Jan. 30, 1934. C. E. WARD 1,945,210

PROPULSION DEVICE FOR BOATS

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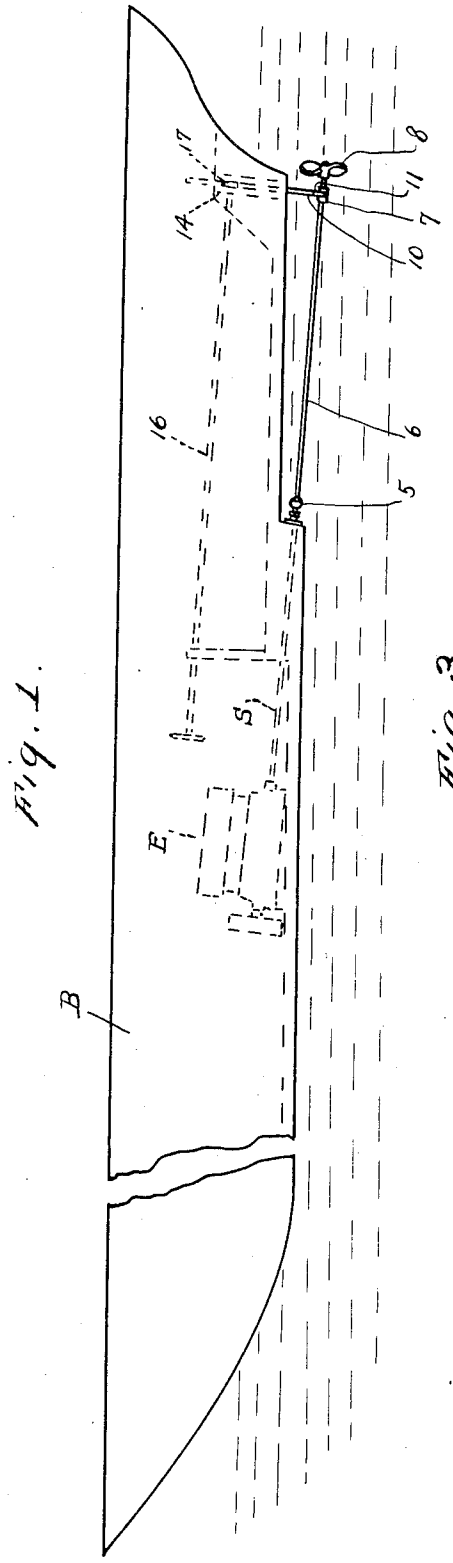

Fig. 1.

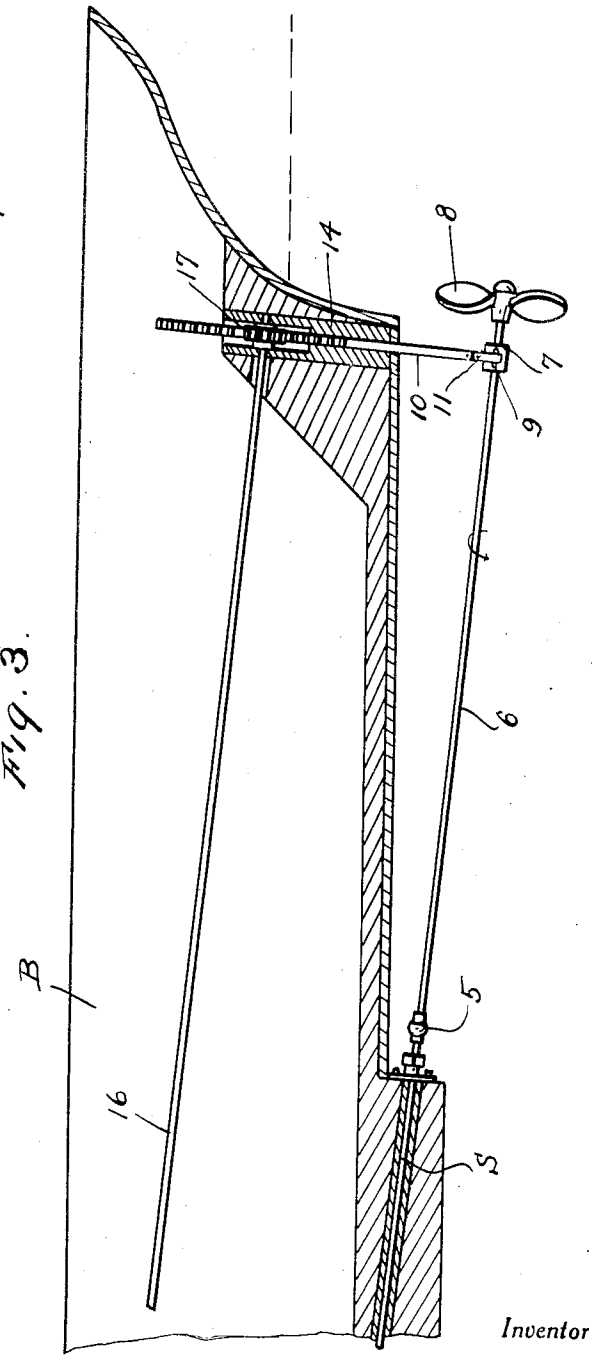

Fig. 3.

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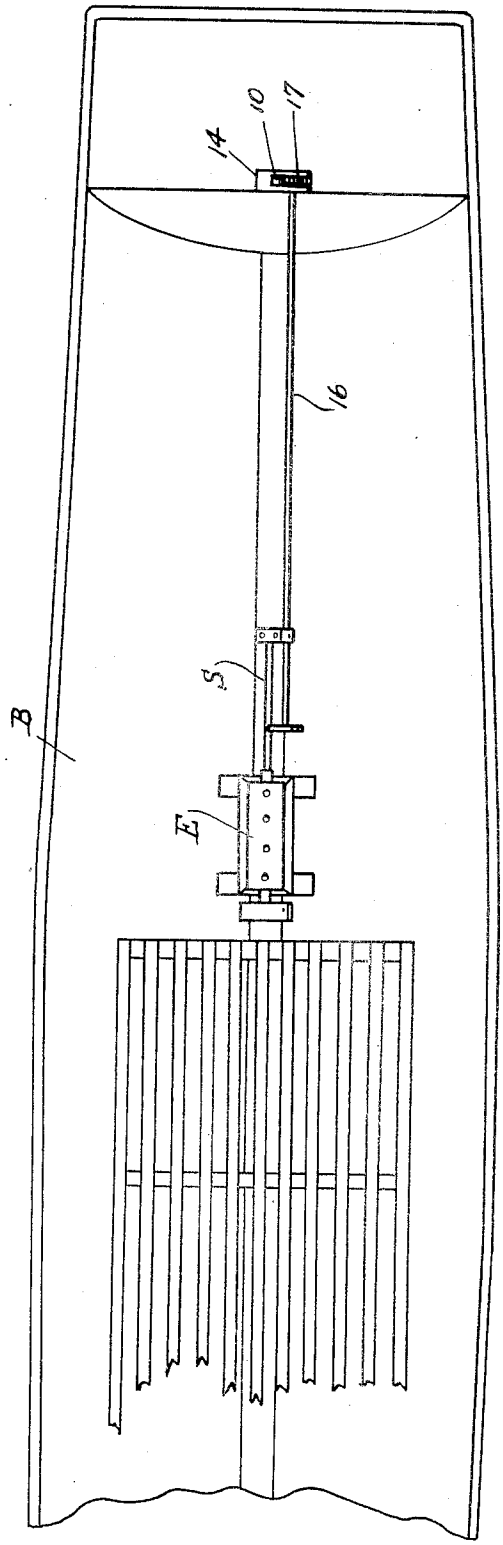

Fig. 2.

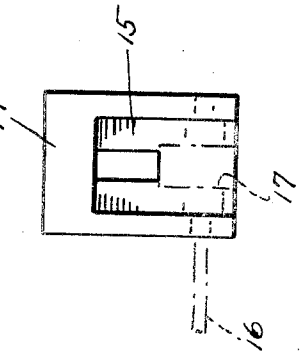

Fig. 6.

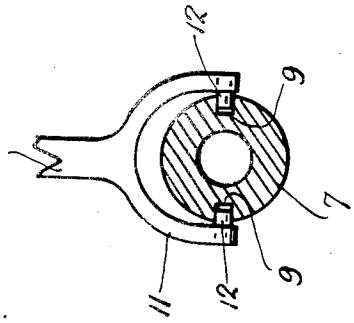

Fig. 5.

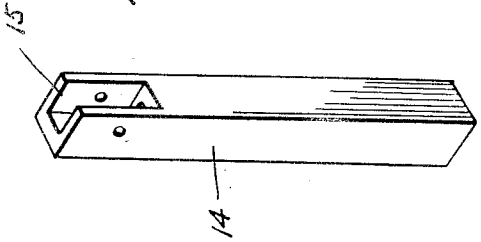

Fig. 4.

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PROPULSION DEVICE FOR BOATS

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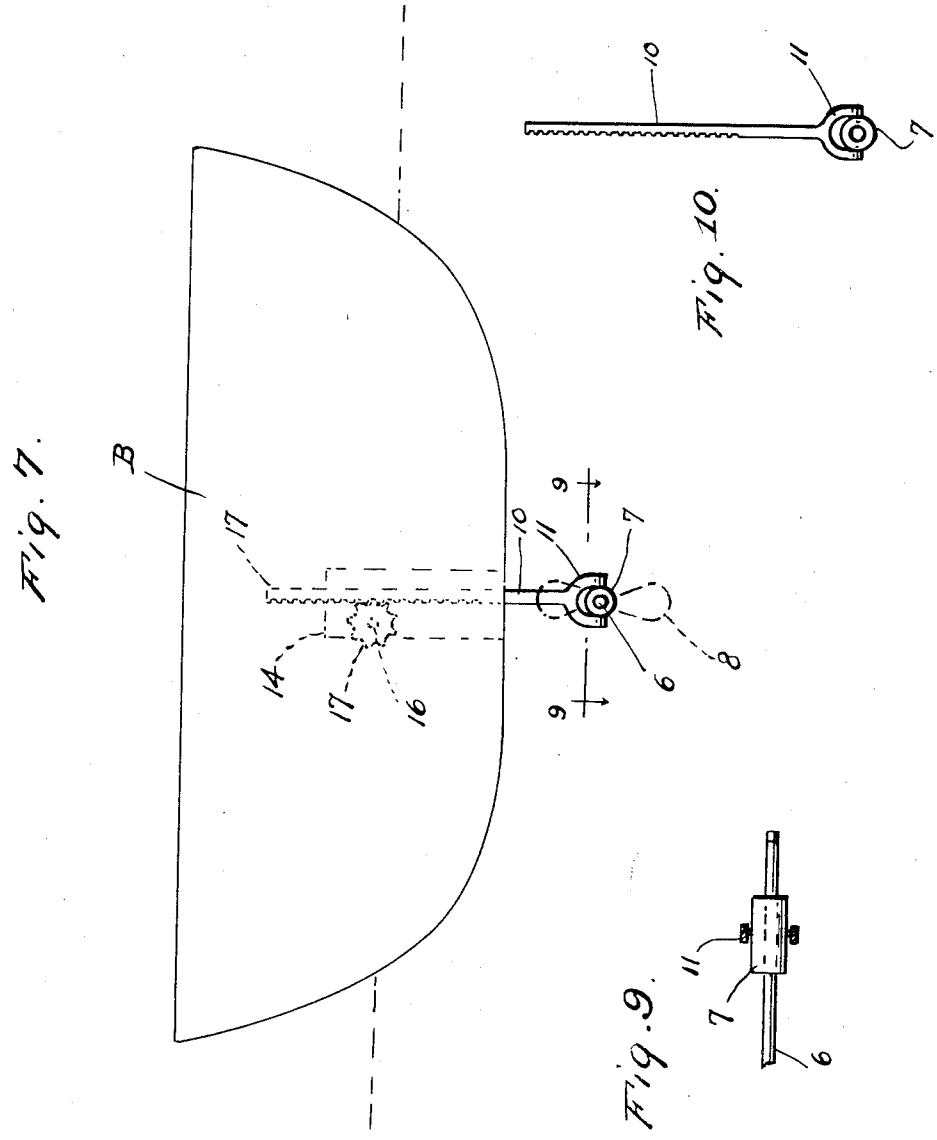

Fig. 7.

Fig. 10.

Fig. 9.

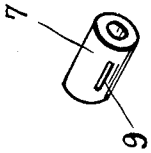

Fig. 8.

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Patented Jan. 30, 1934 1,945,210

UNITED STATES PATENT OFFICE

1,945,210

PROPULSION DEVICE FOR BOATS

Charles E. Ward, Odell, Ill.

Application April 4, 1933. Serial No. 664,420

1 Claim. (Cl. 115—41)

The present invention relates to a propulsion device for boats and has for its prime object to provide means whereby the propeller may be raised or lowered in the water during the operation of the boat so as to maintain maximum speed and efficiency of the boat because it is possible to maintain the propeller in the most effective position regardless of how far the bow of the boat might otherwise be lifted out of the water.

In other words it is possible to maintain the boat at a comparatively level keel so as to practically skim over the top of the water at various speeds through the adjustments of the propeller.

Another very important object of the invention resides in the provision of a propulsion device of this nature which is simple in its construction, inexpensive to manufacture and install, easy to manipulate, thoroughly reliable in use and operation, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention consists in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a side elevation of a boat showing an installation of my propulsion device.

Figure 2 is a top plan view thereof.

Figure 3 is a vertical longitudinal section through the rear portion of the boat.

Figure 4 is a perspective view of the rack guide.

Figure 5 is a sectional view through the bearing showing the pins of the fork engaged therein.

Figure 6 is an end elevation of the rack guide.

Figure 7 is a rear elevation of the boat with the device installed.

Figure 8 is a perspective view of the bearing.

Figure 9 is a sectional view taken substantially on the line 9—9 of Figure 7, and

Figure 10 is an elevation of the rack of the bearing assembled.

Referring to the drawings in detail it will be seen that the boat B is of conventional construction and has been illustrated merely to show a practical exemplification of my improved propulsion device. The engine E has a rearwardly extending shaft S connected by a universal coupling 5 with a propeller shaft 6 journalled through a bearing 7 and having a propeller 8 on the rear end thereof. The sides of the bearing 7 are provided with longitudinally extending grooves 9. A rack bar 10 has formed on its lower end a fork 11 the ends of which are provided with inwardly directed pins 12 extending into the grooves 9. In the stern of the boat there is mounted an upright rack bar guide comprising an elongated block or casting 14 through which the rack bar 10 is slidable longitudinally. In the upper portion of the guide there is provided a recess 15. A shaft 16 is journalled in the guide extending across the recess and has a rack gear 17 thereon in mesh with the rack bar 10. The shaft 16 extends forwardly and terminates at a convenient point so that the person having charge of the operation of the engine can readily turn the shaft 16 for raising or lowering the rack bar thereby raising or lowering the propeller 8 so as to maintain the same at the proper depth in the water for maximum efficiency in operation.

It is thought that the construction, operation, utility and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof.

The present embodiment of the invention has been described in considerable detail merely for the purposes of exemplification since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

In combination with a boat, a guide block mounted in the stern of the boat, a vertically extending guideway in the block, said block being provided with a recess in the upper end thereof, a shaft journaled through the upper end portion of the block and across the said recess, a gear mounted on the said shaft to turn therewith in the said recess, a rack member slidably disposed in the said guideway and through the said recess and meshing with the said gear, and a swingably mounted propeller shaft to which the lower end of the said rack is connected, the said recess, at the upper end of the said block, opening through one side of the block to permit access to the said gear.

CHARLES E. WARD.