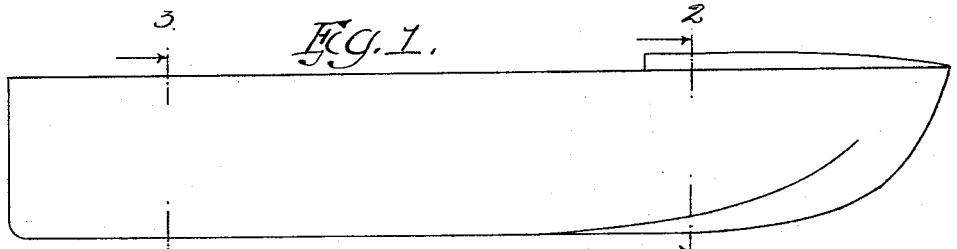
Sept. 22, 1931. P. PRITCHARD 1,823,986

METAL BOAT

Filed June 29, 1931

Fig. 1.



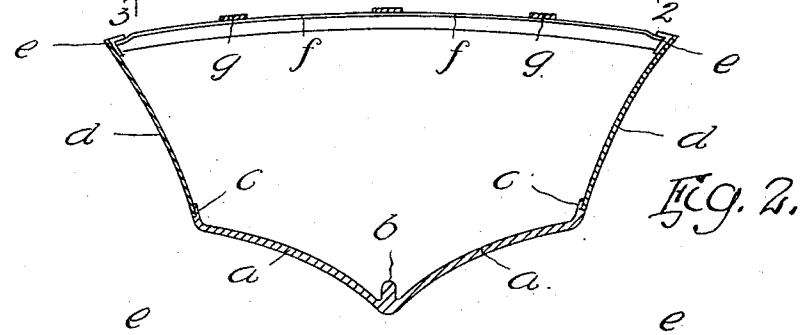
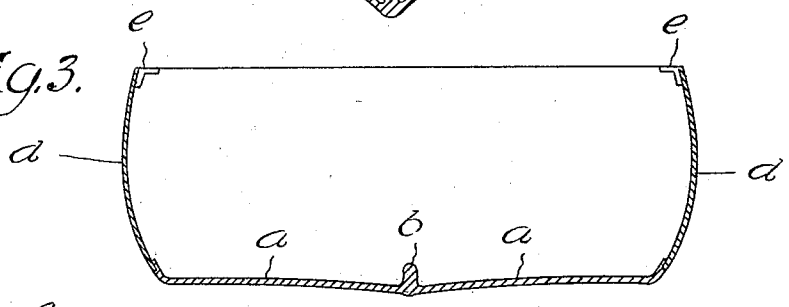


Fig. 2.

Fig. 3.



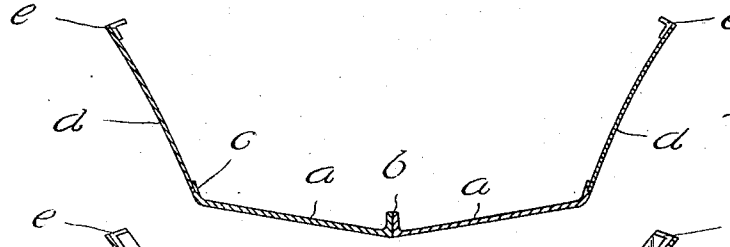
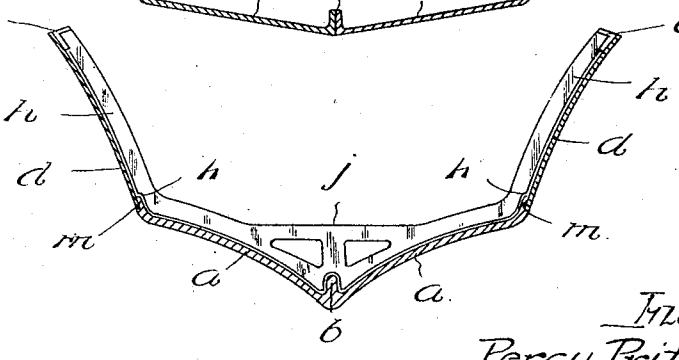


Fig. 4.

Fig. 5.



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Patented Sept. 22, 1931 1,823,986

UNITED STATES PATENT OFFICE

PERCY PRITCHARD, OF SMETHWICK, BIRMINGHAM, ENGLAND, ASSIGNOR OF ONE-HALF TO THE BIRMINGHAM ALUMINIUM CASTING (1903) COMPANY LIMITED, OF SMETHWICK, ENGLAND

METAL BOAT

Application filed June 29, 1931, Serial No. 547,596, and in Great Britain May 31, 1930.

The object of the present invention is to enable a metal boat to be constructed of light metal such as aluminium or suitable alloys of aluminium.

In accordance with the invention, the keel and base of the boat is cast in one or more pieces of a light metal or metal alloy, and the sides of the boat are built up of sheet metal plates provided with suitable fillets or stiffening ribs.

As one example of construction, I cast the base of a shallow V-section with a central internal longitudinal rib and with an opposing flange along each edge of the V. The longitudinal flanges serve for the reception of any suitable fillets or attachment ribs, or framing, for the attachment of the sheet metal side plates which are also riveted, welded, or otherwise secured to the flanges of the cast base. The cast metal keel plate or base may in another example be divided longitudinally down the centre line, and each section may be provided with an upstanding flange at this point, the faces of which are machined so that a tight joint can be made when the two sections are assembled and riveted or welded together.

In the drawings:—

Figure 1 illustrates in side elevation a boat hull to which the invention is applied.

Figure 2 is a cross section on line 2—2 of Figure 1 omitting any ribs or stiffening members.

Figure 3 is a similar simplified cross sectional view taken on line 3—3 of Fig. 1.

Figure 4 is a similar view to Figure 2 but illustrating a modified construction.

Figure 5 is a cross section showing the hull construction combined with rib stiffening frames extending across the boat.

In these drawings, Figures 1 to 3, *a* is the integral cast keel and base of shallow V section. Along the centre of this runs a longitudinal rib *b* which forms the keel itself. The fore part of the cast base is of much more pronounced V section than is the stern part. On the outer edges of the base *a* is an upwardly directed flange *c* adapted to receive the sheeting *d*. Preferably the flange is rebated to a depth corresponding to the thickness of the sheets or plates *d* used for the sides so that these may fit snugly into place and when secured will leave a flush external surface.

In some cases instead of casting the base in one integral unit *a* I may cast it in two halves divided longitudinally which meet at the central rib member *b* as clearly shown in Figure 4. For the construction of longer boats or vessels it may be desirable to make the cast V base in two or more sections provided with transverse meeting flanges which are faced and secured together by bolts, rivets, welding or like means.

In the construction shown at Figures 2 and 3 longitudinal stiffener members are shown at *e* to form the gunwale, and in Figure 2 where a fore deck framing is represented the stiffeners *e* are connected by cross bars of angle or like section *f* on which flat stringers *g* are secured for the attachment of deck plating.

It will be understood that any suitable arrangement of stiffening ribs may be provided projecting up from the cast V base to assist the sheets or plates *d* which form the sides of the boat, but at Figure 5 I have illustrated a preferred arrangement which is not claimed per se herein as it forms the subject of my co-pending application for Letters Patent which is of even date with this application.

In this arrangement the stiffening ribs *h* on opposite sides of the boat are connected together by a base part *j*, and may very conveniently be formed as a single casting. In any case the base part *j* is recessed to seat upon the central rib *b* of the keel so as to lock the ribs on the keel member.

If desired recesses or seats *k* for longitudinal members *m* and *e* may be provided in the outer surfaces of the ribs *h* so as to leave those surfaces of the complete frame flush for the reception of the plates *d*.

I claim:

1. Improved metal boat hull comprising in combination a base and keel cast in light metal or light metal alloy and side plates of wrought light metal or light metal alloy secured thereto.

2. Improved metal boat hull comprising in

combination a base and keel cast in light metal or light metal alloy, a rebated edge along each side margin of the cast base and light metal or light metal alloy sheeting secured to the rebated edge so as to form the sides of the hull.

3. Improved metal boat hull comprising in combination a base and keel cast in one integral structure of light metal or light metal alloy having a central longitudinal stiffening rib, flanges at the side edges of the cast base structure and metal sheets secured to the flanges to form the sides of the hull.

4. Improved metal boat hull comprising in combination a base and integral keel member formed of castings of light metal or light metal alloy, said castings meeting at the longitudinal centre of the base, and having flanges at the meeting edges to form attachment means and to form a central stiffening rib or keel piece; flanges at the side edges of said base and sheet metal side plates secured to said side edge flanges so as to form the sides of the hull.

5. Improved metal boat hull comprising in combination a base cast in light metal alloy, a central internally projecting keel rib at the centre of the base, upstanding flanges at the side edges of the base, sheets of light metal alloy secured to the side flanges to form the hull sides, transverse rib stiffener frames secured within the base and supporting the sides and longitudinal stiffener gunwale members at the edges of the sides.

In testimony whereof I affix my signature.

PERCY PRITCHARD.