J. A. STEINMETZ.

PROTECTIVE DEVICE FOR WATER CRAFT.

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1,200,259.

Patented Oct. 3, 1916.

Fig. 1.

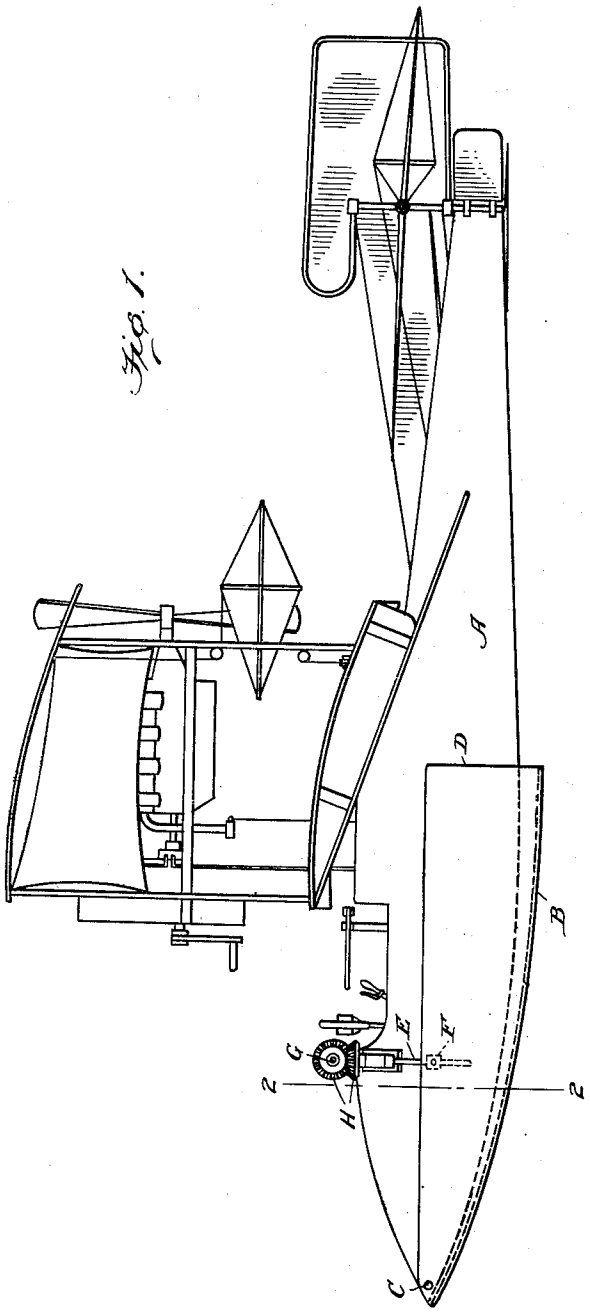
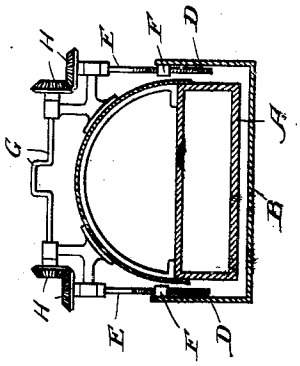


Fig. 2.



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PROTECTIVE DEVICE FOR WATER-CRAFT.

1,200,259. Specification of Letters Patent. Patented Oct. 3, 1916.

Application filed July 29, 1915. Serial No. 42,486.

To all whom it may concern:

Be it known that I, JOSEPH A. STEINMETZ, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Protective Devices for Water-Craft, of which the following is a specification, reference being had therein to the accompanying drawing.

In flying and skidding boats it is usual to provide the flat bottom of the boat with an offset or step nearly in line with the center of gravity and below the same, the flat bottom of the boat curving gradually upward from this step to a point ordinarily above the water line and at the forward part of the hull, so that as the boat rises or descends when in part supported by the water and advancing rapidly, the supported surface is gradually varied from a maximum to zero or conversely. I provide the forward part of the boat, which is primarily made without such step, with an external swinging shield or false bottom extending rearward from the nose of the boat to a point in the region where the step is usually located. This false bottom protects from injury that portion of the true bottom which is most liable to injury, permits varying at will the height of the step formed by the false bottom, and is quickly replaced when injured. It follows that a boat provided with my devices may be adjusted for different conditions and is far less likely than the ordinary boat to be put out of commission.

In the accompanying diagrammatic drawings, Figure 1 is a side view of a boat provided with my device. Fig. 2 is a section on the line 2—2, Fig. 1.

In these views, A represents the body of a boat primarily without a step or offset in its bottom and provided with many of the usual sustaining, propelling and steering devices which are not of my invention. A readily replaceable false bottom member B, preferably curved to conform nearly to the true bottom of the boat, is pivotally connected to the boat at C near the forward end of the latter and provided with approximately rigid lateral flanges or walls D which extend upward in proximity to the lateral walls of the boat, respectively. This structure extends rearward to the point where it is usual to form a step or offset in the boat's bottom, or about to the line of direction of gravity of the apparatus. Means are provided for angular adjustment of the false bottom about its pivotal axis, and for illustration, I have shown screws E, E, engaging nuts F, F pivoted to the walls D, D, and rotated in unison by a crank shaft G and gearing H, H mounted upon the body of the boat and actuated at will by the operator. Preferably the false bottom and its side walls or flanges, which may be integral therewith, are of sheet metal.

When the boat is to be used for skidding for long distances and at high speed with relatively low engine speed, the rear end of the false bottom is brought up against the true bottom eliminating the offset and giving the boat, if properly made, the most desirable contour for such work. At other times the rear end of the false bottom is forced downward to give a step of any desired height, according to such conditions as may exist.

Obviously the construction may be greatly varied while still embodying my invention, in its broader aspects, and may be applied to protecting widely different craft, the false bottom and intervening space minimizing the effect of anchored or floating mines, for example, even better than making the hull of the vessel double walled.

What I claim is:

1. The combination with a boat of the class described, of an external trough-like false bottom protecting the forward portion of the true bottom, and means for at will varying and positively fixing the distance of the rear end of the false bottom from the true bottom.

2. The combination with a boat of the class described, of an external false bottom member of U-shape in cross-section pivoted near the forward end of the boat and extending rearwardly approximately to a point below the center of gravity of the whole apparatus, and means for at will adjusting the distance of the rear end of the false bottom from the body of the boat.

3. The combination with a boat of the class described having a flat bottom primarily without step or offset, of an external false bottom pivoted to the forward end of the boat, approximately following the true bottom to a point amidships and provided on each side with a flange extending upward alongside the corresponding boat wall,

and means for at will adjusting the false bottom about its pivotal axis.

4. The combination with a boat of the class described, of an external false bottom pivoted to the forward end of the boat and extending rearwardly approximately to a point below the center of gravity of the whole apparatus, and means for at will adjusting equally and simultaneously the distances of the sides of the false bottom at their rear ends from the body of the boat.

In testimony whereof I affix my signature in presense of two witnesses.

JOSEPH A. STEINMETZ.

Witnesses:
H. G. VAN COURT,
I. S. GAMBLE.