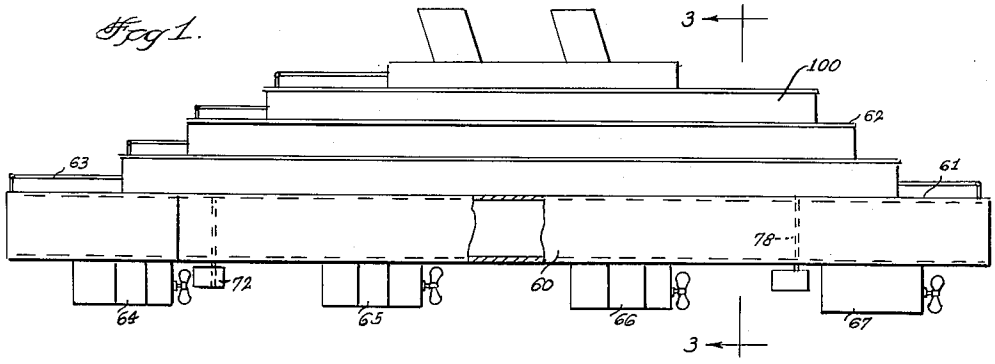
June 13, 1961 J. V. HUNT 2,988,034

WATERCRAFT

Filed Oct. 17, 1957

Fig. 1.



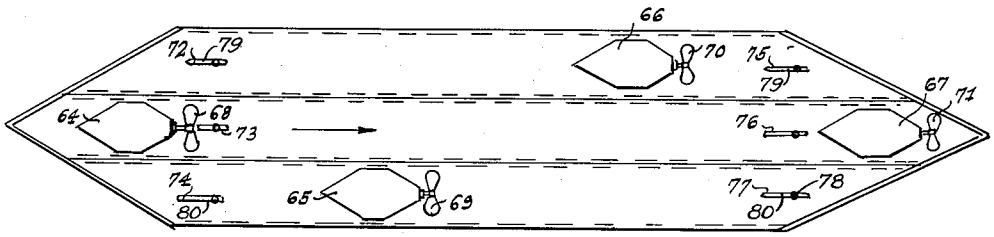


Fig. 2.

Fig. 3.

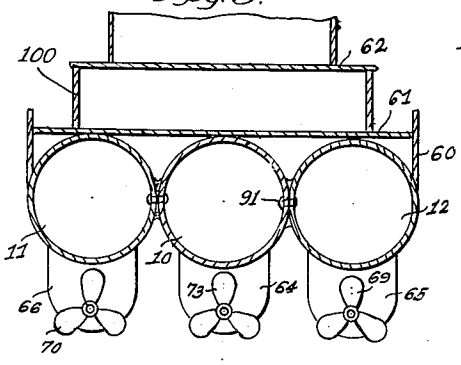
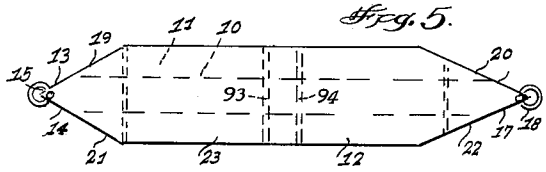


Fig. 5.



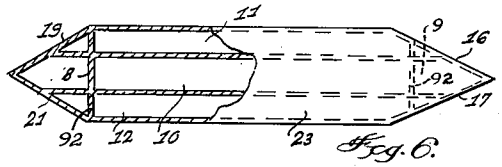


Fig. 6.

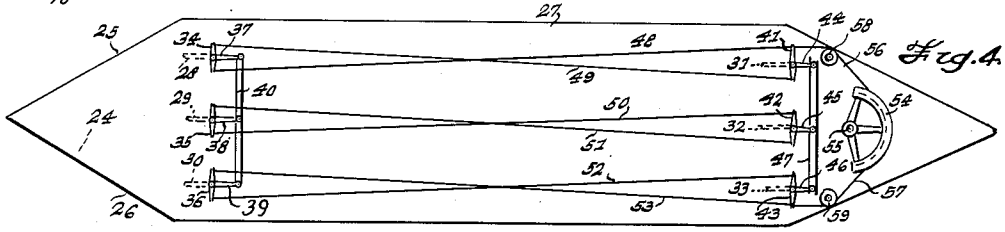
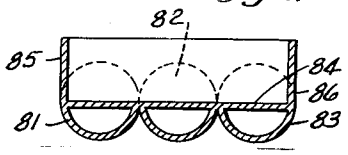


Fig. 4.

Fig. 7.



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WATERCRAFT

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6 Claims. (Cl. 114—61)

This invention relates to watercraft, and the like particularly of the type adapted to ride substantially on the surface of the water, and in particular a boat in which the foundation of the hull includes longitudinally positioned parallel tubes, three or five tubes being preferred, sealed by vertical partitions at the ends and having vertically disposed partitions intermediate of the ends, providing compartments or bouyant members, and the tubes which taper toward the bow and stern, are sufficient to support a deck and also a superstructure such as cabins wherein with the propelling and steering elements suspended below the tubes a complete ship is provided.

The craft may be a rowboat, canoe, launch, cabin cruiser, or ocean liner, and it may be pushed or pulled, or propelled by suitable power units that may be positioned whereby the balance of power is amidships. The tubes may be provided with one or more bulkheads that divide the hull into six or more sealed compartments.

The purpose of this invention is to provide a substantially unsinkable hull with or without propelling elements, for watercraft and in which different types of boats or ships may be used in combination with the hulls.

Hulls of boats and ships have been provided with various types of individual compartments which prevent the hull filling with water. With this thought in mind this invention contemplates a foundation for the hull of a ship including three elongated parallel sealed tubes with a deck positioned on the tubes and with side walls and suitable superstructure extended upwardly above the deck.

The object of this invention is, therefore, to provide means for combining a plurality of sealed longitudinally disposed tubes whereby the tubes form the foundation of a hull of watercraft.

Another object of the invention is to provide a combination of longitudinally disposed sealed tubes positioned in a horizontal plane to form the hull of watercraft whereby with cargo properly balanced the deck of watercraft is maintained in a near level position continuously.

A further object of the invention is to provide means for combining a plurality of longitudinally disposed tubes to form the hull of a boat in which propelling and steering units may be suspended below the tubes, and in which the device may be used with and without rudders.

A still further object of the invention is to provide a plurality of longitudinally disposed sealed tubes combined to form the hull of watercraft in which a deck or other superstructure may be mounted on the tubes and in which the watercraft is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies three longitudinally positioned sealed tubes positioned in a horizontal plane with vertical ends of the tubes beveled to provide points at the bow and stern, with a deck and superstructure mounted on the tubes and with motor driven propellers suspended from lower surfaces of the tubes.

Other features and advantages of the invention will appear from the following description taken in connection with the drawing, wherein:

FIGURE 1 is a side elevational view showing a boat adapted to provide a launch or ocean liner in which a superstructure is mounted on a plurality of longitudinally disposed tubes and in which motor driven propellers and rudders are extended below the tubes.

FIGURE 2 is a view looking upwardly toward the under surface of the boat shown in FIG. 1.

FIGURE 3 is a view showing a cross section of watercraft taken on line 3—3 of FIGURE 1 including a plurality of horizontally disposed longitudinally positioned tubes with motor driven propellers suspended below the tubes and with decks mounted on the tubes.

FIGURE 4 is a plan view of a boat including a plurality of longitudinally disposed tubes with the ends beveled and showing a modification including controls for a plurality of rudders wherein the rudders at one end turn in a direction opposite to that of rudders at the opposite end.

FIGURE 5 is a plan view illustrating another modification wherein a typical hull of watercraft or a ship includes three parallel tubes assembled to form a hull of a boat with the ends beveled vertically and with fastening elements in the ends.

FIGURE 6 is a plan view showing a typical watercraft illustrating another modification in which part of the deck is broken away showing the deck mounted on three longitudinally positioned tubes with vertically positioned vertical end or compartment walls.

FIGURE 7 is a typical cross section through a hull of a boat showing, a further modification wherein, the upper halves of tubes of the hull are omitted, to provide seating space to accommodate an operator or passengers of the craft.

Referring now to the drawing wherein like reference characters denote corresponding parts the improved boat of this invention includes three tubes, **10**, **11**, and **12**, with the tube **10** positioned in the center, and the tubes **11** and **12** positioned at the sides and with the ends of the tubes sealed with vertically disposed partitions **8** and **9**, wherein a hull is provided having elongated air chambers which, with conventional compartment doors in intermediate partitions of the tubes closed forming sealed pockets, providing buoyant means for watercraft.

In the design illustrated in FIG. 5 the tubes **10**, **11**, and **12** are assembled with the meeting edges secured together by welding or other suitable fastening means and with the ends of the tube **10** having beveled vertical surfaces **13** and **14** providing a vertically disposed line or a point in plan **15** at one end and **16** and **17** providing a point **18** at the opposite end. The tube **11** is also provided with beveled vertical ends **19** and **20** and the tube **12** is provided with similar end surfaces **21** and **22**. The hull is provided with a deck **23** and suitable superstructure, such as that illustrated in FIGS. 1 and 3, may extend upwardly above the deck.

The typical form, illustrated in FIG. 7, may be used as a rowboat with three tubes **81**, **82**, and **83** held together by a hull having a bottom **84** and side walls **85** and **86**, with an area removed from the intermediate part, and the intermediate part may be dropped downwardly to a plane substantially on the centers of the tubes, or formed by suitable means to provide space for an operator and passengers.

In the design illustrated in FIG. 4 a typical hull is illustrated wherein the device includes a center tube **24**, side tubes **25** and **26**, a deck **27**, rudders **28**, **29** and **30** spaced from one end and **31**, **32**, and **33**, spaced from the opposite end.

The rudders **28**, **29** and **30** are provided with cross bars **34**, **35**, and **36** and arms **37**, **38** and **39** extended from the cross bars are connected with a link **40**. Similar cross bars **41**, **42**, and **43** are mounted on upper ends of the shafts of the rudders **31**, **32**, and **33** and arms **44**, **45**, and **46** which extend from the cross arms **41**, **42**, and **43** are connected to a link **47**.

Opposite ends of the cross bars **34**, and **41** are connected with cables, chains, or other means **48** and **49**,

opposite ends of the cross bars 35 and 42 are connected with similar cables, chains, or other devices 50 and 51 and the cross bars 36 and 43 are connected with similar devices 52 and 53. With the cross bars at the upper ends of the stems or shafts of the rudders connected in this manner the rudders 31, 32, and 33 are turned in a direction opposite to that of the rudders 28, 29 and 30.

The rudders are turned to different positions by a segment 54 pivotally mounted on a shaft 55 and connected to the extended ends of the cross bars 41 and 43 with cables 56 and 57, the cable 56 being trained over an idler pulley 58 and the cable 57 being trained over a similar idler pulley 59.

It will be understood that the assembly of rudders and the means for operating the same illustrated in FIG. 4 may be used in each of the different designs, however, the rudders may be used on other watercraft as desired.

In the design illustrated in FIG. 1 a hull 60 including three longitudinally disposed tubes, as illustrated in FIG. 5 is provided with a superstructure including a deck 61 positioned directly upon the tubes and upper decks, as indicated by the numeral 62 and the decks may be provided with hand rails, as indicated by the numeral 63. It will be understood that one or more of the decks may be provided with a cabin 100, such as a launch, or a plurality of decks and cabins, such as an ocean liner and the boat may be of any suitable size or design.

Also in the design illustrated in FIG. 1 the device is provided with motor driven propeller units including motors 64, 65, 66, and 67 with propellers 68, 69, 70 and 71, and it will be understood that any suitable number of the motor and propeller units may be used as may be desired. In the design illustrated in FIGS. 1 and 2 the ship is provided with rudders 72, 73, and 74 at the stern and 75, 76 and 77 at the bow and, particularly as illustrated in FIG. 1 each rudder is mounted on a shaft 78 with the forward end 79 of the rudder extended forwardly of the shaft and with the trailing end 80 extended rearwardly from the shaft. It is preferred to position the shaft whereby one-fifth to one-third of the rudder extends forwardly of the shaft and the leading ends of the rudders may be streamlined or of any suitable design.

The invention is, primarily, in the use of three or five longitudinally positioned sealed tubes forming a hull with beveled vertical ends and with propelling and steering elements extended below the tubes and also with elements of watercraft such as a deck, cabin, and the like positioned upon the tubes.

The tubes may be secured together and to side walls, such as by welding or with rivets, as indicated by the numeral 91, in FIG. 3, or by any other suitable means.

The ship may be provided with as many bulkheads or watertight compartments as desired.

The tubes are also held together by a main deck and various types of cabins or other superstructure may be positioned on the main deck.

The area between the peripheral edge of the main deck and horizontal center plane of the tubes is closed by a panel or wall 60 and this wall also extends upwardly reinforcing the structure and providing a mounting for a hand rail.

For small craft, such as a rowboat or canoe, the center portions of the tubes may be cut away down to the horizontal plane extending through the centers of the tubes providing a well or opening for an operator as shown in FIGURE 7, wherein tubes 81, 82, and 83 are formed with the upper portions of the intermediate parts omitted providing a deck or seat 84, and side walls 85 and 86 extend upwardly at the sides of the deck.

The watercraft may be divided into sections by bulkheads and the bulkheads will extend across the interiors of the tubes and also across the areas between the bulkheads and main deck and across the areas between the bulkheads and sides of the watercraft. These bulkheads extend to the tops of the tubes.

The steering rudders may be positioned as shown in FIGURES 2 and 4, or the rudders may be positioned between bulkheads, which are indicated by the numeral 92, and the bow or stern of the watercraft, or at other points, as may be desired.

In FIGURE 5 two bulkheads 93 and 94 are used in the center of the watercraft, or amidship, and these bulkheads provide a seat. There may be as many seats as desired, and the seats may be twelve to sixteen inches wide.

The rudders may also be controlled by cables and the cables will be of sufficient strength for cable control. If power control is desired, suitable means will be provided for hydraulic, electric, or worm and gear operation of the six rudders.

The motor units are staggered so as not to cause compression of water between the motor units.

All areas between and around the tubes may be filled with cargo.

The electric engine motors are positioned to balance the ship, and may be operated to pull or push the ship.

Generating units will be placed in mid-ship section.

It will be understood that other modifications, within the scope of the appended claims, may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. A hull for watercraft comprising three sealed longitudinally disposed tubes including a center tube and tubes at the sides thereof with side surfaces of the tubes in abutting relation and with the ends of the center tube wedge-shaped in plan and ends of the tubes at the side beveled and positioned in planes in which side surfaces of the ends of the center tube are positioned.

2. A watercraft comprising three juxtapositioned longitudinally disposed sealed tubes including a center tube and tubes at the sides thereof secured together with the ends of the center tube being V-shaped in plan and with the tubes at the sides having vertically beveled ends, the ends of the tubes at the sides being in planes in alignment with the beveled surfaces at the sides of the ends of the center tube, and a deck positioned on said tubes.

3. A hull for watercraft comprising three juxtapositioned longitudinally disposed sealed tubes including a center tube and tubes at the sides thereof assembled with side surfaces of the tubes in meeting relation to form a hull, and said hull having beveled ends, the ends of the center tube being V-shaped in plan and the beveled ends of the tubes at the sides being aligned with the side surfaces at the ends of the center tube, a deck positioned on the hull, propelling units suspended from the three tubes, and steering elements also suspended from the three tubes.

4. A hull for watercraft comprising three sealed longitudinally disposed tubes including a center tube and tubes at the sides thereof, means for securing the tubes together with the walls of the tubes in meeting relation, the ends of the three tubes being beveled providing vertically disposed planes at the bow and stern, and the ends of the center tube being V-shaped in plan and the ends of the tubes at the sides being positioned in planes in which side surfaces of the ends of the center tube are positioned, a deck positioned upon the three tubes, motor driven propellers depending from the three tubes, and rudders also extended below the tubes.

5. A hull for watercraft comprising sealed longitudinally disposed tubes including a center tube and tubes at the sides thereof, means for securing the tubes together with walls of the tubes in meeting relation, the ends of the tubes being beveled vertically providing vertically disposed planes at the bow and stern, the ends of the center tube having beveled surfaces thereon and the beveled ends of the tubes at the sides being in planes extended through the beveled surfaces at the ends of the

center tube, a deck positioned upon the tubes, motor driven propellers depending from the tubes, rudders also extended below the tubes, and a cabin positioned on the deck.

6. A hull for watercraft as in claim 4, wherein there are six rudders and means is provided for actuating the rudders from the deck.

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