

(Model.)

G. W. SCHERMERHORN.
CONSTRUCTION OF VESSELS.

No. 538,353.

Patented Apr. 30, 1895.

Fig. 1.

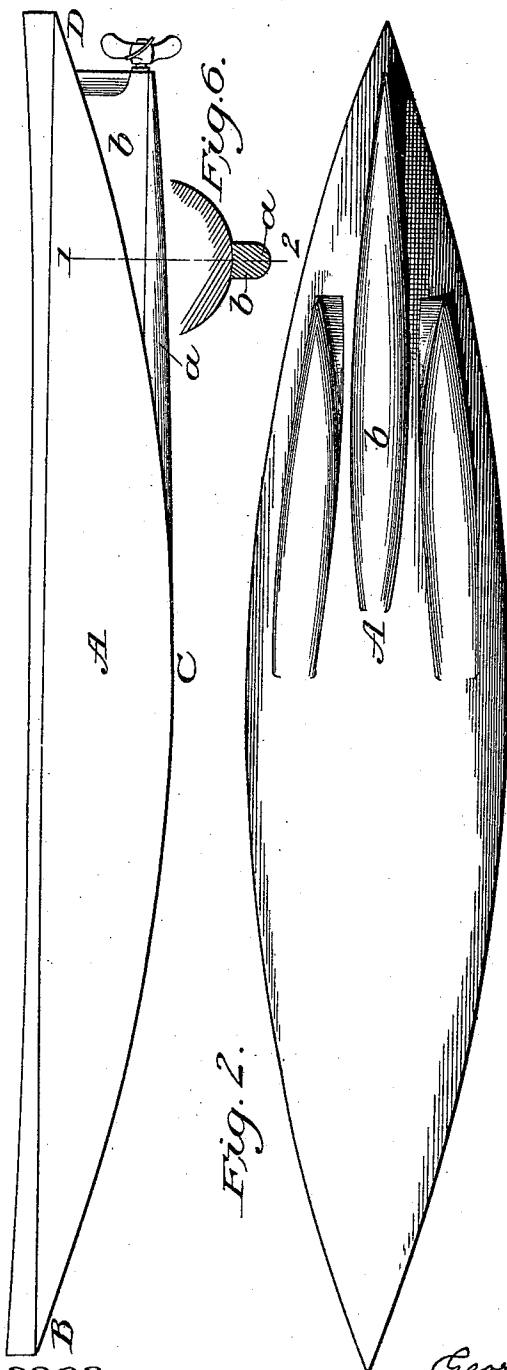
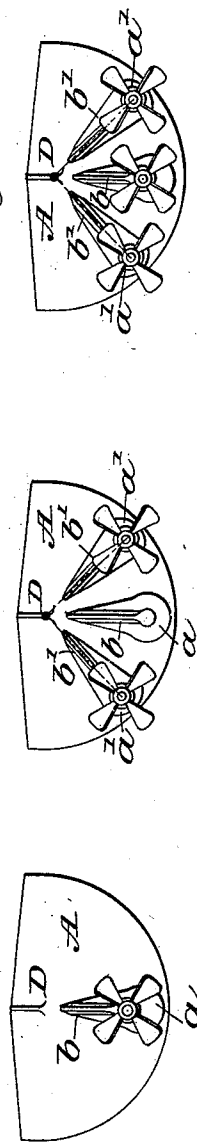


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



Witnesses.

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CONSTRUCTION OF VESSELS.

SPECIFICATION forming part of Letters Patent No. 538,353, dated April 30, 1895.

Application filed December 4, 1894. Serial No. 530,827. (Model.)

To all whom it may concern:

Be it known that I, GEORGE W. SCHERMERHORN, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented an Improvement in the Construction of Vessels, of which the following is a specification.

My invention relates to improvements in the construction of the hulls of vessels and more particularly to improvements in the construction of that part of the hull which is beneath the water, the object of my invention being to furnish in connection with a hull of particular construction means for carrying and supporting the propeller shaft or shafts which will present the least resistance to the passage of the vessel through the water.

The main body of my vessel beneath the water line has the form of part of a circular spindle, that is to say, it has the form of part of the figure which would be generated by revolving the arc of a circle about its chord. Consequently cross sections of this part of the vessel at any point have the form of arcs of circles and the same is true of any longitudinal sections of the vessel's bottom.

If the vessel is to be furnished with a single screw I furnish it with a run, to carry and support the shaft, the lower part of which has the form of a section of a circular spindle, the forward part of which is cut away so as to join the main hull, which is united to the main hull by means of a dead wood or substantially flat surface. The shaft may run through the spindle shaped part of the run or through the flat surface which joins this spindle shaped part to the hull.

If the vessel is to be furnished with twin or triplicate screws the hull is fitted with two supplemental runs which are of the same construction as that already described. In order that these supplemental runs may offer the least resistance to the passage of the vessel through the water they must be placed radially to the hull, that is, they must be so placed that a plane passing upward through their longitudinal axes would pass through the longitudinal axis of the main spindle or hull.

If the vessel be a twin screw vessel the shafts of the screws would be carried in the supplemental runs while the rudder would be

carried by the main or central run, and if a triple screw vessel all the runs would carry shafts while the rudder would be preferably carried by the main or central one.

In the drawings in which similar letters of reference indicate similar parts throughout the several views, Figure 1 is a side elevation of my improved vessel furnished with a central run and one screw; Fig. 2, a plan of Fig. 1; Fig. 3, a rear elevation of a vessel of my construction fitted with one screw; Fig. 4, a similar view of a vessel having two screws; Fig. 5, a similar view of a vessel having triple screws, and Fig. 6 a section of Fig. 1 on line 1 2.

That part of the hull or body of the vessel A which is beneath the water line is of the form of part of a circular spindle. In other words it has the form which would be generated by revolving the arc of a circle BCD, Fig. 1, around its chord BD. Hence all cross sections of that part of the vessel which are beneath the water line will have the form of arcs of circles and all longitudinal sections will also have the form of arcs of circles.

My means for carrying the propeller shaft or shafts of a vessel of this construction consist, if the vessel be furnished with a single screw, of a run the lower part *a* of which has the form of part of a circular spindle the forward part of which is cut away so as to join the body of the vessel, as shown in Fig. 1, and of a dead wood or substantially flat surface *b* the lower part of which is secured to the part *a* and the upper part to the vessel A. The propeller shaft may run through the spindle *a* or through the dead wood *b*, either of these being properly fitted with bearings for it. In either case the shaft would be supported throughout its entire length.

If the vessel is to be fitted with twin screws two supplemental runs the lower parts *a'* of which are sections of a circular spindle which are united to the main hull by dead woods *b'*, Fig. 4, would be employed to hold and support the shafts. These supplemental runs would be precisely similar to the run already described but they would be located to the sides of the vessel and would be placed radially to the hull, that is, they would be so placed that a plane passing longitudinally upward through their centers would also pass longi-

tudinally through the axis or chord BD of the vessel. The runs being placed in this manner present the least resistance in their passage through the water.

- 5 In a twin screw vessel I would prefer to have the hull, in addition to the supplemental runs, furnished with a central run to which the rudder would be hung. In this case the after part of the run would correspond to
10 the ordinary stern post.

If the vessel be furnished with triple screws the runs would be arranged as already described and each would carry a shaft and screw as shown in Fig. 5.

- 15 The runs instead of being adapted for carrying the shafts may be adapted to carry torpedo tubes and in this case they may be placed either at the bow or stern, or both, of the vessel.

- 20 Having thus described my invention, I claim—

1. A vessel having on its bottom a supplemental run whose lower part has the form of a section of a spindle, the stern post or thin
25 end of which is in a line radial to a cross-

section of the vessel, substantially as and for the purpose set forth.

2. A vessel provided with a supplemental run on its bottom attached to, or forming part thereof, so that a plane passing longitudinally
30 through its center will pass longitudinally through the longitudinal axis of the spindle-shaped part of the vessel, substantially as and for the purpose set forth.

3. The combination with a vessel whose
35 hull beneath the water line is of the form of a section of a spindle, of two or more runs the under parts of which have the form of a section of a spindle and the upper parts of which
40 are formed of dead woods which unite said lower parts to the hull of said vessel, each of said runs being so placed that a plane passing longitudinally upward through its center
45 will pass longitudinally through the longitudinal axis of the spindle shaped part of the vessel.

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Witnesses:

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