

H. M. VAN WEEDE.
BOAT.

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Patented July 4, 1911.

996,738.

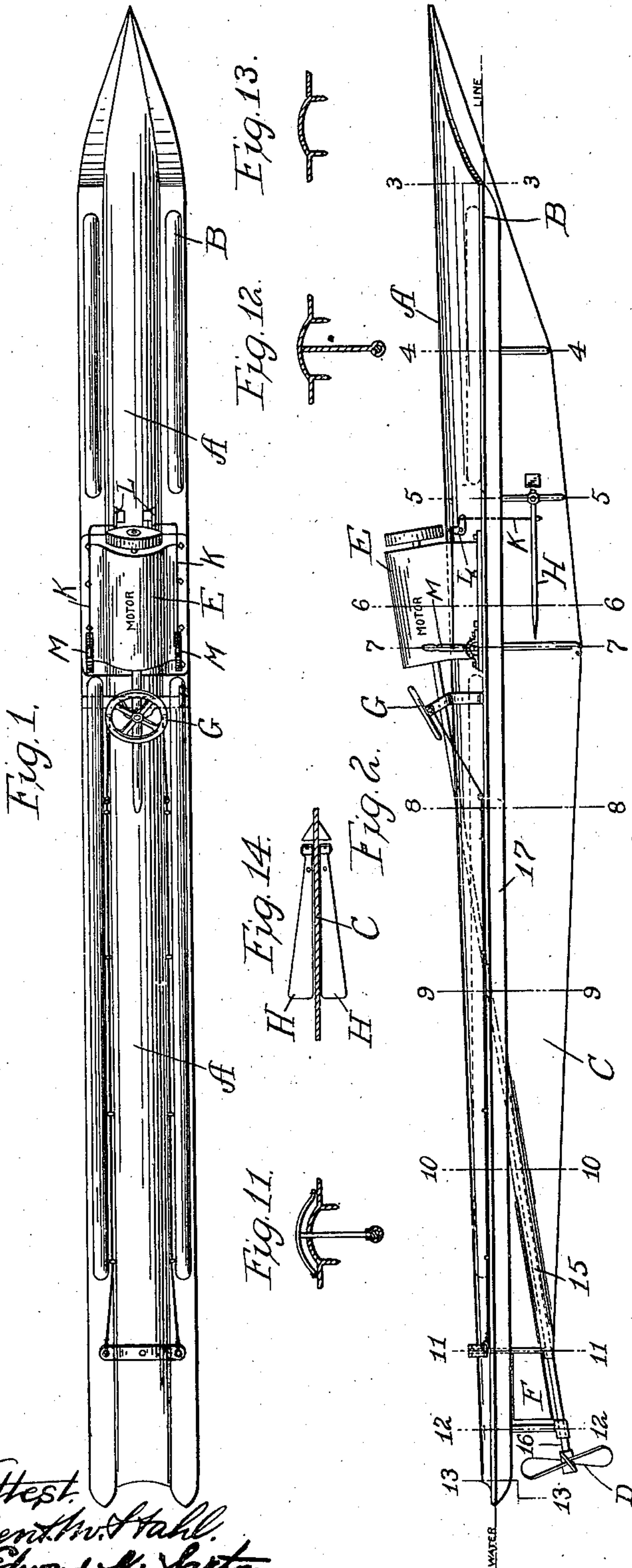


Fig. 13.

Fig. 12.

Fig. 14.

Fig. 11.

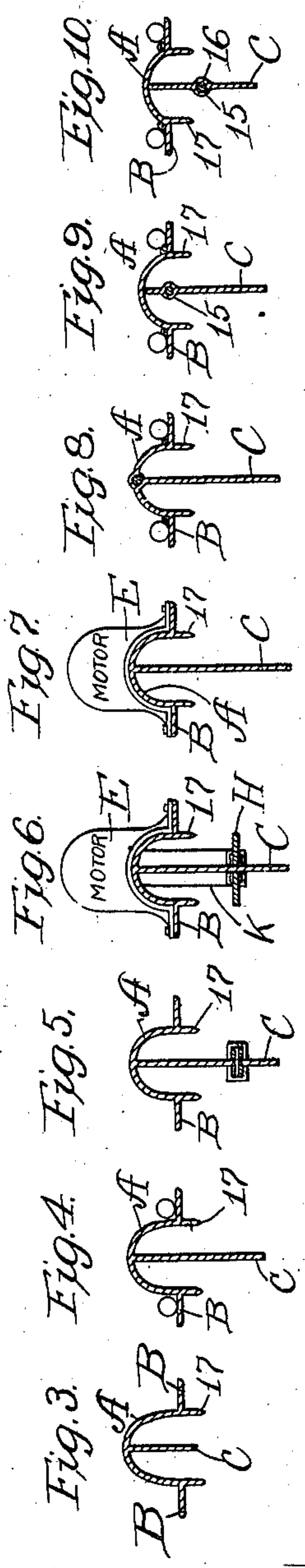


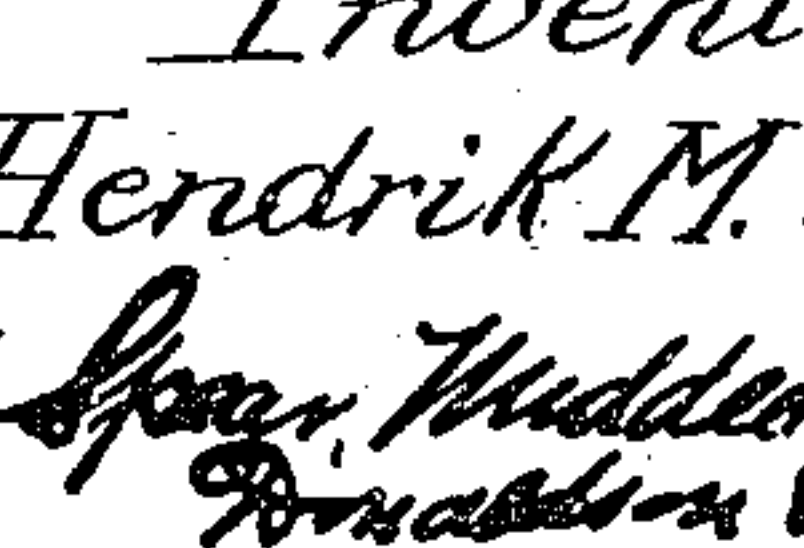
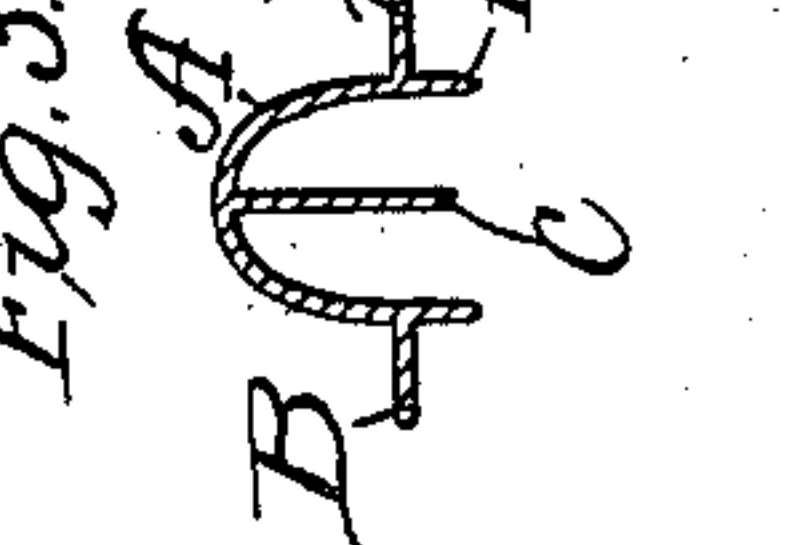
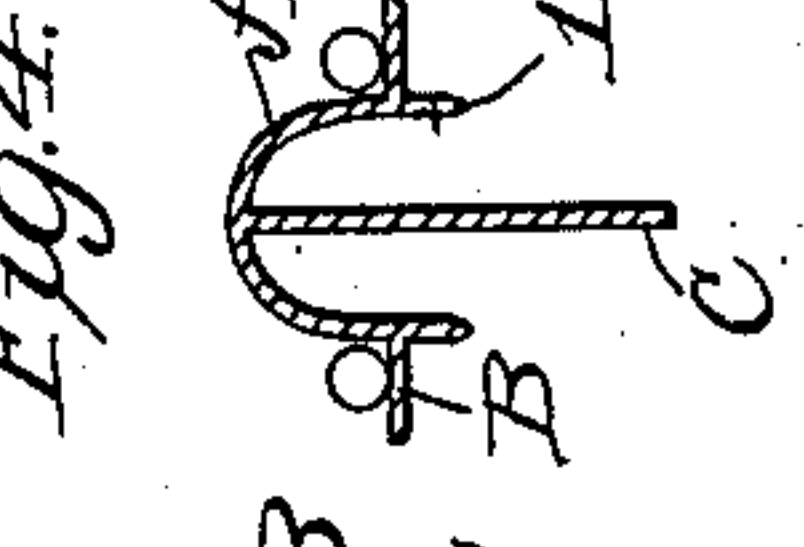
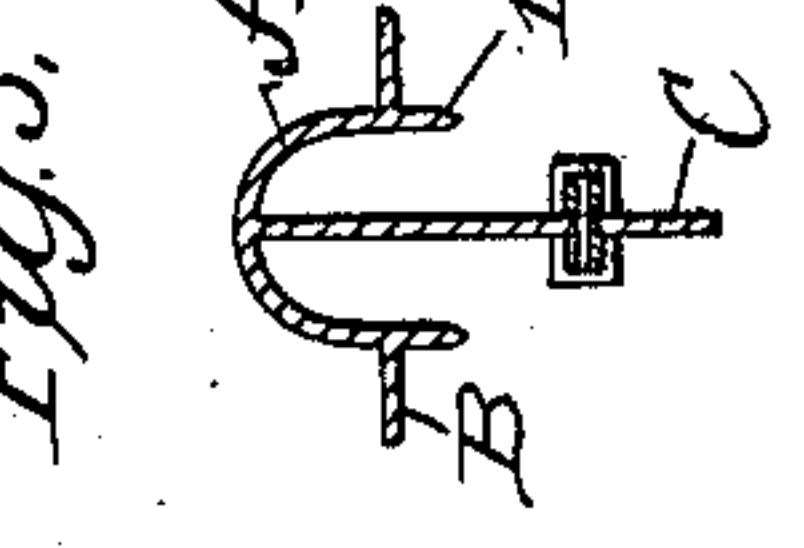
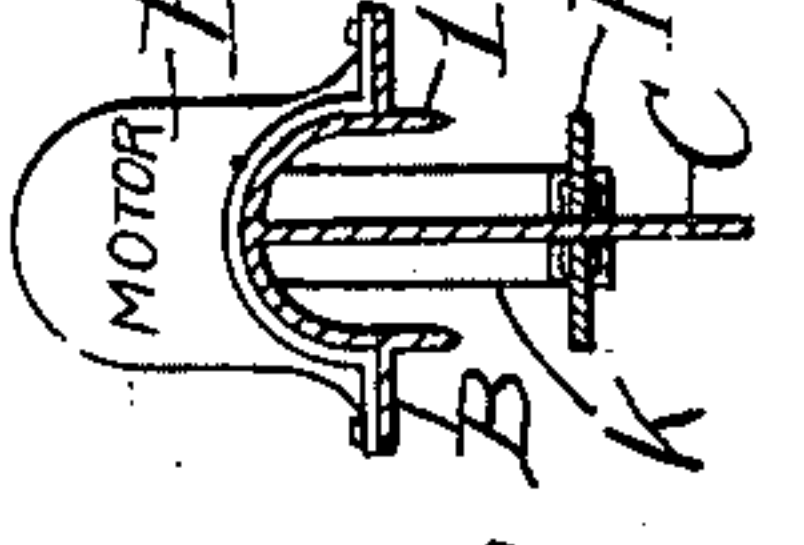
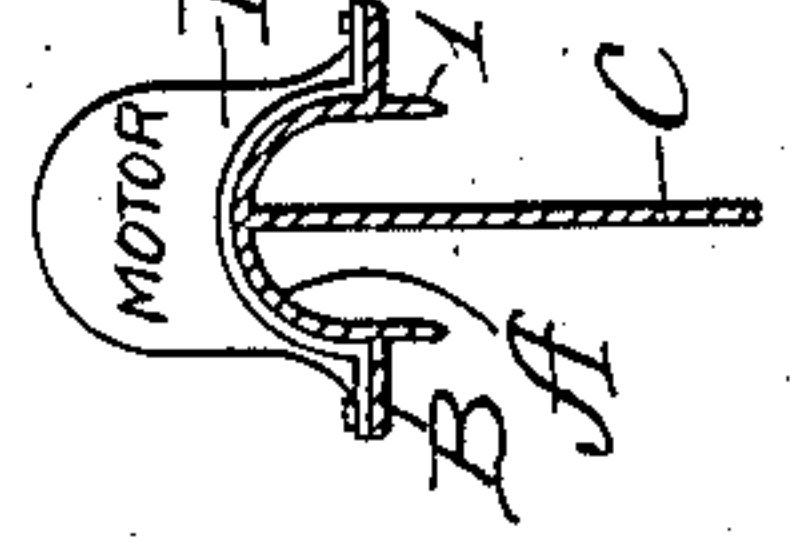
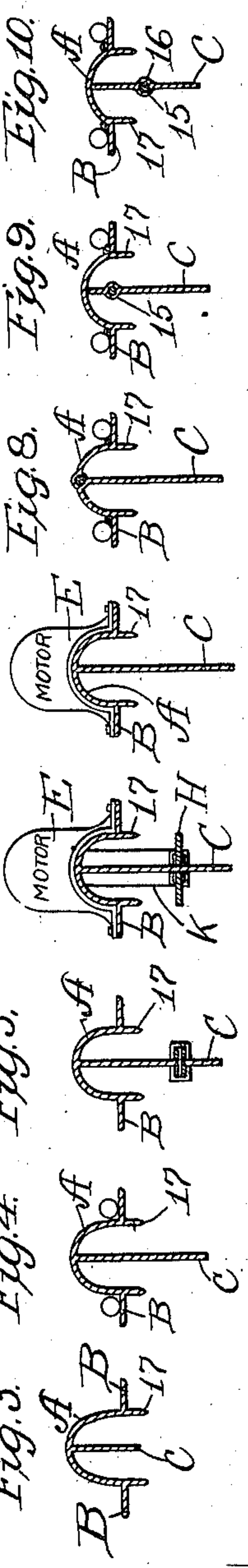
Fig. 2.

Fig. 6.

Fig. 5.

Fig. 4.

Fig. 3.



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BOAT.

996,738.

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To all whom it may concern:

Be it known that I, HENDRIK MAURITS VAN WEEDE, subject of the Queen of the Netherlands, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Boats, of which the following is a specification.

My invention relates to racing and other boats of the hydroplane class, in which I have provided for an air containing space in connection with the other features designed to provide for the easy displacement of the water.

My invention also comprises, in this connection, means for raising or lowering the bow of the boat and holding it in such raised or lowered position.

My said invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a top or plan view of the boat; Fig. 2 is a side elevation; and Figs. 3 to 13 inclusive represent sections taken on lines indicated in Fig. 2; said lines corresponding with the numbers of the figures of said sections. Fig. 14 shows a horizontal section of a part of the keel taken above the plane of the fins H. These numerous sections are given in the drawings in order to show exactly the shape of the bottom of the boat, assuming that the precise shape concerns essentially the easiest displacement of the water in the movement of the boat, and particularly in reference to the mass of air constantly contained in the bottom cavity, whereby the frictional resistance is materially lessened. I have sought by these sections to define this shape, and refer hereinafter to these sectional drawings as showing more exactly than possible by written description, the shape in which this feature of my said invention consists.

The main part of the structure of the boat consists of a shell in the form of an elongated arch A, the crown of which is inclined from bow to stern (as shown in Fig. 2 by the line connected with A, and in detail in Figs. 3 to 13, inclusive), combined with lateral hydroplanes B, B. These planes B, B may be of any desired width, adapted to the spread and depth of the arch and the weight of the materials of the boat, and approximately its intended load, it being designed that the planes shall move on or near the surface of the water, and, if desired, their forward ends may be upturned.

The forward end of the arch is shown

with a curved under-cut, but this is not material and may be changed. The larger end of this arch being forward, is exposed to and takes in the air as the boat advances, and as the space beneath or within this arch regularly diminishes to the stern, or terminates near the stern, according to the load on the boat, the contained air is always under more or less pressure, varying with the speed, and this compressed air is interposed between the arch and the water, and these parts and the planes and load being properly adjusted, the planes move practically over the surface, with greatly diminished bearing thereon, the load being largely supported by the arch.

Centrally and suitably fixed to the arch is a main keel C having a curved lower edge, approximately as shown. Included or fixed within this keel is a tubular bearing for the shaft 16 of the propeller D, which is inclined to bring its forward end up to the motor E, of any suitable type.

The rudder F, with any suitable or well known steering gear, is connected to the steering wheel G directly aft of the motor, so that the boatman, as he lies or sits, may be in position to control both rudder wheel and motor.

It is important in connection with the arch and planes that the vertical position or movement of the boat should be adjustable; that is to say, that it shall be capable of being lifted or depressed, and so held at will of the boatman. To this end I have provided horizontal fins, H, H, pivoted to the keel, forward of the longitudinal center of the boat. To lessen resistance these are narrow forward, and have bosses by which they are pivoted on horizontal pins on the keel. They are controlled by stiff, vertical rods K, K, which are connected by bell crank levers L, L, to levers M, M, located in reach of the boatman. These levers are provided with ordinary locking segments and catches (not shown). Obviously both fins may be raised or lowered, or one may be raised and the other lowered, and so to raise or lower the forward part of the boat, or to keep it trimmed.

On each side above the planes I have provided air tubes for floating the boat. These may extend part or all the way from bow to stern. As shown in the sectional figures, I have also provided supplemental keels 17 which, as arranged, are continuations of the

shell of the arch and containing the cavity therein.

By the term "tapering" applied to the boat, I refer to the crown of the cavity, the plan of the boat being approximately of equal width throughout. This is a material point in my boat that the crown of the arch slopes downward from bow to stern, while the sides are parallel throughout, so that the interior channel is of the same width and varies in depth. Thus the body of the hull of the boat is an elongated arch, from bow to stern, the crown of which is the top or deck indicated by the straight line on Fig. 2 connected to the letter A.

I claim substantially as described:

1. A boat, the hull of which is wholly composed of a shell forming an arch open at the bow and stern and having its crown sloping downward from bow to stern, and with side hydroplanes extending horizontally from the side edges of said shell and a central keel, substantially as described.

2. A boat the main part of which is wholly composed of a shell forming an arch open at the bow and stern and of equal width from bow to stern but having its crown sloping downward from bow to stern.

3. A boat the main part of which is wholly composed of a shell forming an arch open at the bow and stern and of equal width from bow to stern but having its crown sloping downward from bow to stern with the side hydroplanes fixed thereto and with a central keel.

4. A boat the main part of which is wholly composed of a central arch open at the bow and stern and inclined from bow to stern, combined with side hydroplanes, with suitable keels, and with air tubes arranged on each side above the planes.

5. A boat the main part of which is composed of a central arch open at the bow and stern and inclined from bow to stern, having side hydroplanes combined with a central keel, and with horizontally arranged fins pivoted to the keel and provided with mechanism within the reach of the boatman for operating said fins.

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

HENDRIK MAURITS VAN WEEDE.

Witnesses:

BENNETT S. JONES,
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