Sept. 22, 1959 L. COSTA 2,905,131

SCREW PROPELLER MOUNTING

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Fig. 1.

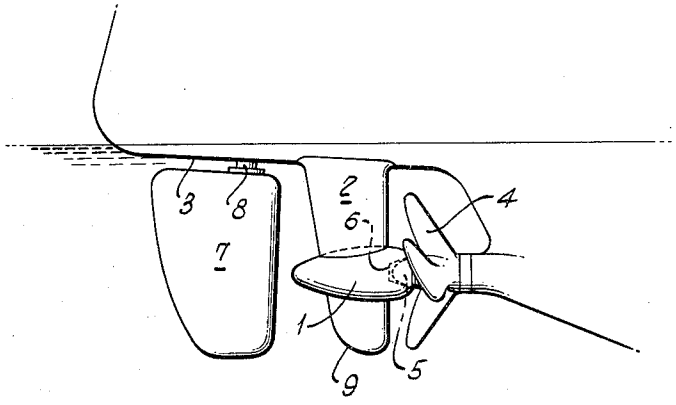
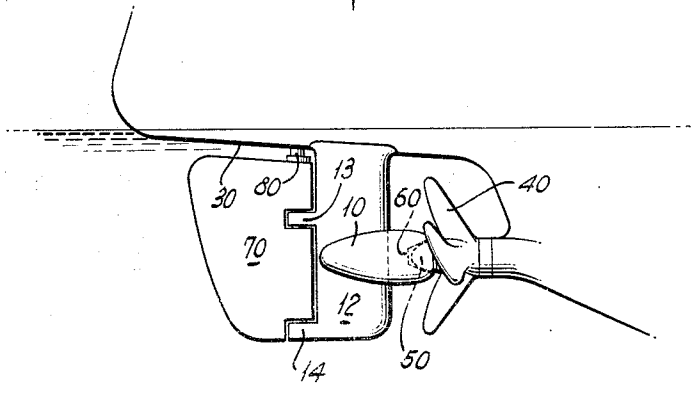


Fig. 2.



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SCREW PROPELLER MOUNTING

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3 Claims. (Cl. 115—34)

The invention relates to vessels, and more particularly to screw-propelled vessels.

It is an object of the present invention to improve the propelling means and/or maneuverability of screw-propelled vessels.

It is another object of the invention to smooth the wake produced by the propeller.

It is a further object of the present invention to fill up the cave formed in the water directly behind the propeller.

Other objects and advantages of the invention will become apparent from the following detailed description thereof in connection with the accompanying drawings showing, by way of example, some embodiments of the present invention. In the drawings

Fig. 1 is a diagrammatic side elevation of an embodiment of the invention, and

Fig. 2 is a diagrammatic side elevation of another embodiment of the present invention.

Referring now to the drawings and first to Fig. 1, a bulb **1** is attached to a fin-like supporting arm **2** which in turn is supported by the hull **3** of a vessel or ship. The supporting arm **2** occupies the space directly behind the propelling screw **4** of the vessel which screw has a cap-like part **5** capable of rotating in recess **6** of the bulb **1**. A rudder blade **7** is attached swingably about an axle **8** projecting below the hull **3**. As pointed out, the supporting arm **2** is in the form of a fin and streamlined and the bulb **1** attached to the supporting arm **2** increases the steadiness of the course imparted to the vessel by the rudder blade **7**. The supporting arm **2** is provided with an extension **9** below the bulb **1**. The arrangement thus includes a propeller **4** having a hub portion, said propeller being mounted on the ship for rotation about a horizontal axis. The rudder is swingably mounted on the ship aft of the propeller for rotation about a vertical axis while the bulb-shaped body **1** is attached intermediate the propeler and the rudder in coaxial alignment with the horizontal axis of rotation. The fin or mounting means **2** interconnect the bulb **1** and the ship for holding the former in a predetermined relationship to the propeller and the rudder and for preventing rotation of the bulb around the horizontal axis. It will be noted that the bulb **1** is of slender streamline shape and increases rapidly in diameter from its forward end rearwardly to an intermediate point and from the intermediate point tapers rearwardly to its rear end. It will furthermore be noted that the axial length of the bulb is at least twice the length of its largest diameter while the forward end of the bulb is blunt and substantially wider than the hub portion of the propeller. The provision of the recess **6** in the bulb results in the fact that the blunt forward portion of the bulb and the hub are in overlapping engagement with each other.

Due to this arrangement the vortices produced by the blades **4** of the propeller and consisting mainly of air and turbulent water will be led undisturbed backwards along the surface of the bulb **1**.

Referring now to Fig. 2 of the drawings an embodiment is shown in which the hull **30** of the vessel or ship carries a revolving propeller **40** having a cap-like part **50** projecting into a recess **60** of a bulb **10** arranged fixedly on a rudder post **12** which latter is rigidly supported by the hull **30**. The rudder **70** is arranged for swiveling motion about the shaft **80** thereof. The rudder post **12** is provided with extensions **13** and **14** engaging the shaft **80** so that the rudder **70** can be imparted angular displacements.

I wish it to be understood that I have described hereinabove a screw propelled vessel in several embodiments thereof and that various modifications of the described invention will be obvious to any person skilled in the art.

I claim:

1. A propulsion and steering arrangement for a ship, comprising in combination: a propeller including a hub portion, said propeller being mounted on said ship for rotation about a horizontal axis, a rudder swingably mounted on said ship aft of said propeller for rotation about a vertical axis, a bulb-shaped body arranged intermediate said propeller and said rudder in coaxial alignment with said horizontal axis of rotation, and mounting means rigidly interconnecting said bulb-shaped body and said ship for holding said bulb-shaped body in a predetermined relationship to said propeller and said rudder and for preventing rotation of said bulb-shaped body around said horizontal axis, said bulb-shaped body being of slender stream line shape and increasing rapidly in diameter from its forward end rearwardly to an intermediate point and from such intermediate point tapering rearwardly to its rear end, the axial length of said bulb-shaped body being at least twice the length of its largest diameter, and the forward end of said bulb-shaped body being blunt and substantially wider than said hub portion, said blunt forward end and said hub portion being in overlapping engagement with each other.

2. In an arrangement as claimed in claim 1, said blunt forward end of said bulb-shaped body having a recess, and said hub portion of the propeller projecting into said recess, whereby said blunt portion embraces said hub portion.

3. In an arrangement as claimed in claim 1, said mounting means comprising a fin-like element extending vertically from said ship.

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