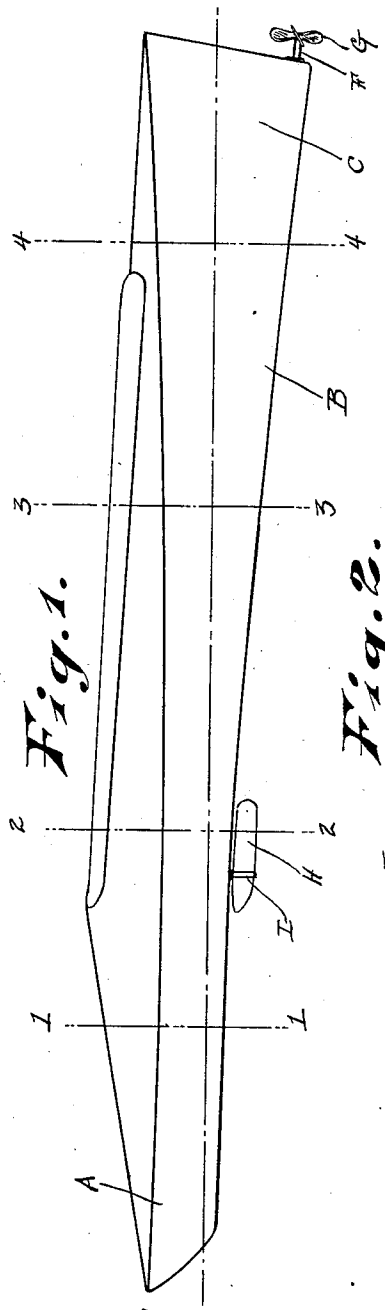
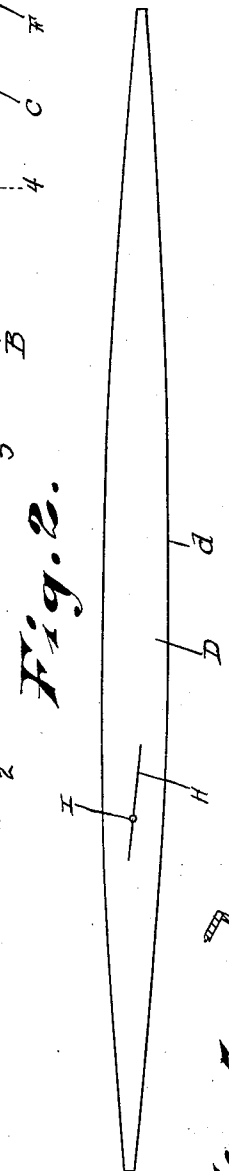
C. S. WESTOVER.

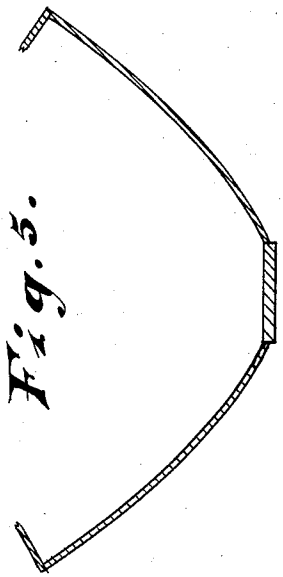
BOAT.

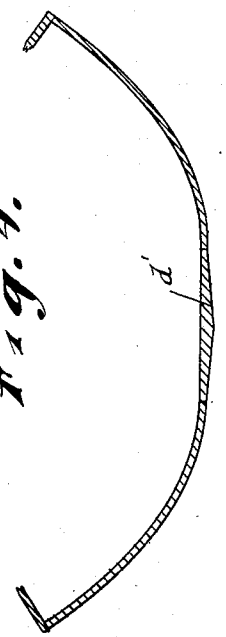
APPLICATION FILED OCT. 13, 1909.

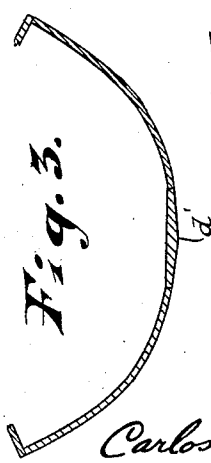
1,033,220. **Patented July 23, 1912.**

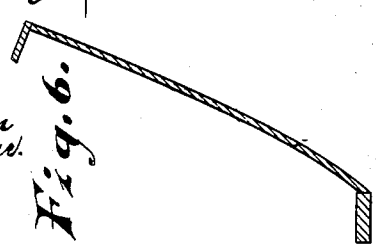












Witnesses
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UNITED STATES PATENT OFFICE.

CARLOS S. WESTOVER, OF MADISON, WISCONSIN.

BOAT.

1,033,220. Specification of Letters Patent. Patented July 23, 1912.

Application filed October 13, 1909. Serial No. 522,449.

To all whom it may concern:

Be it known that I, CARLOS S. WESTOVER, a citizen of the United States, residing at Madison, county of Dane, and State of Wisconsin, have invented new and useful Improvements in Boats, of which the following is a specification.

My invention relates to improvements in boats.

The object of my invention is to secure greater speed and better control of a boat for a given weight, size, and engine capacity, than is secured in boats of ordinary construction, and to secure these results without sacrifice of stability or seaworthiness.

In the following description, reference is had to the accompanying drawings, in which—

Figure 1 is a side view of a boat embodying my invention. Fig. 2 is a bottom view of the keel. Figs. 3, 4, 5 and 6 are sectional views, drawn respectively, on lines 1—1, 2—2, 3—3, and 4—4, of Fig. 1.

Like parts are identified by the same reference characters throughout the several views.

The bow portion A of the hull in my improved boat is preferably canoe-shaped, and does not enter deeply into the water. The sides of the bow may be curved along lines similar to those of ordinary boats to the midship line represented by section line 2—2. From this point to the stern, the portion B of the walls of the hull become progressively deeper and straighter, and terminate in a substantially wedge shaped stern portion C. The bottom of the boat is provided with a substantially flat keel portion D, which is widest in the midship portion. The side margins of this keel portion D converge from near the midship line to the bow and from a point *d* back of the midship line, to the stern as clearly shown in Fig. 2, the portion between the midship line and the point *d* being of nearly uniform width, or but slightly tapered rearwardly. In the central portion of the ship, this keel portion D also has its bottom surface preferably slightly depressed along the longitudinal center line, as shown at *d'* in Figs. 3 and 4, and inclined outwardly and upwardly therefrom toward the side margins. The keel portion D is also inclined downwardly and rearwardly from the midship line to the stern, preferably in a slight curve or with a progressively increasing inclination from the midship line to about the position of section line 4—4. The propeller shaft F projects from the hull at the stern through the wall of the deeper portion of the hull, which this downward inclination of the keel portion provides, and the propeller G is thus located at a greater depth than in an ordinary boat. The downward inclination of the keel at the stern at least for small boats, may be such that when the boat is normally trimmed, the stern will extend into the water to about twice the depth of the keel portion at the midship line, the bow portion of the keel being only slightly submerged. In a small boat, having a keel portion eighteen feet in length, its width at the midship line should be about twelve inches, tapering to substantially a point at the bow and stern.

The rudder H in my improved boat is preferably located between the midship line and the bow, the rudder post I extending through the longitudinal center line of the keel portion and operating not only for steering purposes, but also performing functions similar to those of a keel or center board to prevent drifting. With a flat keel or keel portion D, as illustrated, the rudder H will be found extremely efficient. The post I is preferably secured to the rudder H a little in front of the center of the rudder and the latter preferably has its lower margin curved upwardly and forwardly to form a pointed front end. The rudder, therefore, tends to assume a trailing position at the longitudinal center line, but the forwardly projecting portion facilitates swinging it from such position when steering.

The form of the upper part of the hull, above the water line, is not essential to my invention, and the form of the bow portion in front of the midship line is also not absolutely essential, although it is desirable that the keel portion should be flat, and the bow canoe shaped, as illustrated. I attach great importance, however, to the downward inclination of the keel portion from the midship line to the stern and the converging and progressively flattened side walls of the stern portion of the hull, at least below the water line, whereby the after portion of the hull gradually changes from the ordinary bowed side walls of the midship portion to a comparatively flat sided, narrow, and wedge shaped stern.

In an ordinary boat when in motion, there is a tendency to have a void at the stern,

both owing to the forward motion of the boat and the pressure of the propeller blades, which tends to push the water outwardly from the space left by the boat. This causes a loss of power and a tendency of the boat to sink at the stern, the effect so produced being termed the "drag," and it has heretofore been customary to give to the upper portions of the stern of a boat a wide overhang or bearing surface, which rides upon the surface of the water and counteracts the tendency of the boat to settle. In my improved hull, however, the tendency to settle at the stern is counteracted by the downwardly and rearwardly inclined keel portion to a sufficient extent at least, to prevent the stern from sinking below the water line of the boat with a given load and when at rest. By increasing the width of the keel portion, the boat may be lifted when in forward motion and caused to ride more nearly upon the surface of the water as in the so-called skimmer types. But I prefer to limit the width of the keel portion to such dimensions as will merely counteract a settling tendency at the stern with perhaps a slight additional lifting effect, but not sufficient to impair the stability of the boat or render it more liable to buffeting in rough water. With this construction, the boat will move steadily through the water, will produce little or no wake, and will not be subject to drag, the speed being much greater for a given expenditure of power, however, than in boats of ordinary construction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A boat having a round bottom midship and forward portion, and having its hull inclined downwardly and rearwardly from the midship portion, the sides of the hull in the rear of the midship portion being formed in progressively flattened upwardly extending curves between keel and water line, and terminating in a substantially wedge-shaped stern.

2. A boat having a canoe shaped bow portion and a wedge shaped stern portion arranged with vertically extending rearwardly converging sides, said boat having a keel portion substantially flat in cross section, and inclined downwardly in the after part of the boat in the direction of the stern, said keel portion being comparatively narrow with reference to the beam of the boat at all points except at the bow and stern.

3. A boat having a round bottom midship and forward portion, a keel portion, inclined downwardly and rearwardly from the midship portion, and having sides progressively flattened in the direction of a vertical plane and terminating in a wedge shaped stern, said keel portion forming a substantially flat bottom for the stern portion of the boat, substantially as described.

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

CARLOS S. WESTOVER.

Witnesses:

EARL S. DRIVER,

J. M. COMSTOCK.