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BULKHEAD FOR HIGH-SPEED MOTORBOATS

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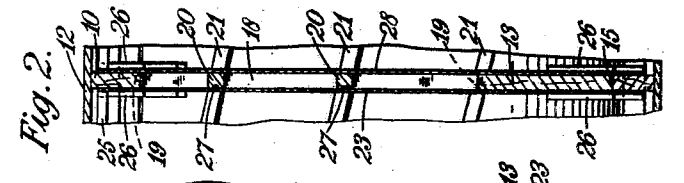


Fig. 2.

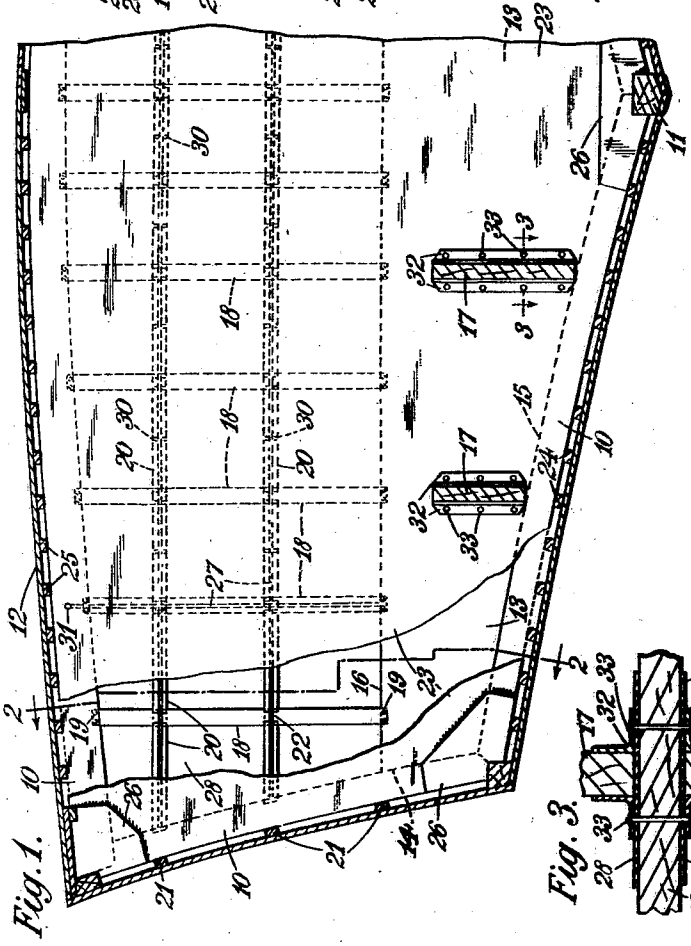


Fig. 1.

Fig. 3.

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BULKHEAD FOR HIGH-SPEED MOTORBOATS

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Application April 13, 1940, Serial No. 329,563
In Great Britain March 9, 1939

2 Claims. (Cl. 114—78)

This application corresponds to the application of Hubert Scott-Paine and George Sidney Selman, Serial No. 7703/39, which was filed in Great Britain on March 9, 1939.

In building high-speed motorboats, it is desirable that the weight of the structure should be kept at a minimum, subject to adequate strength being obtained, and the object of this invention is to provide a novel construction of bulkhead in such vessels.

It is, of course, usual to arrange a transverse bulkhead in way of a transverse frame, and if necessary to provide a special transverse frame at the desired location of a bulkhead.

According to this invention, a bulkhead for high-speed motorboats and like vessels comprises the combination with a transverse frame, of pillars and bracing-members secured to the frame, and a ply-wood covering secured on the frame, pillars and bracing-members.

In a preferred form of construction, a solid timber filling occupies the lower part of the space enclosed by the transverse frame, the upper part of which space is occupied by said pillars and bracing-members.

The solid timber filling for the lower part of the bulkhead preferably extends upwards to about the water-line of the vessel and above the top of the usual main longitudinal framing of the bottom of the vessel.

Preferably the bracing-members comprise cross-members which are secured to the vertical pillars, and it is further preferred that these should be aligned where possible respectively with certain longitudinal frame-members or stringers of the vessel.

According to yet another feature of the invention, brackets used for reinforcing the joints between the members of the transverse frame are secured outside the ply-wood covering.

The following is a description of one form of the invention, reference being made to the accompanying drawing, in which,

Figure 1 is a section through a part of the boat athwartships showing a bulkhead in side elevation, certain parts of the bulkhead being cut away to expose its internal construction,

Figure 2 is a section on the line 2—2 of Figure 1, and

Figure 3 is a horizontal section through the joint between a longitudinal frame-member and a bulkhead on the line 3—3 of Figure 1.

Each bulkhead is built into one of the transverse frames of the boat which frame is built of timbers or members of appropriate thickness, and all of the same thickness in the case of a boat, say, 60 or 70 feet long, in which the beam measures about 16 feet and the height from the keel 11 to deck about 7 feet, and the frame-members aforesaid are 1¼ inches thick. The lower part of the space enclosed by this frame, up to a height of about 3 feet from the keel, which is approximately the draught of the vessel at this particular section, is occupied by a solid white mahogany (larana) plank 13 also 1¼ inches thick, shaped on its sides 14 and lower edge 15 to be bedded on the frame-members, with its upper edge 16 horizontal. Above this block there are provided vertical pillars 18 extending from it up to the deck beam of the transverse frame and these pillars are "halved-in" and screwed at 19 at the top and bottom to provide a rigid structure. These pillars are spaced about a foot apart but the spacing is adjusted so that the pillars will align with the longitudinal members such as 17 where possible.

The transverse frame is provided with cross-members 20 which are also spaced about a foot apart, but the spacing again is adjusted to align them with the side stringers 21 where possible and the cross-members are halved-in and screwed at 22 to the vertical pillars.

There is thereby provided a structural framing for the bulkhead which provides a very substantial transverse reinforcement to the strength of the boat.

This transverse framework is then covered on the two sides by ply-wood sheets 23 and 28, respectively, the sheets overlapping the frame-members, pillars and cross-members 10, 18 and 20 respectively, and preferably having their edges finishing flush with the inner surface of the bottom, side and deck stringers 24, 21 and 25 respectively. All the vertical pillars and cross-members are made of the same thickness as the frame-members 10, namely 1¼ inches in this particular example, so that the ply-wood lies flush on the whole structure and is screwed or otherwise fixed thereto where necessary. Brackets 26 are secured outside the ply-wood sheet over the joints between the frame-members 10. The longitudinal frame-members 17 at the bottom of the boat are formed in a number of parts which are arranged at each bulkhead to abut against the ply-wood coverings 23 and 28 opposite the plank 13 and are held firmly in line by means of angle plates 32 which are bolted together on either side of the bulkhead by bolts 33.

The use of a solid filling for the lower part of the bulkhead prevents any accumulation of water

or moisture inside that part of the bulkhead, and drainage and ventilation apertures may be provided where necessary in the other parts of the bulkhead so that access to the enclosed space is afforded from one side of the bulkhead only. Preferably the ventilation of the space in the transverse frame between the ply-wood coverings is effected by the provision of shallow grooves **27** formed in the faces of the pillars and cross-members on one side thereof which grooves communicate on the one hand with small holes **31** in the upper part of one of the plywood coverings and on the other hand with cross grooves **30** formed in the cross-members.

It will be seen that this invention provides a transverse bulkhead which is of great strength for its weight as compared with known constructions of bulkhead, and moreover it provides a satisfactorily watertight bulkhead. If it is desired to provide communication through it, any suitable construction of watertight door can be employed.

We claim:

1. A bulkhead for high-speed motor-boats and like vessels comprising, in combination, a transverse frame extending around the inside of the hull of the boat and including a deck beam, the lower part of the space defined by said frame being filled by a plank the upper edge of which extends to about the water-line of the boat, a plurality of spaced vertical pillars extending from the upper edge of said plank to the deck beam and secured thereto, a plurality of spaced horizontal cross-members extending between the intermediate pillars and between the outermost pillars and the frame and secured thereto, the said frame, plank, pillars and cross-members all being of the same thickness and having flush surfaces, and ply-wood panels completely covering both sides of said frame, plank, pillars and cross-members.

2. A bulkhead for high-speed motor-boats and like vessels comprising, in combination, a transverse frame extending around the inside of the hull of the boat and including a deck beam, the lower part of the space defined by said frame being filled by a plank the upper edge of which extends to about the water-line of the boat, a plurality of spaced vertical pillars extending from the upper edge of said plank to the deck beam and secured thereto, a plurality of spaced horizontal cross-members extending between the intermediate pillars and between the outermost pillars and the frame and secured thereto, the said frame, plank, pillars and cross-members all being of the same thickness and having flush surfaces, ply-wood panels completely covering both sides of said frame, plank, pillars and cross-members, and ventilating means providing communication with the spaces defined by said frame, pillars, cross-members and panels said ventilating means comprising grooves cut in the surfaces of said pillars and cross-members which lie against said panels, said grooves being in communication with said spaces and with the outside of the bulkhead through openings in its upper portion.

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