No. 647,591. Patented Apr. 17, 1900.

H. M. WILLIAMS.

BOAT.

(Application filed Oct. 6, 1898.)

(No Model.)

Fig. 1.

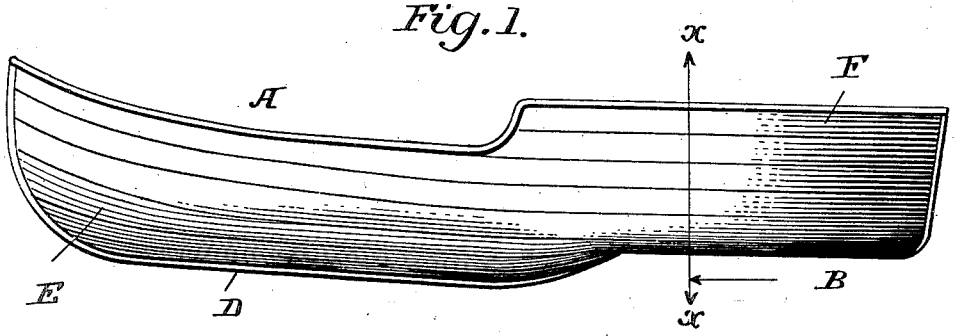


Fig. 2.

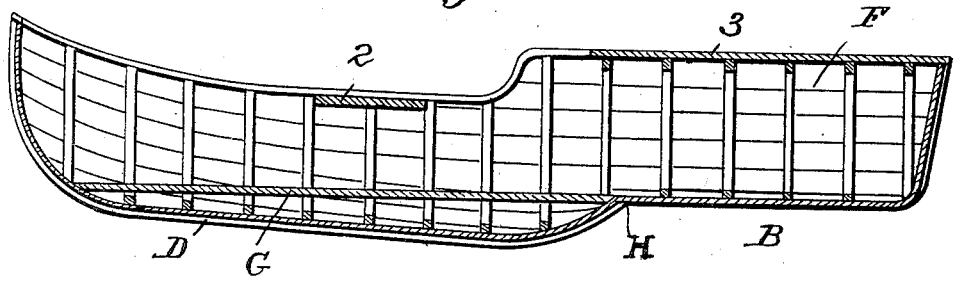
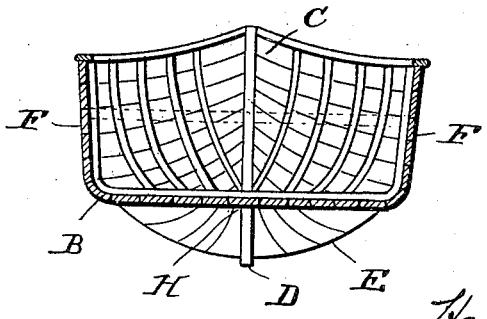


Fig. 3.



Witnesses
J. G. Hinkel
W. Philip Farnsworth.

Inventor
Henry M. Williams
by Foster Freeman
Attorneys.

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UNITED STATES PATENT OFFICE.

HENRY M. WILLIAMS, OF FORT WAYNE, INDIANA, ASSIGNOR OF ONE-FOURTH TO FRANZ BURGER, OF SAME PLACE.

BOAT.

SPECIFICATION forming part of Letters Patent No. 647,591, dated April 17, 1900.

Application filed October 6, 1898. Serial No. 692,824. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. WILLIAMS, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Boats, of which the following is a specification.

This invention relates to improvements in the construction of boats of such nature that designs producing safety and speed are combined and embodied in a single boat in a high degree of efficiency.

The object of the invention is the production of a boat so constructed that it cannot be easily tipped or capsized by any disturbing force, while at the same time its speed shall closely approximate that of boats which are designed more especially for great speeds. A boat constructed according to this invention will thus possess both the characteristics most greatly desired.

The invention consists in constructing one end of the bottom of a boat, preferably the forward end, with its faces curved in transverse section, such that the boat may cut through the water cleanly and be capable of high speeds.

The invention further consists in forming the other end of the bottom of the boat flat, with the result that this end will tend to always bring the boat toward an even keel in case of sudden squalls, improperly-disposed loads, or the varying movements of passengers.

The invention consists, further, in the disposition of parts such that with any disposition of the load there will be no great tendency for either side or either end of the boat to be unduly displaced from its normal position.

In the accompanying drawings, Figure 1 is an elevation of the invention as applied to a common pleasure-boat. Fig. 2 is a longitudinal sectional view of the boat; and Fig. 3 is a transverse section of the boat, taken at line *x x*, Fig. 1.

A represents that portion of the boat whose bottom faces E are curved in transverse section and which may be provided in the ordinary manner with a keel D. The opposite curved faces E converge toward the keel D. B is the other portion of the bottom, which is made flat. The faces E gradually converge in transverse section toward the stern and may terminate at the forward end of the flat portion preferably, but not necessarily, at a common point, as shown at H, Fig. 3. The faces E of the bow portion have also a curvature in plan, by which they converge to the prow C. The sides F of the stern portion are continued symmetrically with the plan curvature of the side E as far as possible, and where the construction of the flat portion B renders this impracticable, as at the lower part, the sides F may extend forward to overlap for a short distance the faces E, toward which they are gradually curved, thus presenting a symmetrical curve to the resistance, with no bulge or projection along the side. The stern may be round or square, but preferably is curved in harmony with the other visible lines of the boat. The floor of the interior may be made level throughout the length of the boat by constructing a low floor G over the portion A as a continuation of the flat bottom B, Fig. 2. The floor G furnishes also a convenient means for stepping a mast should the invention be applied to a sailing vessel, and if the boat is of very light construction, as a canoe, the floor serves as a protection for the frail bottom. The space beneath this floor can be used for storing away goods. Thwart-seats 2 may be built in the forward portion, adapted for the oarsman when the boat is adapted to be propelled by oars or paddles, and a semicircular seat 3 is built to extend around the interior of the stern, adapted for passengers.

A boat of the above-described construction can be designed with its forward portion embodying the features most highly approved for attaining high speeds. Even with a heavy load in the stern of the boat the forward portion will always lie well under the surface, presenting continually surfaces offering the least possible resistance to the pressure of the water. Hence the speed will be diminished in a much less degree in proportion to the increase of the load than in a boat whose bottom is flat for its whole length, for the drag of a continuously-flat bottom is partly obviated.

The construction of the after part of the

boat-bottom, as above described, exerts a controlling influence over the natural tendency of the boat to careen to either side under forces disturbing its equilibrium, the broad flat bottom resisting the tendency to careen and bringing the boat back to an even keel. It is very improbable that the boat will be tipped so far to either side that the center of gravity will lie in a line beyond the sides of the boat, and until this occurs the boat cannot capsize.

I do not wish the invention to be limited in application to any particular class of boats, and it is to be understood that many changes of structure can be made without exceeding the limits of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. A boat having a rear portion provided with a flat bottom, and a forward portion of greater depth below the water-line and the sides of which are curved in transverse section without abrupt change in contour from their upper edges to the keel, toward which latter they converge, substantially as set forth.

2. A boat having the after part of its bottom formed flat, and having the faces of the fore part of the bottom curved in transverse section without abrupt change in contour from the plane of the flat after part to the keelson, and curved in plan to converge to the bow, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY M. WILLIAMS.

Witnesses:
J. BURGER,
GEO. K. TORRENCE.