction elements located on the other side thereof; and subclasses 400-449 for a motor vehicle having means for guiding it.  
244, Aeronautics and Astronautics, subclasses 75.1 through 99.9 for apparatus and devices for controlling aircraft. Subclasses 76-82 is the generic subclass for the automatic steering of mobile craft in two and three dimensions. See subclass 175 and the classes specified in the notes thereto for the classes which provide for electrically controlled or actuated apparatus for controlling the motion and/or steering of mobile devices and for a statement as to the line between the classes.

280, Land Vehicles, subclasses 263 through 280 and 771-93.515 for occupant steered vehicles.

318, Electricity: Motive Power Systems, appropriate subclasses for electric motor systems which might be used to steer a vessel, particularly subclasses 580 through 589 and 648-649 for automatic control of electric motors in response to direction, inclination or angular position.

440, Marine Propulsion, subclasses 12, 13-32, 40-43, 53-65, 90-93, and 95-97 for various types of steering-gear involved in and combined with propelling devices.

**145 Speed retarders:**

This subclass is indented under subclass 144. Brakes or devices for retarding a ship's motion through the water and also adapted for steering when used separately, usually rudders or projecting plates attached to the vessel's sides.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

293, through 311, for checking headway by drags.

**146 Auxiliary:**

This subclass is indented under subclass 144. Inventions in steering apparatus having a plurality of devices for operating the rudder or steering means, one auxiliary to the other for simultaneous use, or as an aid to that in general use.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

163, for multiple rudders.  
164, for auxiliary rudders.

**147 Paddles and wheels:**

This subclass is indented under subclass 144. Devices in which paddle-wheels or screw-propellers, etc., are used to effect a change of direction, such devices being used for steering and not primarily for propulsion.

SEE OR SEARCH CLASS:

440, Marine Propulsion, subclasses 53 through 65 and 90-93 for combined steering and propelling screws or wheels.

**148 Channels:**

This subclass is indented under subclass 147. Wheels or propellers placed in channels or waterways formed in the ship's side or hull to effect changes in direction by propulsion, the wheels or propellers located in the channels setting in motion a column of water or jet which by reaction changes direction of course.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

151, for steering devices in which a mere jet is used without the use of wheels, etc.

SEE OR SEARCH CLASS:

440, Marine Propulsion, subclasses 40 through 43 for combinations of propulsion and steering wheels in channels, subclasses 53-65 and 90-93 for screws or wheels in channels or waterways.

**149 Keel:**

This subclass is indented under subclass 144. Rudders or equivalent which are located upon or below the keel and partaking of the nature of centerboards and adapted to be turned across the keel, but not adjustable vertically.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

128, for centerboards used for steering.  
129, for multiple centerboard devices.

**150 Fluid pressure:**

This subclass is indented under subclass 144. Steering mechanism in which fluid-pressure is used to control the rudder, tiller, or steering wheel, etc., or to react upon the water through which the vessel moves.

(1) Note. It includes all pneumatic, steam, and hydraulic means specific to ships and their structure and not so claimed as to be of general application in steam steering.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

146, for devices in which either hand or fluid pressure steering powers are used independently or simultaneously

or for means for coupling one to the other.

SEE OR SEARCH CLASS:

91, Motors: Expansible Chamber Type, appropriate subclasses for expansible chamber motors for operating steering mechanism.  
418, Rotary Expansible Chamber Devices, appropriate subclasses for rotary expansible chamber motors for operating steering mechanism.

**151 Jet:**

This subclass is indented under subclass 150. Devices in which a jet of fluid, usually water, is thrown out approximately athwartships or obliquely to the keel at bow or stern, turning a vessel by the reaction due to jet propulsion.

SEE OR SEARCH CLASS:

60, Power Plants, subclasses 221 through 222 for reaction motors which obtain a thrust by the ejection of water and having means to eject water in a plurality of directions to obtain a resultant variation in thrust direction, and subclasses 228-232 for reaction motors which eject fluids other than water and are provided with thrust direction modifying means.  
239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 127.1 through 127.3, 265.23, and 265.33-265.43 for a reaction motor discharge nozzle whose direction of stream discharge may be varied for steering a vehicle with which it may be associated.  
440, Marine Propulsion, subclasses 40 through 43 for combined propulsion and steering jets.

**152 Fins:**

This subclass is indented under subclass 144. Structures located at ships' ends designed to effect diving, or similar devices at the sides of vessels, any of which may be used for steering, but which are not rudders in the ordinary means, their action and position being similar to those of the fins of fishes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

126, for ballasting-fins.

- 153 Foot:**  
This subclass is indented under subclass 144. Means for steering operated by the foot or feet.
- 154 Wheel-shaft gearing:**  
This subclass is indented under subclass 144. Combinations of the ordinary steering wheel or equivalent and its shaft with gears for operating the rudder, but not involving a wheel and drum.
- 155 Screw:**  
This subclass is indented under subclass 154. Wheel-shaft gearing in which screws or worms are used, also including multiple screw devices in which a plurality of screws or worms is used, provided one of them is upon the wheel-shaft and said shaft turns another through intermediate gear, all screws being of the same type.
- 156 Intermediate gear:**  
This subclass is indented under subclass 155. Screw-shaft gearing in which other gears are placed between the steering wheel shaft and the screws or worms.
- (1) Note. In the miscellaneous subclass 155, the screw or worm is located upon the wheel-shaft.
- 157 Right and left:**  
This subclass is indented under subclass 155. Wheel-shaft gearing involving right and left screws or worms operating the rudder, one or both of the screws being upon the wheel-shaft.
- 158 Intermediate gear:**  
This subclass is indented under subclass 157. Steering mechanisms of the above-mentioned type in which other gearing is placed between the wheel-shaft and the screws or worms, which are geared to control the rudder.
- 159 Segmental rack:**  
This subclass is indented under subclass 154. Wheel-shaft gearing operating a rack of segmental shape or equivalent located upon the rudderhead and turning therewith.
- 160 Wheel and drum:**  
This subclass is indented under subclass 144. Steering mechanism comprising a wheel and a drum, upon which the steering ropes or chains are wound.
- 161 Intermediate gear:**  
This subclass is indented under subclass 160. Wheel and drum steering means in which gears or mechanical elements are placed between the wheel or axle and the drum.
- 162 Rudders:**  
This subclass is indented under subclass 144. Miscellaneous forms of rudders, not otherwise classifiable; also includes "tillers".
- 163 Multiple:**  
This subclass is indented under subclass 162. Steering mechanisms in which a plurality of rudders is used.
- 164 Auxiliary:**  
This subclass is indented under subclass 162. Rudders of permanent nature brought into use upon loss of the usual rudder, which are movable into position, but are not portable, as are jury rudders.
- 165 Hanging and shipping:**  
This subclass is indented under subclass 162. Means for pivoting, securing, or supporting the rudder or its post in the bearings in combination with stern or stem posts, keel, or keelson, and devices for shipping or unshipping the rudder from its hanging or support.
- 166 Tubular:**  
This subclass is indented under subclass 162. Rudders of tubular shape through which the propeller forces a jet or through which water reacts to move the stern.
- SEE OR SEARCH CLASS:  
440, Marine Propulsion, subclasses 53 through 65 for propulsion unit steering or tilting, and subclasses 76-78 for propulsion unit casing.

**167 Sectional:**

This subclass is indented under subclass 162. Rudders composed of a plurality of rudders, parts, extensions, or blades designed to increase resistance-surface.

**168 Jury:**

This subclass is indented under subclass 162. Portable and temporary devices designed to serve as a steering means when the usual rudders have been lost or rendered inoperative.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

293 through 311, for drag-anchors.

**169 Post bearings and heads:**

This subclass is indented under subclass 162. The title is self-explanatory.

**170 Brakes:**

This subclass is indented under subclass 162. Devices for relieving strain on the helmsman or rudder, adapted to yield gradually to the force of the waves, thereby preventing the breaking of the rudder or its connections.

**171 Hydraulic:**

This subclass is indented under subclass 170. Brakes in which tension is relieved through fluid resistance, the fluid being compressed or retarded in its flow.

**172 Locks:**

This subclass is indented under subclass 162. Devices for securing the steering mechanism or rudder in fixed position, and controllable at will.

**173 PORTS:**

This subclass is indented under the class definition. Devices including openings through ships' sides or decks not otherwise classifiable, and stoppers, shutters, and shields for closing the same.

SEE OR SEARCH CLASS:

49, Movable or Removable Closures, appropriate subclasses for closures of the type provided for and see the search notes in section IV, References to Other Classes, of Class 49 for the loci of closures in other classes.

160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for closures of flexible material and closures made of plural strips, slats, or panels interconnected for relative motion.

**174 Stoppers:**

This subclass is indented under subclass 173. Covers, doors, etc., for closing ports, differing from the covers of the light and air ports principally in the use to which said port is adapted and being generally larger and of rectangular construction, while the light and air ports are usually circular.

SEE OR SEARCH CLASS:

48, Gas: Heating and Illuminating, subclass 124 for doors for closing the mouth of retorts.

109, Safes, Bank Protection, or a Related Device, subclasses 58 through 87 for wall and panel structures, closures, and closure adjuncts.

144, Woodworking, subclass 271 for a wood-bending steamer.

404, Road Structure, Process, or Apparatus, subclasses 25 through 26 for pavement with a vault cover-closure.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 310 through 312 for elements or adjuncts.

**175 Gun port:**

This subclass is indented under subclass 174. Port-stoppers specially adapted for ports through which the gun is pointed, the stoppers fitting the muzzle of the gun or forming a shield or protector.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

238, for torpedo launching.

SEE OR SEARCH CLASS:

89, Ordnance, subclass 5 for stoppers for submarine ordnance, and subclass 36.14 for protectors that close the port, but are structurally a part of the gun-mount.

109, Safes, Bank Protection, or a Related Device, subclass 58.5 for other gun ports not for ships and not involving a



combination with the gun or gun mount.

**176 Hinged:**

This subclass is indented under subclass 174. Port-stoppers in which the cover or stopper is hinged or pivoted in or to the port.

SEE OR SEARCH THIS CLASS, SUBCLASS:

175, for hinged gunport stoppers and shields, and 178 for hinged covers for light and air ports.

178, for hinged covers for light and air ports.

**177 Light and air:**

This subclass is indented under subclass 173. Ports, usually of circular shape, designed to secure light and air, and smaller than cargo or gun ports.

**178 Hinged covers:**

This subclass is indented under subclass 177. Light and air ports provided with hinged, pivoted, or swinging covers for closing the same, usually forming air and water tight joints when closed.

**179 HAWSE PIPES:**

This subclass is indented under the class definition. Devices involving openings or passages in a vessel's bow or stern or sides to permit cables or hawsers to run through.

**180 Stoppers and covers:**

This subclass is indented under subclass 179. Hawse-pipes having means of closure.

**181 Friction rollers:**

This subclass is indented under subclass 179. Hawse-holes having friction rollers or pulleys to facilitate the running out or heaving in of the cable.

**182 SCUPPERS:**

This subclass is indented under the class definition. Devices involving passages or holes from the decks through the ship's side to permit water accumulating on the decks to run out.

**183 BILGE DISCHARGE:**

This subclass is indented under the class definition. Devices for expelling bilgewater, ash, or refuse from a ship's bilge or hold, including ejectors or other devices operated by the movement of the vessel in the water, or specific to ship use or structure.

SEE OR SEARCH CLASS:

185, Motors: Spring, Weight, or Animal Powered, subclasses 29 and 30 for oscillating weight motors which may be operated by a rolling vessel.

406, Conveyors: Fluid Current, appropriate subclasses for a fluid current conveyor which expels material from a ship's bilge by water, steam injection, etc., where no ship structure is recited.

417, Pumps, subclass 328 for pumps operated by weights which are caused to oscillate by the rolling of a vessel, and subclass 334 for pumps operated by fluid current motors of the type which may be attached to or towed by a moving vessel.

**184 Ejectors:**

This subclass is indented under subclass 183. Devices for entraining water or ashes, etc., by the motion of the ship through the water, water being injected to entrain the former or by suction produced by shape of discharge orifice or its position in the bottom of the vessel.

**185 Ships motion:**

This subclass is indented under subclass 184. Ejectors which take in water forward or acting by suction due to the shape of the discharge orifice or its position, either type being operative only when the ship is moving through the water or when a current is flowing and the vessel is stationary.

**186 Ash:**

This subclass is indented under subclass 184. Ejectors including hoppers or other means for dumping and expelling ashes through water or steam injection, etc.

**187 SMOKESTACKS:**

This subclass is indented under the class definition. Steamboat stacks or chimneys specially adapted to use on vessels, mostly swinging or

- telescopic in structure and having no application elsewhere.
- SEE OR SEARCH CLASS:  
110, Furnaces, subclass 184 for metal smoke stacks of locomotives and portable boilers.
- 188 FURNITURE:**  
This subclass is indented under the class definition. Furniture and furnishings of ships not classifiable elsewhere because of special fitness to use on ships.
- 189 Cabins and staterooms:**  
This subclass is indented under subclass 188. Devices or arrangements of cabins and staterooms to secure light, ventilation, comfort, and economy of space and usually separate structures rather than permanent structures in shipbuilding.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
71, for permanent structures in shipbuilding.
- 190 Life-preserver racks:**  
This subclass is indented under subclass 188. Devices for holding or supporting life preservers on vessels and specific thereto.
- 191 Self-leveling:**  
This subclass is indented under subclass 188. Furniture that is specific to use on ships, automatic in operation, maintaining a level surface during rolling and tossing of the vessel.
- 192 Berths:**  
This subclass is indented under subclass 191. Berths providing for single or double swing, etc., during the rolling and pitching of the vessel, maintaining a level surface, and devices to steady berths during the rise and fall of the vessel.
- 193 Single pivot:**  
This subclass is indented under subclass 192. Berths suspended from a universal joint or single pivot, providing for berth equilibrium during the motions of the vessel.
- 194 Chairs:**  
This subclass is indented under subclass 191. Chairs automatically maintaining a level seat or rest during motions of the vessel in the water.
- 195 Tables:**  
This subclass is indented under subclass 191. Tables having automatic leveling tops or equivalent devices securing the same end.
- 197 Boat plugs:**  
This subclass is indented under the class definition. Plugs having valves therein adapted to fit in the bottom of a boat and permit the emergence of water.
- 198 Sea cocks:**  
This subclass is indented under the class definition. Devices permitting the entrance of seawater from outside to the hold, magazine, etc., or for submerging the ship and usually placed in the bottom or between double bottoms and structurally united therewith.
- 199 CABLE STOPPERS:**  
This subclass is indented under the class definition. Devices of the nature of compressors or controllers which have means to check or stop the cable from running out and to hold it securely at any point.
- (1) Note. Cable is used generically and includes hawsers, e.g., towlines, ropes, etc., which are controllable at will.
- SEE OR SEARCH CLASS:  
188, Brakes, appropriate subclasses.  
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 199 through 417 for analogous devices, or rope-clamps combined with hoisting apparatus.
- 200 Chain:**  
This subclass is indented under subclass 199. Cable-stoppers structurally adapted for use on chain cables and not upon rope or wire.
- 201 HATCHES AND COVERS:**  
This subclass is indented under the class definition. Inventions in deck hatches involving structure of hatches or deck openings and cov-

ers thereto and devices for fastening or locking said covers down.

SEE OR SEARCH CLASS:

49, Movable or Removable Closures, appropriate subclasses for closures of the type provided for.

160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for hatches in the form of flexible and portable panels, including hatches of flexible material and of plural strips, slats and panels which are interconnected for relative movement. These patents may include so much of the mounting means as is necessary to support the hatch and may include the operating means for such hatch.

187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 336 through 342 for means for closing an opening for an elevator shaft through a building's floor.

**202 Sliding:**

This subclass is indented under subclass 201. Sliding covers and gratings involving more than sliding doors.

SEE OR SEARCH CLASS:

49, Movable or Removable Closures, subclasses 404 through 459 for sliding doors of the type provided for.

**203 With fasteners:**

This subclass is indented under subclass 201. Hatches combined with means for battening, securing or locking them in place.

SEE OR SEARCH CLASS:

292, Closure Fasteners, subclass 256.5 for hatch-fastening clamps, per se.

**204 TRAVELERS:**

This subclass is indented under the class definition. Devices having means to permit the reciprocation of a slide or ring to which the sheet of fore-and-aft sails is secured, such devices being fastened to the deck or rail.

SEE OR SEARCH THIS CLASS, SUBCLASS:

112, for travelers permitting vertical motion on masts and longitudinal motion on yards, etc.

**205 Tension relievers:**

This subclass is indented under subclass 204. Travelers having one or more tension or surge relievers as an element of construction.

SEE OR SEARCH THIS CLASS, SUBCLASS:

213, for tension relieving devices specific to ships.

**210 ANCHOR TRIPPERS:**

This subclass is indented under the class definition. Devices for instantaneously releasing anchors, shank-painters, ring or cat stoppers, anchor-supporters, shoes, and fluke-holders, and devices for catting and fishing anchors.

SEE OR SEARCH THIS CLASS, SUBCLASS:

378 through 380, for devices for releasing a life craft from its supporting connections.

SEE OR SEARCH CLASS:

54, Harness for Working Animal, subclass 69, for attaching and detaching devices.

119, Animal Husbandry, subclasses 772 through 778 for releasing apparatus for hitched animals.

278, Land Vehicles: Animal Draft Appliances, subclass 21-32, for horse detachers.

294, Handling: Hand and Hoist-Line Implements, subclasses 82.24 through 82.36, particularly subclass 82.27 for load engaging hooks.

**211 VENTILATION:**

This subclass is indented under the class definition. Ventilating devices specific to ships and involving the structure of the ship.

SEE OR SEARCH CLASS:

454, Ventilation, appropriate subclasses for ventilation in general.

- 212 Valves:**  
This subclass is indented under subclass 211. Ventilating devices in which cowls or hoods are provided with valves, dampers, or baffle-plates to prevent the ingress of water.
- 213 TENSION RELIEVERS:**  
This subclass is indented under the class definition. Devices specific to ships having yielding parts to prevent tension or strains from rupturing some element of the combination and applied to cables, cable-stoppers, sheets, secured ends or "standing" parts, ropes, etc.
- (1) Note. The yielding means is usually rubber, spring, or fluid, which is compressed or stretched, as the case may be.
- SEE OR SEARCH CLASS:  
254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 277 for fluid or resilient shock-absorbing or tension-maintaining means attached to, supported by, or supporting guiding structure for a load hauling or hoisting cable.  
267, Spring Devices, subclasses 69 through 74 for tension relievers not specific to ships.
- 214 Fluid:**  
This subclass is indented under subclass 213. Tension or surge relievers in which the yielding means is hydraulic or pneumatic.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
171, for hydraulic brakes.
- 215 Cable:**  
This subclass is indented under subclass 213. Tension-relievers to take up the strain on the cable and prevent parting of the cable. The yielding means generally forms an element of the cable stopper or compressor. This subclass includes tension-relievers for chain-stoppers as well as cable-stoppers.
- 216 Couplers:**  
This subclass is indented under subclass 213. Elastic couplings specific to use on ships and in rigging.
- SEE OR SEARCH CLASS:  
267, Spring Devices, subclasses 69 through 74 for tension relievers not specific to ships.
- 217 Safety release:**  
This subclass is indented under subclass 216. Tension-relievers of the coupling type having a safety-release by means of which the coupled part is released when the tension reaches a certain limit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
210, for anchor trippers and see the notes to this subclass for analogous or related safety-release means.
- 218 BITTS, CLEATS, AND PIN RAILS:**  
This subclass is indented under the class definition. Devices for belaying and securing ropes, cables, hawsers, cleats being stationary and formed with projecting horns, with or without safety releasing means; also includes rotary piles or spiles, rails for belaying-pins, and their attachments.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
217, for safety release.
- SEE OR SEARCH CLASS:  
24, Buckles, Buttons, Clasps, etc., subclass 115 for cord and rope holders.
- 219 FENDERS:**  
This subclass is indented under the class definition. Devices to prevent injury to ships' hulls, their bows, and sides from collision, grounding, or waves, the wavefenders acting as a screen or protector.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclasses 212 through 215 for fenders carried by marine structures to protect the structure from damage by a vessel.
- 220 Roller:**  
This subclass is indented under subclass 219. Fenders provided or formed with a freely rotating friction-roller.

## SEE OR SEARCH CLASS:

- 405, Hydraulic and Earth Engineering, subclass 213 for roller-type fenders carried by marine structure to protect the same.
- 492, Roll or Roller, appropriate subclasses for a roll, per se, not elsewhere provided for, and see the notes thereunder.

**221 IMPLEMENTS:**

This subclass is indented under the class definition. Devices of miscellaneous character adaptable and specific to use on board ships and boats, usually separate and independent of the structure of the ship.

## SEE OR SEARCH CLASS:

- 60, Power Plants, subclasses 632 through 638 for one shot explosion actuated expansible chamber type motors.
- 166, Wells, subclasses 54.5 through 54.6 for means for cutting a cable or rope in a well below ground.
- 294, Handling: Hand and Hoist-Line Implements, subclass 19.1 for pole-mounted handling implements which do not have exclusive disclosure for use on board a ship.
- 405, Hydraulic and Earth Engineering, subclasses 185 through 194 for submersible apparatus with which personnel may perform an underwater operation.

**222 Hull cleaning:**

This subclass is indented under subclass 221. Devices of various types especially adapted to cleaning, painting, or scraping a ship's hull or preventing the growth and deposit of foreign matter thereon, as barnacles, or means for preventing barnacle growth.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 232, for oil distributors.

## SEE OR SEARCH CLASS:

- 15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses for cleaning apparatus of general application operating to clean through the agency of a draft or current of air,

steam, or equivalent gaseous fluid, a brush, a beater, a scraper, shot, or a squeegee.

- 30, Cutlery, appropriate subclasses especially subclasses 169 through 172, for scrapers of general utility.

**223 Riggings:**

This subclass is indented under subclass 221. Miscellaneous devices specific to use in or about ships' rigging, but not in permanent use, including rope stoppers, grips, tighteners, and other rope-handling devices.

## SEE OR SEARCH CLASS:

- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 199 through 263 for portable implements or apparatus for tensioning flexible material, e.g., cable, wire, etc., from which the implements or apparatus are detached after the material is tensioned.

**224 Caulking, paying, etc.:**

This subclass is indented under subclass 221. Devices for caulking or making the seams watertight and painting, pitching, or puttying the same.

- (1) Note. Where such results are secured by the manner or means of uniting sheaths, strakes, plates, or planking, see this class, subclass 86, the devices of this subclass being implements or machines entirely separate therefrom.

## SEE OR SEARCH CLASS:

- 156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses as the residual class for making articles by adhesive bonding.
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 89 for a caulking implement including material supply and means for simultaneously shaping plural dimensions, and subclass 458 for a similar implement without a material supply.

**227 LEAK STOPPERS:**

This subclass is indented under the class definition. Devices for stopping leaks of vessels applied from the inside or from the exterior of the vessel, but not of the nature of linings and fillings between bottoms, planks, or plates.

SEE OR SEARCH THIS CLASS, SUBCLASS:

69, for linings and fillings between bottoms, planks, or plates.

**228 Interior:**

This subclass is indented under subclass 227. Stoppers applied to the inside of the hull.

**229 Aprons, mats, etc.:**

This subclass is indented under subclass 227. Means applied externally to prevent leaking in which the stopper is of the nature of an apron, mat, mattress, curtain, etc., and applied over the leak.

**230.1 MOORING DEVICE:**

This subclass is indented under the class definition. Subject matter which includes apparatus for securing the marine vehicle, while in the water, to another structure, e.g., float, dock, slip, sea bed, shore, etc.

SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, especially subclasses 188-189 for underwater docking or mooring of a diving apparatus, and subclasses 224-228 for mooring a floating work platform to the seabed.

414, Material or Article Handling, appropriate subclasses for means for lifting a boat from the water for storage on land.

441, Buoys, Rafts, and Aquatic Devices, subclasses 3 through 5 for a buoy in combination with a mooring device.

**230.11 Whip or whip base:**

This subclass is indented under subclass 230.1. Subject matter wherein the apparatus for securing the marine vehicle to another structure is either (a) a resilient elongated element (1) connectable at one end to the another structure, (2) connectable at its other end to the vehicle, and (3) bowed between its ends when connected to

both the vehicle and the another structure, or (b) a structure for mounting either end of such a resilient elongated element to the marine vehicle or the another structure.

SEE OR SEARCH CLASS:

248, Supports, appropriate subclasses for supports, per se.

267, Spring Devices, appropriate subclasses for springs or spring structures, per se.

**230.12 Having ship mounted turret:**

This subclass is indented under subclass 230.1. Subject matter wherein (a) the marine vehicle includes a portion which furnishes buoyancy when in contact with the water and to which the main supporting surface, e.g., deck, etc., and other parts are attached, i.e., hull, and (b) the apparatus for securing the marine vehicle to another structure has a spindle extending through the hull which permits relative rotation of the hull and spindle.

SEE OR SEARCH CLASS:

141, Fluent Material Handling, With Receiver or Receiver Coacting Means, appropriate subclasses, especially subclass 279 for means permitting relative motion between a hose connected between a moveable supply source and filling head or a moveable receive and subclasses 387-389 for a filling head shiftably or separably connected to a supply.

166, Wells, appropriate subclasses, especially subclasses 352-355 for a submerged well having means to removably connect a surface vessel to permanent well structure.

175, Boring or Penetrating the Earth, appropriate subclasses, especially subclasses 5 and 7 for boring a submerged formation from a floating or submerged platform.

285, Pipe Joints or Couplings, appropriate subclasses for joints or couplings between fluid conducting conduits, per se.

384, Bearings, appropriate subclasses for bearing structure per se.

- 405, Hydraulic and Earth Engineering, appropriate subclasses especially subclasses 188 through 189 for underwater docking or mooring of a diving apparatus.
- 441, Buoys, Rafts, and Aquatic Devices, subclass 5 for a buoy for mooring a vessel in combination with a liquid cargo conduit having a swivel coupling.

**230.13 Including tower or riser connected to sea floor (e.g., column, mast, etc.):**

This subclass is indented under subclass 230.1. Subject matter wherein the apparatus includes a structure (a) connected to, or (b) mounted on the marine floor, and (c) the structure is either (1) a rigid elongated upright member which projects toward or above the surface of the water, or (2) an elongated flexible member which is upright and projects toward or above the surface of the water when disconnected from the marine vehicle.

- (1) Note. Many of the risers classified herein are buoyant or have a buoyant structure attached to them.
- (2) Note. Many of the risers classified herein are tubular for transmission of a fluid to or from the marine vehicle.

**SEE OR SEARCH CLASS:**

- 137, Fluid Handling, subclass 236.1 for offshore fluid-handling systems and subclass 615-616.7 for fluid handling systems of general utility having two or more fluid conduit sections joined for relative movement to assume various delivery or nonuse positions.
- 141, Fluent Material Handling, With Receiver or Receiver Coacting Means, appropriate subclasses, especially subclass 279 for means permitting relative motion between a hose connected between a moveable supply source and filling head or a moveable receiver and subclasses 387-389 for a filling head shiftably or separably connected to a supply.
- 405, Hydraulic and Earth Engineering, appropriate subclasses, especially subclasses 224 through 228 for devices for anchoring of a marine

building or work platform to the marine floor.

- 441, Buoys, Rafts, and Aquatic Devices, subclasses 4 through 5 for a mooring buoy having a fluid conduit for transferring liquid cargo to a marine vehicle.

**230.14 Having boom means:**

This subclass is indented under subclass 230.13. Subject matter wherein the structure has an arm, one end of the arm being movably or pivotally connected to the structure and an opposite end of the arm extending laterally or transversely outwardly and connectable with the marine vehicle.

- (1) Note. Many of the mooring devices classified herein permit the marine vehicle to rotate completely around the tower or riser while the marine vehicle is connected to the boom.
- (2) Note. Many of the mooring devices classified herein provide for the transmission of a fluid to or from the marine vehicle.

**230.15 Boom-type:**

This subclass is indented under subclass 230.1. Subject matter wherein the securing apparatus includes an arm, one end of the arm being movably or pivotally connectable to the another structure and an opposite end of the arm extending laterally or transversely outwardly and connectable with the marine vehicle.

- (1) Note. Many of the mooring devices classified herein connect the marine vehicle to a structure which extends a very short distance above and is fixed to the marine floor.
- (2) Note. Many of the mooring devices classified herein include plural rods or booms.

**SEE OR SEARCH CLASS:**

- 405, Hydraulic and Earth Engineering, appropriate subclasses, especially subclasses 188 through 189 for underwater docking or mooring of a diving apparatus and subclasses 224-

228 for mooring a floating work platform to the seabed.

- 441, Buoys, Rafts, and Aquatic Devices, subclasses 3 through 5 for a buoy in combination with a mooring device.

**230.16 Vertically slidable:**

This subclass is indented under subclass 230.15. Subject matter wherein movement in a straight line perpendicular to a plane parallel to the horizon is permitted by either the connection between (a) the arm and the another structure or (b) the arm and the marine vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 230.27, for a line-type mooring device which compensates for water level changes.

SEE OR SEARCH CLASS:

- 403, Joints and Connections, appropriate subclasses for a joint permitting straight line movement between two or more rigid or semi-rigid members.  
405, Hydraulic and Earth Engineering, appropriate subclasses, especially subclass 219 for a floating dock.

**230.17 Of extensible length:**

This subclass is indented under subclass 230.15. Subject matter wherein the arm has two elongated segments attached to one another in a manner allowing one segment to move longitudinally relative to the other to lengthen or shorten the length of the arm.

SEE OR SEARCH CLASS:

- 248, Supports, appropriate subclasses for supports, per se.  
403, Joints and Connections, appropriate subclasses for a joint permitting straight-line movement between two or more rigid or semi-rigid members.

**230.18 Biased to particular length or position:**

This subclass is indented under subclass 230.17. Subject matter wherein the arm has a means to apply a force either (a) between the segments to keep the segments at the proper position relative to each other, or (b) between (1) the arm and the another structure, or (2) the arm and the marine vehicle, to keep the arm at the proper position.

SEE OR SEARCH CLASS:

- 267, Spring Devices, appropriate subclasses for springs or spring structures, per se.  
403, Joints and Connections, appropriate subclasses, especially subclass 166 for articulated members which are axially spring-biased coaxial members.

**230.19 Biased to particular position:**

This subclass is indented under subclass 230.15. Subject matter wherein the apparatus for securing the marine vehicle to another structure has a means to apply a force to the arm to keep it at the proper position relative to either (a) the another structure or (b) the marine vehicle.

SEE OR SEARCH CLASS:

- 267, Spring Devices, appropriate subclasses for spring structures, per se.

**230.2 Line-type (e.g., rope, chain, hawser, cable, etc.):**

This subclass is indented under subclass 230.1. Subject matter wherein the apparatus for securing the marine vehicle to another structure includes an elongated, flaccid member which can transmit force only when under tension.

SEE OR SEARCH CLASS:

- 57, Textiles: Spinning, Twisting, and Twining, appropriate subclasses for a particular rope or cable construction.

**230.21 With detecting position of ship or tension in line:**

This subclass is indented under subclass 230.2. Subject matter wherein the apparatus has means for sensing a change (1) in a location of the marine vehicle with respect to the another structure or (2) in the tensioning force applied to the flaccid member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 247, for towing or pushing devices for a ship having means responsive to excess strain in the device.



## SEE OR SEARCH CLASS:

- 73, Measuring and Testing, appropriate subclasses, especially subclasses 760 through 860 for measuring strain in a device.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for apparatus utilizing a cable to apply a pulling force to an object.
- 340, Communications: Electrical, subclasses 984 through 987 for watercraft alarm or indicating systems.

**230.22 Having means to tension line for movement of ship in opposite directions:**

This subclass is indented under subclass 230.2. Subject matter wherein the apparatus for securing the marine vehicle to the another structure includes means for applying a tensile force to the flaccid member to cause the marine vehicle to be selectively moved in diametrically opposed paths while it is connected to the flaccid member.

- (1) Note. Many of the devices classified herein permit an operator to move a moored marine vehicle between moored locations while the operator is at a position remote from either the vehicle or the another structure.

**230.23 And line winding means:**

This subclass is indented under subclass 230.2. Subject matter also including a drum, e.g., capstan, driven pulley, driven sprocket wheel, winding drum, windlass, etc., turned about its central axis by a source of power and having a perimeter which contacts the flaccid member and either winds a segment of the flaccid member around its perimeter, or otherwise engages and pulls on a segment of the flaccid member.

## SEE OR SEARCH CLASS:

- 242, Winding, Tensioning, or Guiding, appropriate subclasses for winding or unwinding of a flexible element from a holder or spool, per se; for winding of rope; and for winding material upon or unwinding material from reels or drums.

**230.24 And line biasing means:**

This subclass is indented under subclass 230.2. Subject matter also including means for applying a tensioning force to the flaccid member.

- (1) Note. Many of the documents classified herein include an idler pulley for changing the direction of the path of travel of the flaccid member, but the pulley is not turned about its center by a source of power and does not apply a pulling force to the flaccid member by engagement of the flaccid member with the perimeter of the pulley and therefore the pulley by itself is not a biasing means.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

368 through 374, for a lifecraft davit.

## SEE OR SEARCH CLASS:

- 254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses for a device for applying a pulling force to a line.

**230.25 With manipulating or positioning means for aiding attachment of the line:**

This subclass is indented under subclass 230.2. Subject matter with means for (a) engaging the flaccid member and either (1) assisting maneuvering of the flaccid member for connection either to (i) the marine vehicle from the another structure, or (ii) the another structure from the marine vehicle, or (2) stationing the flaccid member at a particular location for connection either to (i) the marine vehicle from the another structure, or (ii) the another structure from the marine vehicle, and (b) transmitting no force between the marine vehicle and the another structure after the connection has been completed.

## SEE OR SEARCH CLASS:

- 248, Supports, appropriate subclasses, especially subclasses 121-125.9 for a self-supporting stand and an article supporting bracket thereon, subclasses 127-188.91 for self-supporting stands which support an article in spaced relation to a horizontal surface, subclasses 200-316.8 for brackets, per se, and subclasses 511-541 for

a device which receives a rod or pole and supports it in one or more attitudes.

- 294, Handling: Hand and Hoist-Line Implements, appropriate subclasses, especially subclasses 19.1 through 24 for a pole mounted implement, subclasses 82.1-82.36 for devices including a hook with a hoistline or draftline terminal, and subclasses 86.4-119.4 for a grapple, per se.

**230.26 With specific means for attaching line:**

This subclass is indented under subclass 230.2. Subject matter with a particular structural aspect of a means for connecting the flaccid member either to (a) the marine vehicle from the another structure, or (b) the another structure from the marine vehicle, and (c) transmitting a tensile force between the marine vehicle and the another structure after the connection has been completed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 218, for bits, cleats, or pin rails, per se.

**230.27 Compensates for water level change:**

This subclass is indented under subclass 230.26. Subject matter wherein the means for connecting the flaccid member to the another structure or the marine vehicle permits free vertical movement of the connection either (a) of the flaccid member to the another structure or (b) of the flaccid member to the marine vehicle to adjust for changes in the water surface, e.g., wave action, tide changes, etc.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 230.15 through 230.19, for boom-type mooring devices.

SEE OR SEARCH CLASS:

- 405, Hydraulic and Earth Engineering, subclasses 211 through 216 for a marine structure protection device.

**230.28 Including socket receiving elongated projection:**

This subclass is indented under subclass 230.26. Subject matter wherein the connecting means includes a releasable coupling having a slender protuberance received within a cavity.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 216 through 217, for a tension reliever for a cable or line of a ship which further includes an elastic coupling.  
249 through 252, for a towing or pushing device for a ship further including a coupling.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 572.1 through 702 for a separable fastener, per se.  
403, Joints and Connections, appropriate subclasses for a particular connection between rigid or semi-rigid members, having a socket releasably receiving an elongated projection.

**230.29 Including enlargement fixed or attached to line for releasable engagement in slot:**

This subclass is indented under subclass 230.26. Subject matter wherein the connecting means includes a member of greater lateral or radial dimension than the flaccid member carried by or permanently attached to the flaccid member which is releasably retained in a long narrow opening for transmitting a tensile force between the marine vehicle and the another structure.

SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., appropriate subclasses, especially subclasses 572.1 through 702 for a separable-type fastener, per se, including a pivoted hook.  
410, Freight Accommodation on Freight Carrier, subclasses 101 through 116 for a load lashing anchor.

**230.3 Including pivoted hook-type member:**

This subclass is indented under subclass 230.26. Subject matter wherein the means for connecting the flaccid member to the marine vehicle or the another structure includes a curved arm rotatable about an axis.

- SEE OR SEARCH CLASS:  
 24, Buckles, Buttons, Clasps, etc., appropriate subclasses, especially subclasses 572.1 through 702 for a separable-type fastener, per se, including a pivoted hook.
- 294, Handling: Hand and Hoist-Line Implements, subclasses 82.1 through 82.36 for a hook of general utility provided with a hoistline or draftline terminal.
- 231 Ferry slip:**  
 This subclass is indented under subclass 230.1. Moorings in which a part of the securing means is located upon the vessel and usually operated automatically as the boat comes in.
- SEE OR SEARCH CLASS:  
 14, Bridges, subclasses 69.5-72.5 for gangway, ramp, or dock leveler.
- 232 OIL DISTRIBUTERS:**  
 This subclass is indented under the class definition. Miscellaneous devices for spreading oil upon the surface of the waves or hulls of the vessels, primarily to diminish the roughness and force of the waves in storms; includes devices that distribute oil to the contact surface of the hulls of vessels to diminish the water friction and increase the speed and prevent attachment and growth of barnacles, etc., thus cleaning the hull.
- SEE OR SEARCH CLASS:  
 102, Ammunition and Explosives, subclass 366 for oil distribution by an explosion on or just below the water surface.
- 405, Hydraulic and Earth Engineering, subclass 22 for oil distributors used in harbors.
- 441, Buoys, Rafts, and Aquatic Devices, subclass 34 for buoys for distributing oil upon the surface of waves.
- 233 Ship structure:**  
 This subclass is indented under subclass 232. Devices fixed to or involving the ship or its structure, usually distributing oil through pipes to orifices in or about the hull.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 67, for air and oil distributors of similar structure used for diminishing friction.
- 234 Drags and floats:**  
 This subclass is indented under subclass 232. Oil receptacles thrown overboard from vessel to gradually spread oil on the surface of the sea secured to the vessel by a towline or hawser and dragged or floated on the surface of the sea.
- 238 TORPEDO LAUNCHING:**  
 This subclass is indented under the class definition. Devices for launching, releasing, handling, or expelling torpedoes of the fish or automobile type.
- (1) Note. In the torpedo tubes included herein, the expelling power of air, gas, liquid, or gunpowder is only sufficient to make the torpedo take the water.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 20.1, for torpedo structure.
- SEE OR SEARCH CLASS:  
 89, Ordnance, subclasses 1.51 through 1.61 for apparatus and processes for dropping torpedoes and other bombs from aircraft, and subclass 5 for torpedo-guns for torpedo-projectiles that are projected rather than launched.
- 124, Mechanical Guns and Projectors, subclasses 56 through 77 for pneumatic projectile impelling devices.
- 239 Outboard:**  
 This subclass is indented under subclass 238. Devices pivoted, suspended, or secured to the ship's side or deck for expelling, handling, or launching torpedoes, including tubes mounted upon boats' decks but not torpedo tubes of the inboard type.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 19, for torpedoes carried at the end of the spar.

**240 TORPEDO GUARDS:**

This subclass is indented under the class definition. Devices applied externally to a ship or supported thereon to prevent torpedoes from touching the vessel's hull.

**SEE OR SEARCH CLASS:**

160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for flexible and portable panels of more general utility.

**241 Nets:**

This subclass is indented under subclass 240. Net-like torpedo guards.

**242 TOWING OR PUSHING:**

This subclass is indented under the class definition. Device including means enabling a vessel either to pull an object through the water or to bear against or otherwise apply a thrusting force to an object to shove the object through the water.

**243 Cable fairing:**

This subclass is indented under subclass 242. Device wherein means are provided for use about a towing line which means acts to reduce eddying and resultant drag as the line moves through the water.

**244 Submerged object:**

This subclass is indented under subclass 242. Device wherein the object being towed is an underwater object.

**245 Having depth-control means:**

This subclass is indented under subclass 244. Device wherein means are provided either to maintain the towed object at a desired depth or to controllably vary the depth at which the object is towed.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

25, for depth regulators associated with torpedoes.

**246 Steering:**

This subclass is indented under subclass 242. Device including means specialized for towed or pushed vessels or objects for changing the

direction of movement of the towed or pushed vessel or object or a train of such vessels.

(1) Note. Those vessels which recite no more than conventional steering gear, e.g., a rudder controlled from the vessel upon which it is mounted, have not been placed herein but rather have been placed on their specific coupling or towing structure, etc.

(2) Note. Push boat-barge combinations having variable length lashings connecting the vessels together will be found herein if the lashings permit the boat to be canted with respect to the barge to facilitate or effect steering of the same.

**247 Having means responsive to excess strain:**

This subclass is indented under subclass 242. Device wherein a connecting means is provided which has means to disconnect a towed object or to otherwise reduce the pulling force acting through the connecting means when the force exceeds a predetermined limit.

**SEE OR SEARCH CLASS:**

254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 272 through 273 for a cable pulling drum provided with a control mechanism having a cable deflecting or path-defining component; the component shifts when variations in the tension on the cable occur.

**248 Nested vessels:**

This subclass is indented under subclass 242. Device wherein the hull of one of the vessels is configured to receive and confine a hull portion of a coacting vessel.

**249 Coupling means:**

This subclass is indented under subclass 242. Device having (a) a plurality of substantially rigid members which are configured to cooperate one with another to effect a force transmitting link between vessels joined together thereby, (b) a pliable member holding one vessel in contact with and fast to another, or (c) hooks or clamps for towing cables having releasing trips.

- 250 Boom type:**  
This subclass is indented under subclass 249. Device wherein one of the coacting members is carried by a solid arm which holds the connected vessels in a spaced relationship.
- 251 Flexible lashing:**  
This subclass is indented under subclass 249. Device wherein a pliable member holds one vessel in contact with and fast to another.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
246, for steering arrangements which employ a pair of flexible lashing to connect a push vessel to a barge, where one of the lashings connects the port side of the push vessel to the port side of the barge and the other lashing connects the starboard sides and where means are provided to change the relative lengths of the lines to thereby cant the push vessel with respect to the barge to facilitate steering of the connected assemblage.
- 252 Having trip mechanism:**  
This subclass is indented under subclass 249. Device wherein the coupling means is provided with means to effect or facilitate disconnect of the joined vessels.
- 253 Towing by means of cable:**  
This subclass is indented under subclass 242. Device wherein a flexible line is provided for connecting a towing vessel to a towed object which is spaced therefrom.
- 254 With cable storage means (e.g., reels, etc.):**  
This subclass is indented under subclass 253. Device wherein means are provided for holding the flexible line when it is not in use.
- SEE OR SEARCH CLASS:  
242, Winding, Tensioning, or Guiding, subclasses 398 through 406 and subclass 904 for a reeling device of general use or with nominal ship structure or combined with a nominally recited boat. Class 114 takes the combination of reel structure with a boat where the boat is more than nominally recited. Class 114 will also take a reel combined with a motor which is actuated by the boat's motion through the water or where line guide structure is recited which is adapted to be attached to the boat rather than the reel, e.g., bridles which attach to the transom of the boat, etc.
- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclasses 264 through 386 for a driven, cable-pulling drum for hauling or hoisting a load.
- 255 FISHING VESSEL:**  
This subclass is indented under the class definition. Vessels with provisions for procuring or processing aquatic life other than vegetation.
- 256 FLOATING OR SEMI-SUBMERSIBLE STORAGE VESSEL:**  
This subclass is indented under the class definition. Structures which are containers of such construction that they remain at least partially above water when in use.
- 257 SUBMERGED STORAGE VESSEL:**  
This subclass is indented under the class definition. Structures which are containers of such construction that when in use they are completely under water, but are not at rest on the bottom.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclass 210 for submerged storage vessels which rest on the sea floor.
- 258 MOTHER SHIP, FLOATING LANDING PLATFORM, AND HARBOR:**  
This subclass is indented under the class definition. Floating structures designed to receive, either within or upon the same, watercraft or aircraft, to transport or harbor them, and appliances peculiar thereto.
- SEE OR SEARCH CLASS:  
414, Material or Article Handling, subclasses 137.7 through 137.8 for a ship with means to load or unload cargo from the water.

- its length, and a relatively flexible segment.
- 259 Vessel carrier:**  
This subclass is indented under subclass 258. Devices designed to transport other water vessels.
- 260 Barge transport:**  
This subclass is indented under subclass 259. Devices wherein the water vessel being transported is of general type for transporting bulk cargo across water.
- 261 Aircraft:**  
This subclass is indented under subclass 258. Devices designed to transport or harbor airplanes, helicopters, etc.
- 262 Seaplane:**  
This subclass is indented under subclass 261. Devices wherein the carrier or harbor is in the form of a way station or loading platform which is adapted to accommodate aircraft which is designed to land or take off from the surface of a body of water.
- 263 Floating boat dock:**  
This subclass is indented under subclass 258. Structures which are buoyant platforms which have provisions for berthing of boats thereto or thereon.
- 264 FLOATING PLATFORM:**  
This subclass is indented under the class definition. Structure which is wholly supported by a body of water and which when in use forms or takes the form of an approximately planar work surface.
- (1) Note. Exemplary of the art in this subclass and in subclass 265 are offshore drilling platforms.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclasses 195.1 through 228 for offshore drilling platforms which rest on the bottom, are solidly connected to the bottom, or are connected to the marine bed by a continuous riser pipe, i.e., a conduit which serves to convey material from beneath the surface of the water, which may comprise a rigid segment over a substantial portion of
- 265 Multiple leg:**  
This subclass is indented under subclass 264. Structures wherein the working surface of the platform is supported by a plurality of depending structural members.
- 266 Float assembly:**  
This subclass is indented under subclass 264. Structures formed of a group of united pontoons.
- 267 FLOAT STRUCTURE:**  
This subclass is indented under the class definition. Devices concerning the structure of a single float unit, e.g., laminations, filling, etc.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
266, for float structure in combination with a float connection device.
- 268 WITH HOIST OR DECK ENGINE:**  
This subclass is indented under the class definition. Vessels under this class with attachments for lifting or hauling.
- SEE OR SEARCH CLASS:  
414, Material or Article Handling, subclasses 137.1 through 143.2 for a free floating marine structure with means to load that or another marine structure.
- 269 MACHINERY ARRANGEMENT:**  
This subclass is indented under the class definition. Structure with features drawn to the specific location of engine room equipment in or with respect to the engineering space of a vessel.
- 271 HULL OR HULL ADJUNCT EMPLOYING FLUID DYNAMIC FORCES TO DERIVE A LIFT OR ALTER TRIM, (E.G., PLANING HULLS, ETC.):**  
This subclass is indented under the class definition. Device wherein a hull attachment is provided or the hull form of the vessel is such that as the vessel moves through or across the surface of a body of water, a force is generated tending either to raise the vessel out of the

- water or to change the fore and aft drafts of the vessel relative to each other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 312 through 342, for analogous devices on submarines.  
 20.1 through 25, for analogous devices on torpedoes.
- SEE OR SEARCH CLASS:  
 441, Buoys, Rafts, and Aquatic Devices, subclasses 65 through 79 for aquaplanes and analogous skimming devices adapted to be attached to a person or animal.
- 272 Having airfoil:**  
 This subclass is indented under subclass 271. Device wherein the vessel is provided with a wing-like member mounted so as to coact with the atmosphere to generate a lifting force, when the vessel is in motion, which tends to raise the vessel out of the water.
- (1) Note. The vessels found herein are always more or less waterborne and the airfoil merely tends to reduce the amount of hull below the waterline, thus, seaplanes and like aeronautic devices will generally not be found herein.
- 273 Movably mounted:**  
 This subclass is indented under subclass 272. Device including means for adjustably supporting the wing-like member such that the direction the foil faces or the angle of attack of the foil can be altered.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 280 through 282, for means to reposition hydrofoils or flaps associated therewith.
- 274 Having hydrofoil:**  
 This subclass is indented under subclass 271. Device wherein the hull is provided with a submerged wing-like lift generating member.
- 275 With control means responsive to sensed condition:**  
 This subclass is indented under subclass 274. Device wherein means are provided to regulate the operation of a vessel in response to a signal generated by a means which measures or perceives some characteristic of the vessel or the environment within which it operates.
- 276 Having feeler means:**  
 This subclass is indented under subclass 275. Device wherein the vessel is provided with a signal generating means which has a member which rides on or adjacent the surface of the water and which gauges the relative distance between the vessel's hull and the water's surface.
- 277 Having liquid pressure sensor:**  
 This subclass is indented under subclass 275. Device wherein the control signal generating means responds to variations in the force per unit area of the water with which the vessel coacts and through which it moves.
- 278 Ported strut or foil:**  
 This subclass is indented under subclass 274. Device wherein the wing-like lift generating member or a support therefor is provided with a fluid passage which begins or terminates in an aperture formed in the member or its support.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 277, for control means employing ported struts to sense variations in liquid pressure.
- 279 With shock damping means:**  
 This subclass is indented under subclass 274. Device wherein means are provided to absorb or reduce impacts or vibration being transmitted to the vessel via the wing-like member or its support.
- 280 Having means to tilt or reposition foil or foil adjunct:**  
 This subclass is indented under subclass 274. Device wherein means are provided for mounting the wing-like member or a portion thereof such that it may be moved.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 273, for repositionable airfoil.  
 275 through 277, for means which control foil or foil adjunct position in response to a sensed condition.  
 284 through 287, for means to reposition hull adjuncts other than hydrofoils to drive lift or alter trim.
- 281 Steerable foil:**  
 This subclass is indented under subclass 280. Device wherein the direction in which the vessel moves can be altered by turning or otherwise repositioning the foil.
- 282 Having means to move foil to a retracted nonuse position:**  
 This subclass is indented under subclass 280. Device wherein means are provided for shifting the foil between an inactive storage position and an active fluid coacting position.
- 283 Having laterally disposed skids or pontoons:**  
 This subclass is indented under subclass 271. Device wherein a plurality of floats or surface skimming members are either connected together in a spaced, side-by-side fashion to form a vessel or they are connected to, but spaced from either side of a vessel's hull in such a manner that they coact with the water to at least partially support the weight of the vessel and thus allow the vessel's hull to raise up in the water when the vessel is under way.
- (1) Note. For placement in this subclass, the float must be a separate and distinct entity which is not formed as part of the vessel's hull but rather is attached thereto.
- 284 Movable mounted hull portion or hull adjunct:**  
 This subclass is indented under subclass 271. Device wherein a section of the hull or some attachment to the hull is mounted to be shifted relative to the hull such that it will coact with the water when the vessel is underway either to facilitate the vessel's passage through the water or to alter the vessel's fore-and-aft drafts relative to each other.
- 285 Trim tab or hull plate:**  
 This subclass is indented under subclass 284. Device wherein the shiftable member is a generally planar element which either is formed as a portion of the vessel's hull or is an adjunct thereto.
- 286 With fluid motor:**  
 This subclass is indented under subclass 285. Device wherein a gas or liquid powered motive means is provided to shift the generally planar element.
- 287 Expanding bladder:**  
 This subclass is indented under subclass 286. Device wherein the fluid motor comprises a pliant bag-like member.
- 288 Having fluid channeling or entrapping configuration:**  
 This subclass is indented under subclass 271. Device wherein the hull of the vessel is either so contoured or accessories are so attached thereto that (a) a groove-like configuration is formed in the bottom of the vessel which runs generally parallel to the keel, or (b) a space is formed within which a gas or liquid is captured or confined, whereby a lifting force is generated as fluid either courses through the groove or is captured in the fluid confining space.
- 289 With fluid introducing means:**  
 This subclass is indented under subclass 288. Device wherein means are provided for supplying a gas or liquid to said enclosed space or open channel.
- (1) Note. Examples of the types of devices to be found herein are pumps, air scoops or funnels, engine exhaust lines, etc. This structure constitutes means in addition to the shape of the channel or fluid entrapping configuration. Thus, those channels which merely have a shaped inlet which facilitates the supply of air thereto have been placed on channel structure and will not be found in this subclass.



**290 Plural channels:**

This subclass is indented under subclass 288. Device wherein a multiplicity of fluid conducting grooves are formed in the bottom of the hull.

**291 Stepped hull:**

This subclass is indented under subclass 271. Device wherein the hull is made from a plurality of vertically spaced segments which are connected one to the other by a generally perpendicular stop or wall portion.

**292 Pontoon structure:**

This subclass is indented under subclass 271. Device which comprises an elongate float of particular configuration or construction.

**293 ANCHORING ARRANGEMENT:**

This subclass is indented under the class definition. Device wherein a vessel is provided with a plurality of lines each of which has means to releasably engage the sea bed, which lines are disposed so as to hold the vessel substantially stationary with respect to a single spot on the sea bed.

- (1) Note. Vessels found herein usually have at least a bow and a stern anchoring line which hold the vessel over a single point on the ocean floor regardless of the effects of current, tide, wind, etc.

## SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 155 through 165 for structures employing discrete disparate earth anchors.

**294 ANCHOR:**

This subclass is indented under the class definition. Device wherein means are provided (a) for engaging the sea bed, which means is adapted to be carried by a flexible line secured to a vessel and which means acts through the line to hold the vessel fast to the sea bed, or (b) which when deployed, coact with the water to produce a drag on the vessel to which it is attached to impede the motion of the vessel through water.

## SEE OR SEARCH CLASS:

- 37, Excavating, subclasses 345 through 346 for projecting piles for anchoring dredges.  
43, Fishing, Trapping, and Vermin Destroying, subclass 42.72 for fishing line shock absorbers, and subclass 44.96 for fishing line sinkers with ground engaging means.  
52, Static Structures (e.g., Buildings), subclasses 155 through 165 for expanding or piercing earth anchors.

**295 With means driving the anchor into the sea bed:**

This subclass is indented under subclass 294. Device wherein the means engaging the sea bed has power driven means for thrusting the engaging means into the sea bed.

- (1) Note. Explosively driven anchors will be found herein.

## SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclass 158 for a driven earth anchor.

**296 Suction type:**

This subclass is indented under subclass 294. Device wherein the engaging means is so configured that a zone of reduced pressure is formed between the sea bed and the engaging means either (a) when an attempt is made to extract the engaging means from the sea bed, or (b) by additional means provided for the purpose of evacuating fluid from the zone, whereby an imbalance of forces is created tending to hold the engaging means in contact with the sea bed.

## SEE OR SEARCH CLASS:

- 269, Work Holders, subclass 21 for vacuum-type holding means.  
294, Handling: Hand and Hoist-Line Implements, subclasses 64.1 through 65 for vacuum cup elements, per se, as well as other vacuum-operated load engagers.

- 297 With dislodgement means:**  
This subclass is indented under subclass 294. Device wherein the engaging means is provided with means to facilitate the withdrawing of the engaging means from the sea bed.
- 298 Collapsible fluke:**  
This subclass is indented under subclass 297. Device wherein the engaging means includes a longitudinally extending shank carrying a blade-like member, and releasable means is provided which either holds the blade-like member in fixed position or restrains it to swing through a limited arc relative to the shank when in use, but which allows it to swing free when dislodgement of the engaging means is desired.
- 299 By movable line connection:**  
This subclass is indented under subclass 297. Device in which a flexible line is attached to the engaging means at a first location when in use, and wherein means are provided to enable the point of attachment to be shifted to a second location when dislodgement of the engaging means is desired.
- 300 Dished or mushroom type:**  
This subclass is indented under subclass 294. Device wherein the engaging means is provided with a bowl-shaped member which contacts and digs into the sea bed.
- (1) Note. The bowl-shaped member may have projections protruding about the periphery thereof.
- 301 Fluke type:**  
This subclass is indented under subclass 294. Device wherein the engaging means is provided with a blade-like member which is adapted to dig into the sea bed.
- 302 Having stowable stock:**  
This subclass is indented under subclass 301. Device wherein the engaging means includes a longitudinally extending shank and a rod-like member which, when in use is arranged to be perpendicular thereto, which rod-like member is movable to a nonuse storage position.
- 303 Having assembly or disassembly feature or replaceable or adjustable abutment:**  
This subclass is indented under subclass 301. Device wherein the engaging means is provided with either, (a) means which facilitates the putting together or the taking apart of the various elements of the engaging means, or (b) stop means for limiting the swing of the fluke when the latter is pivotally carried by a shank, wherein the stop means is selectively movable to any one of a plurality of different positions to alter the fluke's swing, or means are provided for substituting a new stop means for a worn or different size stop.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
298, for a replaceable abutment adapted to be sheared off at a predetermined force to permit the fluke to swing free for dislodgement from an obstruction.
- 304 Pivoted fluke:**  
This subclass is indented under subclass 301. Device wherein the engaging means is provided with a longitudinally extending shank to which the blade-like member is swingable attached.
- SEE OR SEARCH CLASS:  
52, Static Structures (e.g., Buildings), subclasses 162 through 164 for pivoted fluke-type earth anchors.
- 305 Extensible:**  
This subclass is indented under subclass 304. Device wherein either (1) the blade-like member is held in a collapsed position when the anchor is stowed and a means is provided for releasing or moving the blade-like member such that it may assume its operative position, or (2) releaseable means are provided on the engaging means to lock the blade-like member in an extended operative position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
295, for anchors having means for driving the same into the sea bed, and which may include extensible flukes that are swung into an operative position subsequent to the anchor being driven into the seabed.

## SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 155 through 165 for expanding earth anchors.

**306 Fork or aperture confining fluke:**

This subclass is indented under subclass 304. Device wherein either (1) the end of the shank which connects with the fluke is branched and the fluke is straddled by and either side thereof connect with the arms of the branched shank, or (2) the shank is provided with a hole in which the fluke is swingably secured, and wherein the fluke is constrained to swing between the arms or through the aperture when in use.

**307 Plural independently pivoted:**

This subclass is indented under subclass 304. Device comprising multiple blade-like members which are swingably attached to the shank, and wherein movement of one of the blade-like members with respect to the shank does not invariably cause movement of another blade-like member.

**308 Knobbed shank:**

This subclass is indented under subclass 304. Device wherein the shank has an enlargement or protuberance on one end thereof which fits into a complementary recess formed in the fluke.

**309 Stock mounted on or juxtaposed to fluke:**

This subclass is indented under subclass 304. Device wherein a rod-like stabilizing member is either attached to and extends outwardly from the fluke or is secured to the shank immediately adjacent to the fluke.

**310 With tripper:**

This subclass is indented under subclass 304. Device including a member projecting outwardly from the engaging means, which member, upon contact with the sea bed, causes the fluke to pivot about its point of attachment with the shank and thereby assume the proper attitude for penetration into the sea bed.

**311 Sea anchor:**

This subclass is indented under subclass 294. Device wherein means are provided which when deployed coacts with the water to pro-

duce a drag on the vessel to which it is attached to impede the motion of the vessel through the water.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

168, for portable drag-type devices employed as temporary steering means.

## SEE OR SEARCH CLASS:

244, Aeronautics and Astronautics, subclass 113 for aircraft retarding devices, and subclasses 142-152 for parachutes.

**312 SUBMERSIBLE DEVICE:**

This subclass is indented under the class definition. Device including (a) an underwater habitat which is not permanently secured to the marine floor, (b) an independently propelled submergible vessel, (c) a device not provided for elsewhere which is either worn by a diver or upon which or within which a diver rides while in open communication with the water, which device assists in the propulsion or regulates the movement of the diver through the water, or (d) other submersible bodies not provided for elsewhere.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

244 through 245, for submergible towed objects.

257, for submersible storage tanks.

## SEE OR SEARCH CLASS:

405, Hydraulic and Earth Engineering, subclasses 185 through 194 for submergible devices with manipulating arms to perform an underwater work function; and subclasses 195.1-228 for a marine structure physically secured to a seabed.

**313 With disparate vehicle feature:**

This subclass is indented under subclass 312. Device wherein said submergible vessel is provided with additional structure peculiar to another type of vehicle whereby said vessel can perform functions in addition to those functions restricted to submarine vessels.

- 314 Underwater habitat:**  
This subclass is indented under subclass 312. Device wherein an enclosure is provided which rests on or is temporarily secured to the marine floor which enclosure provides a living space for people working in a submerged environment.
- SEE OR SEARCH CLASS:  
405, Hydraulic and Earth Engineering, subclasses 195.1 through 228 for structures including habitats rigidly secured to a seabed.
- 315 Diver assistance device:**  
This subclass is indented under subclass 312. Device wherein means are provided to propel, to assist in the propulsion, or to regulate the movement of a diver through a body of water with which he is in direct contact.
- (1) Note. A diver wearing a wet suit is still considered to be in direct contact with the body of water if said wet suit contacts the body of water.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
244 through 245, for towed sleds.
- 316 With weapon or weapon system:**  
This subclass is indented under subclass 312. Device having an offensive or defensive weapon or means for deploying an offensive or defensive weapon.
- 317 Having ballast compensating means:**  
This subclass is indented under subclass 316. Device wherein a submergible vessel is provided with means which compensates for loss of ballast during weapon deployment to maintain the stability of the vessel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
331 through 333, for ballasting systems used for depth control.
- 318 Power assisted deployment:**  
This subclass is indented under subclass 316. Device wherein a means is provided to effect or facilitate the discharge of the weapon from the submergible vessel.
- 319 Pneumatic or hydraulic dispatch:**  
This subclass is indented under subclass 318. Device wherein said means uses fluid pressure to discharge the weapon from the vessel.
- 320 Having specific hatch structure:**  
This subclass is indented under subclass 316. Device wherein said weapon system possesses an aperture cover for a weapon deployment device which cover prevents communication between the weapon and the water until the weapon is ready for deployment.
- 321 Having storage hold:**  
This subclass is indented under subclass 312. Device including a cargo receiving compartment.
- 322 Detachably connected to a main vessel:**  
This subclass is indented under subclass 312. Device wherein a submergible device is held in contact with and releasably secured to a main submergible vessel in order that the two may proceed underwater together.
- (1) Note. A buoy, per se, is not considered a submergible device for this class.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
326 through 329, for submergible devices carrying buoys.
- SEE OR SEARCH CLASS:  
441, Buoys, Rafts, and Aquatic Devices, subclasses 1 through 34 for buoys, per se.
- 323 Emergency escape means:**  
This subclass is indented under subclass 322. Device wherein said submergible device is used as a means of escape from said main submergible vessel if said main submergible vessel is unable to return to the surface of the water.
- 324 Chamber completely enclosed in the hull:**  
This subclass is indented under subclass 323. Device wherein said submergible device is a chamber which is held completely out of communication with the water within the hull of a main submergible vessel which chamber is capable of carrying a member of the crew of

- said main submergible vessel to the surface of the water.
- 325 Chamber nested in the hull:**  
This subclass is indented under subclass 323. Device wherein said submergible device is a chamber carried in a complementary indentation in the hull of a main submergible vessel with at least part of said submersible device always in communication with the water, which chamber is capable of carrying a member of the crew of said main submergible vessel to the surface of the water.
- 326 Having buoy:**  
This subclass is indented under subclass 312. Device wherein a submergible vessel is provided with a floatable member which is tethered to the submergible vessel and which is capable of being released.
- SEE OR SEARCH CLASS:  
441, Buoy Rafts, and Aquatic Devices, subclasses 1 through 34 for buoys, per se.
- 327 And snorkel:**  
This subclass is indented under subclass 326. Device wherein the floatable member is provided with a means to supply air from above the surface of the water to a submergible vessel located below the water.
- 328 With communication means:**  
This subclass is indented under subclass 326. Device wherein the floatable member is provided with equipment for exchanging information with those in a submergible vessel located below the water.
- (1) Note. Examples of equipment for exchanging information are telephones, telegraph keys, wireless antennas, etc.
- 329 With indicator:**  
This subclass is indented under subclass 326. Device wherein the floatable member is provided with additional means to make the floatable member more readily noticeable.
- (1) Note. Examples of the additional means are lights, flags, flares, reflectors, etc.
- SEE OR SEARCH CLASS:  
116, Signals and Indicators, appropriate subclasses for indicators, per se.
- 330 Having attitude control:**  
This subclass is indented under subclass 312. Device wherein said submergible vessel is provided with means to control the inclination of said vessel in relation to its frame of reference or to otherwise vary the vertical distance between the vessel and the frame of reference.
- 331 Depth control:**  
This subclass is indented under subclass 330. Device wherein a means is provided to control the vertical distance of a submersible device from the surface of the water.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
245, for submerged towed objects having depth control means.
- 332 Diving plane:**  
This subclass is indented under subclass 331. Device wherein said means comprises a tiltable surface on the exterior of the vessel which reacts with the water passing thereacross to change the pitch of the vessel upward or downward depending on the position assumed by the surface.
- 333 Water ballast:**  
This subclass is indented under subclass 331. Device wherein said means controls the intake or expulsion of water from a holding tank.
- 334 Having air supply:**  
This subclass is indented under subclass 312. Device wherein means are provided to supply or circulate a breathable gaseous mixture to the interior of a submergible device.
- 335 Having air locks:**  
This subclass is indented under subclass 312. Device wherein means are provided to isolate one zone from another zone which means comprises a chamber interposed between the zones which chamber has a first sealable opening communicating the chamber with the one zone and a second sealable opening communicating said chamber with the other zone.

- (1) Note. The air locks found here provide communication between a vessel and the surrounding sea, between different vessels, or between different compartments in the same vessel.
- 336 Emergency equipment:**  
This subclass is indented under subclass 312. Device wherein a means is provided which is operable in unforeseen circumstances to avert the loss of a submergible device or its occupants.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
326 through 329, for buoys which can be released from the submergible vessel for various purposes in emergency situations.
- 337 Having propulsion unit:**  
This subclass is indented under subclass 312. Device wherein means are provided for driving a submergible vessel through the water.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
330 through 333, for propellers used as a means for attitude control of the vessel.
- 338 Propeller:**  
This subclass is indented under subclass 337. Device wherein said means includes a revolving hub with radiating blades mounted externally of a vessel's hull which react with the surrounding water to propel the vessel through the water.
- SEE OR SEARCH CLASS:  
416, Fluid Reaction Surfaces (i.e., Impellers), appropriate subclasses for propellers, per se.
- 339 Superstructure:**  
This subclass is indented under subclass 312. Device relating to the shape, composition, or construction of the major appurtenance of a vessel's exterior surface.
- 340 With periscope:**  
This subclass is indented under subclass 339. Device wherein said structure includes a tubular optical instrument containing mirrors and lenses by which a view of the surface or the water, through which the submergible vessel is moving, is allowed.
- SEE OR SEARCH CLASS:  
359, Optical: Systems and Elements, subclasses 402 through 406 for periscopes, per se.
- 341 Hulls with transverse reinforcement:**  
This subclass is indented under subclass 312. Device wherein a vessel's exterior surface is strengthened by members lying perpendicular to the longitudinal axis of the vessel.
- 342 Hull within a hull:**  
This subclass is indented under subclass 312. Device wherein the exterior surface of the vessel is formed as a plurality of spaced apart shells one within the other.
- 343 BOATS, BOAT COMPONENT, OR ATTACHMENT:**  
This subclass is indented under the class definition. Device which is a small vessel with or without a deck, a particular component for a boat, or an attachment for a boat.
- (1) Note. In the maritime industry, a boat is a vessel less than 65 feet long and a ship is 65 feet or longer.
- SEE OR SEARCH CLASS:  
224, Package and Article Carriers, subclass 406 for an article carrier for an aquatic vessel where the vessel is nominally recited.  
440, Marine Propulsion, subclasses 106 through 109 for oar locks.
- 344 With wheeled buoyant landing or launching aid:**  
This subclass is indented under subclass 343. Device in which the boat is provided with wheel or wheeled means for carrying the boat to or from launching sites, the wheel or wheeled means being either attached to the boat or buoyant and separable from the boat.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
270, for propelling means for vessels designed for use upon either land or water and see the search notes thereunder.
- SEE OR SEARCH CLASS:  
280, Land Vehicles, subclasses 414.1 through 414.5 for boat carrying vehicles and see the search notes thereunder.  
405, Hydraulic and Earth Engineering, subclasses 1 through 7 for apparatus for launching a vessel from or carrying a vessel over land.
- 345 Inflatable:**  
This subclass is indented under subclass 343. Boats which are expanded from a collapsed position by a gaseous medium.
- 346 Circular:**  
This subclass is indented under subclass 343. Device wherein the outer edge of the boat is substantially in the shape of a circle.
- 347 Canoe or kayak:**  
This subclass is indented under subclass 343. Device comprising a relatively light, long, and narrow boat usually moved by paddles, the boat normally having turned up ends and, in the case of a kayak, is covered except for an opening at least substantially engaging the waist of a person seated therein.
- 348 Lifeboat:**  
This subclass is indented under subclass 343. A boat adapted especially for saving the life of a person stranded in water.
- 349 Enclosed:**  
This subclass is indented under subclass 348. A boat which has an air chamber or space to receive passengers which can be closed watertight.
- SEE OR SEARCH CLASS:  
441, Buoys, Rafts, and Aquatic Devices, subclass 38 for rafts with shelters; and subclass 87 for water rescue apparatus which encloses the passenger.
- 350 With self-leveling passenger compartment:**  
This subclass is indented under subclass 349. A lifeboat in which a passenger compartment is supported such that it will maintain or return to a level position independent of the hull orientation.
- 351 Hunting:**  
This subclass is indented under subclass 343. Boats especially designed to conceal a hunter and for more or less quiet propulsion to aid a hunter in approaching game.
- 352 Sectional:**  
This subclass is indented under subclass 343. Boats which can be folded or which are made of sections which are releasably fixed together to form the boat.
- 353 With folding:**  
This subclass is indented under subclass 353. Boats wherein the different sections are rigid and are hinged together so that the sections may be folded onto or into each other.
- 354 Collapsible:**  
This subclass is indented under subclass 343. Boats which collapse into themselves through such means as telescoping rods, accordion pleats, etc.
- 355 Hull construction:**  
This subclass is indented under subclass 343. Method or device for constructing or making the hull of a boat.
- 356 Metal:**  
This subclass is indented under subclass 355. Boat hulls in which the hull is substantially formed of metal.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
79 through 81, for iron ships.
- 357 Plastic:**  
This subclass is indented under subclass 355. Boat hulls in which the hull is substantially formed of a plastic.

- SEE OR SEARCH CLASS:  
 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, appropriate subclasses for specific methods of forming plastics which could be used to shape a boat hull.  
 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 61 for means to facilitate the flotation of a formed ship or boat.
- 358 Wood:**  
 This subclass is indented under subclass 355. Boat hulls in which the hull is substantially formed of wood.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
 82, for ships with wood hulls.
- 359 Former and framer:**  
 This subclass is indented under subclass 355. Device comprising apparatus or implements for bending, shaping, stamping, or temporarily holding in place frames, timbers, or sides of the hull.
- 360 With means to prevent capsizing or sinking:**  
 This subclass is indented under subclass 343. Device in which the boat has an attached float, a built in compartment, additional built in buoyancy material, or a similar device to prevent the boat from capsizing or sinking.
- 361 Protective cover or shield:**  
 This subclass is indented under subclass 343. Device wherein the boat is provided with a covering or other protective structure to shield or protect a person, boat portion or thing thereon.
- 362 Boarding aids:**  
 This subclass is indented under subclass 343. Apparatus in which a boat part or a structure expedites the boarding or disembarking of the boat by a person.
- SEE OR SEARCH CLASS:  
 414, Material or Article Handling, subclass 139.5 for lifting devices for transporting personnel from one marine vessel to another; and subclass 140.1 for the combination of a land vehicle gangway with a ship when combined with means to manipulate the cargo.
- 363 Seat and foot supports:**  
 This subclass is indented under subclass 343. Device comprising means to support the body or foot of a user.
- 364 Deck or gunwale attachments:**  
 This subclass is indented under subclass 343. Devices comprising boat parts or structure mounted to either an exposed portion of a boat deck, or on, or at the top of a boat side.
- (1) Note. Oar locks are found in Class 440, Marine Propulsion, subclass 106.
- 365 LIFE CRAFT HANDLING DEVICE, APPARATUS, OR IMPLEMENT:**  
 This subclass is indented under the class definition. Means for handling life craft aboard ships and also analogous apparatus located on docks and sea walls.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
 258, for motherships with handling and launching means for small warships and the like.
- SEE OR SEARCH CLASS:  
 212, Traversing Hoists, for load elevating and shifting means in general, especially subclasses 294 through 306, 307-311 and 255-264 for those having structures analogous or related to those provided for herein.  
 254, Implements or Apparatus for Applying Pushing or Pulling Force, appropriate subclasses for implements for applying a push or pull directly to an object to be moved, particularly subclasses 264 through 386 for cable hauling apparatus.  
 405, Hydraulic and Earth Engineering, subclasses 1 through 7 for launching in general.  
 414, Material or Article Handling, appropriate subclasses for material or article handling in general and see the class definition for a list of classes



relating to vehicle loading and unloading. Search especially subclasses 137.7 through 137.8 for a ship with means to load or unload cargo from the water and subclass 139.5 for lifting devices for transporting personnel from one marine vessel to another.

**366 Moving from storage position to launching position:**

This subclass is indented under subclass 365. Means for moving life craft from storage position to launching position wherein the moving apparatus and the launching apparatus are distinct.

- (1) Note. All combinations of such conveying with storage and/or with launching are found here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

368, for davit structures which will perform this function with no distinct conveying apparatus.

SEE OR SEARCH CLASS:

193, Conveyors, Chutes, Skids, Guides, and Ways, appropriate subclasses for conveyors in general.

198, Conveyors: Power-Driven, appropriate subclasses for power-driven conveyors.

**367 Means for automatic launch upon sinking of ship:**

This subclass is indented under subclass 365. Device wherein means are provided for enabling an automatic launching of the lifecraft upon the sinking of the lifecraft carrying ship.

SEE OR SEARCH THIS CLASS, SUBCLASS:

381, for chocks and lashings which leave the boat free at all times to float off upon the sinking of the ship.

SEE OR SEARCH CLASS:

441, Buoys, Rafts, and Aquatic Devices, subclass 24 for buoys adapted on the sinking of a body or vessel to become unseated.

**368 Davit:**

This subclass is indented under subclass 365. Device comprising booms or cranes projecting over the side of a ship to raise or lower life crafts.

- (1) Note. Subcombinations, not claiming the added lowering means but intended for use therewith, are here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

365, for similar devices without added lowering means, i.e., which are so constructed as to place the life craft directly in the water.

SEE OR SEARCH CLASS:

414, Material or Article Handling, subclasses 569 and 680-743 for similar article handling devices in general.

**369 Movably mounted:**

This subclass is indented under subclass 368. Device comprising davits in which means cause or permit the davit to be movable so that some part of the davit is moved from a normal, inboard position to an outboard launching position.

SEE OR SEARCH CLASS:

212, Traversing Hoists, particularly subclasses 294 through 306, 307-311, and 255-264 for cranes or similar supports constituting or forming part of a transversing hoist.

**370 Compound movement:**

This subclass is indented under subclass 369. Device comprising a davit or portion thereof which moves about plural axes.

- (1) Note. Multiple pivots are found here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

373, for single or plural davits, each of which has a single pivotal motion.

- 371 Relative arcuate movement:**  
This subclass is indented under subclass 370. Device comprising davits having an arcuate sector on the lower end thereof about which it is rocked on a supporting bed.
- (1) Note. Included here are patents wherein the arcuate sector and its supporting bed are provided with mating teeth.
- 372 Translating and tilting:**  
This subclass is indented under subclass 370. Device in which the davit moves linearly along a horizontal path and pivots about a horizontal axis so that some part thereof will overhang the water.
- (1) Note. Any sequence of bodily movement and tilting as well as simultaneous body movement and tilting are included here.
- 373 Pivoting:**  
This subclass is indented under subclass 369. Device comprising a davit which turns about a single axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
370, for a davit having a compound pivotal motion about two or more axes.
- 374 Vertical axis:**  
This subclass is indented under subclass 373. Device comprising a davit in which the axis of the pivot is vertical.
- 375 Chute or track:**  
This subclass is indented under subclass 365. Device comprising apparatus in the form of chutes or tracks for launching life craft from ships.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
366, for combinations of chutes or tracks with conveying of the boat to the chute or track.  
368, for combination of chutes or tracks with davits.  
375, for tracks which are used only as protectors or guides during launching.
- SEE OR SEARCH CLASS:  
104, Railways, appropriate subclasses for particular types of tracks.  
193, Conveyors, Chutes, Skids, Guides, and Ways, subclasses 2 through 34 for particular types of chutes.  
405, Hydraulic and Earth Engineering, subclass 2 for similar structures for launching and drydocking boats and ships on shore.
- 376 Protector for lifecraft during launching:**  
This subclass is indented under subclass 365. Device comprising means to protect the life craft, ship, or other launching support against damage during launching.
- (1) Note. Devices for maintaining a spaced relation between the life craft and the ship during launching are found here.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
219 through 220, for analogous devices for maintaining a spaced relation between a dock and a ship, two ships, or a boat and a ship, both of which are water borne.
- 377 Connector between boat and lowering tackle:**  
This subclass is indented under subclass 365. Device comprising means for connecting a life craft with lines, hooks, and similar hardware used in lowering the life craft.
- (1) Note. Documents herein disclose some additional structure which limits the invention to life craft handling.
- SEE OR SEARCH CLASS:  
24, Buckles, Buttons, Clasps, etc., subclasses 598.4 through 601.9 and 698.1-698.3 for hooks and snap hooks, respectively, type projection members of separable fasteners and subclasses 455-571 for clasps type projection members of separable fasteners.  
294, Handling: Hand and Hoist-Line Implements, subclasses 67.1 through 67.5 for hoist line frames which surround a load and/or support it from

below; and subclass 82.27 for hooks designed for instantaneous operation for detaching boats from davit lines.

**378 Releasing mechanism:**

This subclass is indented under subclass 377. Device wherein the connectors have means for breaking the connection between the life craft and the lowering tackle.

- (1) Note. A portion of the connector is either attached to the boat or is disclosed as being attachable to the boat.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 210, for devices for instantaneously releasing anchors, etc.  
 217, for tension relievers of the coupling type having safety release means.  
 218, for bitts, cleats, etc., with safety releasing means.  
 379, for connectors having automatically controlled releasing means.

SEE OR SEARCH CLASS:

- 254, Implements or Apparatus for Applying Pushing or Pulling Force, subclass 410 for pulley blocks including means for quickly detaching the block from the object to which it is attached.  
 294, Handling: Hand and Hoist-Line Implements, subclass 82.27 for releasing boat hooks, per se, when the hook is attached to the lowering tackle.

**379 Automatic:**

This subclass is indented under subclass 378. Device wherein the release mechanism automatically breaks the connection between the lowering tackle and the life craft upon the life craft contacting water.

SEE OR SEARCH CLASS:

- 294, Handling: Hand and Hoist-Line Implements, subclasses 82.24 through 82.36 for releasing hoist line hooks, per se, and claimed in combination with the load broadly.

**380 Simultaneously releasing bow and stern:**

This subclass is indented under subclass 378. Device in which means are provided to break bow and stern connections both at the same time.

**381 CHOCK OR LASHING:**

This subclass is indented under the class definition. Device comprising either supports for boats wherein the support is shaped to fit the hull of the boat or some part thereof, means for securing the boat to its support against movement.

- (1) Note. Documents herein are limited to use for supporting and securing boats to ship decks, sea walls, docks, etc.

SEE OR SEARCH CLASS:

- 248, Supports, subclass 499 for miscellaneous lashings.  
 294, Handling: Hand and Hoist-Line Implements, subclasses 68.1 through 68.3 for launching cradles, per se.  
 410, Freight Accommodation on Freight Carrier, subclasses 49 through 50 for load binders used with loads on vehicles; and subclasses 96-116 for analogous supports and lashings used on railway cars and for miscellaneous shipping supports.  
 441, Buoys, Rafts, and Aquatic Devices, appropriate subclasses for buoys, adapted on the sinking of a body or vessel to become unseated.

**382 MISCELLANEOUS:**

This subclass is indented under the class definition. Subject matter not provided for in another subclass.

END