

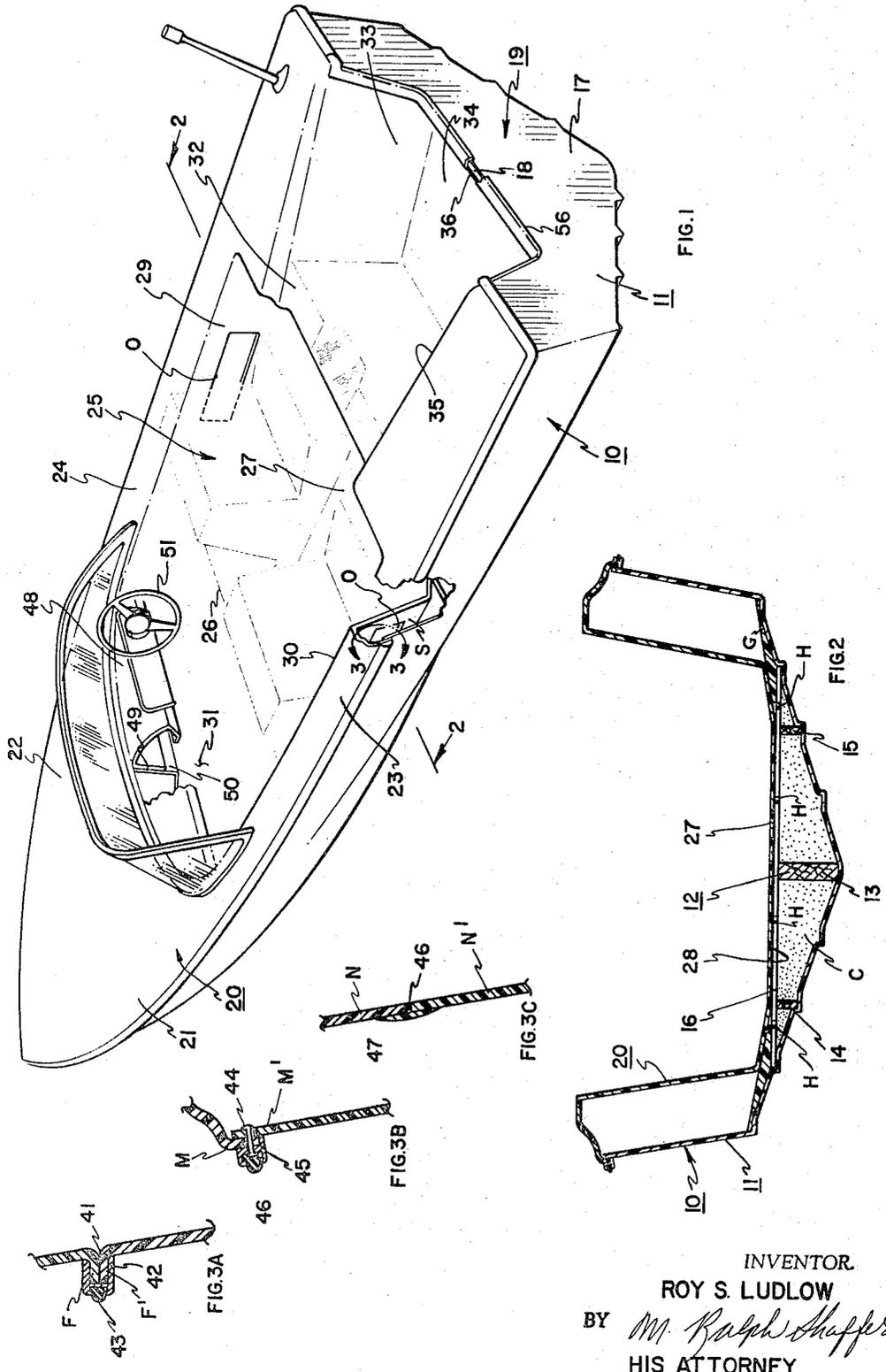
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BOAT CONSTRUCTION

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The present invention is related to boat constructions and, more particularly, to a new and improved boat construction wherein, by means of a joined-shell structure, a rigid and versatile construction may be had, and in a variety of configurations, at low manufacturing cost.

While many different types of materials may be employed in the subject invention, fiberglass construction is preferred. In the usual fiberglass lay-up process, a positive model or mold is made, a mold release agent is generally applied thereto, glass matting and/or glass cloth are laid up against the mold, and a polyester resin is sprayed over the matting and cloth to serve as a binder. Repeated layers of glass cloth and matting, and repeated applications of the polyester resin binder, build up the thickness of the final product. This product, of course, will be trimmed, sanded, and finished in the usual manner as practiced in the fiberglass art.

It has occurred to the inventor that by making simply two cooperating shells, one a hull and the other an upper shell, that substantially the entire boat construction (inboard or outboard) can be supplied, and in a variety of configurations.

Further, by using a wood or other subflooring construction, the upper shell can be integrally formed with a self-contained cockpit that can engage and actually be bonded to the subflooring structure.

Other important structural ramifications are also possible.

Accordingly, a principal object of the present invention is to provide a new and improved, shell-type boat construction.

A further object is to provide an inexpensively-produced subflooring structure to lend strength to the hull bottom and also to support a horizontal panel to which the cockpit of the upper boat shell may be affixed.

An additional object is to provide novel means for securing boat shell constructions together.

Another object is to provide a boat shell construction wherein storage space and other utility spacing exists underneath the gunwales and between the two boat shells used.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings in which:

FIGURE 1 is a perspective view, partly cut away for convenience of illustration, of a boat incorporating the principles of the present invention; for convenience of illustration, the deck chairs of the boat are shown in phantom line.

FIGURE 2 is a transverse vertical section taken along the line 2-2 in FIGURE 1.

FIGURE 3A is an enlarged, sectioned detail taken along the arcuate line 3-3 in FIGURE 1.

FIGURE 3B is a section view similar to the structure shown in FIGURE 3A, representing an alternate method of attaching the shells together.

FIGURE 3C is yet another alternate method of securing the boat shells together.

In FIGURE 1 the hull half 10 is comprised of a hull

shell 11 and its interior, subflooring and bracing structure 12. Such interior structure 12 includes a central keel brace or stringer 13 and vertical side braces or stringers 14 and 15. The stringers are longitudinally oriented, are preferably fabricated from wood, and support along their respective upper surfaces a rigid horizontal floor support panel 16. Floor support panel 16 is likewise preferably made of wood and is secured, by any conventional means such as glue or attachments, to the vertical stringers or braces, as shown. The hull shell 11 includes molded, longitudinal chine ribs A having longitudinal recesses R; corresponding ones of the latter seat support panel 16 and braces 14 and 15.

The hull shown is preferably made of fiberglass in the manner well-known to the present-day art. The back panel 17 of hull shell 11 is bonded to rear plywood panel 18, and such construction forms the boat transom 19. Upper shell half 20 includes a deck 21 having front deck portion 22 and side deck portions or gunwales 23 and 24. Passenger cockpit 25 is likewise formed integrally with and includes, mounted thereon by bolts or other suitable means, the deck chairs 26. Passenger cockpit 25 includes floor 27, which is bonded to horizontal support panel 16 by an adherent agent such as a polyester resin 28. Inner sides 29 and 30, together with front floor panel 31 and rear bulkhead 32, complete this portion of the integral structure of the upper shell half 20. Motor well 33 is likewise integrally formed with the rear bulkhead 32, deck 22, and the passenger cockpit 25, and includes well floor 34, plural well sides 35, and well back panel 36. Back panel 36 is bonded by a polyester resin or other suitable means to transom panel 18, to make a rigid rear construction for outboard motor mounting. It will be understood that there are several access ports disposed, for example, in panel 31 and in side panels 35 of the well, and conceivably rear bulkhead 32 also, for access purposes for cables, and so forth. The novel spaces S between the hull and upper shells is provided for storage, cables, and other utility. Access openings O are also provided.

In construction, the structure 12 is formed, the hull shell is built up, using fiberglass media in a conventional manner over a positive mold, and the structure 12 is secured interior of the hull shell with polyester resin and fiberglass.

Next, the upper shell half comprising the deck, gunwales, motor well, and the cockpit area, all formed as an integral shell, is molded and the resultant upper shell secured to the hull half 10. Such securement may be accomplished as shown in either FIGURES 3A, 3B, or 3C.

In FIGURE 3A each of the shell halves include outwardly-extending flanges F and F' held together by polyester resin adherent 41, with a metal molding strip 42 being shown implaced and being provided with peripheral bumper insert 43.

Another method of attachment is shown in FIGURES 3B (and FIGURE 1) and includes overlapping margins M and M' of the respective shells which are secured together by rivets 44, nuts and bolts, or other attachments, and a suitable metal molding strip or back member 45 provided and the latter receiving the peripheral rubber bumper 46. In the structure of FIGURE 2 the molding piece is secured, by the rivet or bolt means employed, to the two overlapping margins of the shells.

In FIGURE 3C the margins N and N' of the upper and lower shells of the boat are simply butted together and secured by a suitable resin adherent 46. A strip 47 of fiberglass material will generally be placed over the seam and secured by suitable resin, with the margins of the overlapping material being feathered out as shown.

When this structure is accomplished, then the dash 48, itself a molded fiberglass product, is simply secured by suitable means such as a resin adherent 49 to the rearwardly-facing surface 50 of the decked, upper hull half. The steering mechanism 51 may be installed in a general manner and suitable access ports provided in the forward portion of the passenger cockpit 25.

It will be seen that the present invention provides an unusual, novel, and inexpensively-produced boat construction simply comprising a pair of halves suitably secured together as is shown in FIGURES 3A-3C. The construction is made rigid by virtue of the inclusion of the rigid subflooring at 12 and the fact that the floor 27 of the upper shell half is bonded to this rigid panel.

For purposes of strength and safety, a water-impervious plastic foam 53 such as a urethane foam may be blown into the cavities C of the hull, through holes H of floor panel 16, prior to the securing of the upper shell to panel 16. Fiberglass, built-in gusset areas G may also be provided.

It is thus seen that the present invention supplies a novel, essentially two-shelled boat construction which is rugged in strength, easily assembled, and easily built with a minimum manufacturing cost. To complete the structure a transom metal molding 56, of an overlapping C-section configuration, may be used in the manner shown.

While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broader aspects, and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

I claim:

1. A boat construction including, in combination, a hull shell; an upper molded unitary shell configured to form a cockpit, a motor well, and a bulkhead disposed therebetween, each of said shells including an upstanding back panel said upper shell being secured to said back panel of said lower shell along the margins thereof; and an upstanding, motor-mount transom affixed to and between said shells at the rearward extremity of said boat construction.

2. Structure according to claim 1 wherein said hull shell includes a horizontal, rigid, support panel, said cockpit being bonded to said support panel.

3. Structure according to claim 1 wherein said hull shell includes longitudinal, vertical braces engaging said hull, a rigid, horizontal support panel disposed over and supported by said braces, said cockpit being bonded to the upper surface of said rigid panel.

4. In a boat, in combination; a hull shell, a rigid transom and a rigid, horizontal, planar, floor support supported by said hull shell; a molded upper shell comprising a deck, a depending cockpit continuous with said deck, and a rear panel adjacent said transom; said cockpit directly engaging and being bonded to said floor support, and said rear panel engaging and being bonded to said transom.

5. A boat construction including, in combination, a hull shell; a rigid horizontal support panel secured within and supported at its outer margins by said hull shell; and an upper shell secured to said hull shell along the margins thereof, said upper shell including a floor supportingly engaging said support panel.

6. The boat construction of claim 5 wherein said floor of said upper shell is bonded to said support panel.

7. The boat construction of claim 5 wherein said hull shell includes a keel and longitudinal chine ribs disposed on opposite sides of said keel and at least some of which are in correspondence, said chine ribs forming longitudinal recesses interior of said hull shell, and said support panel being seated in corresponding ones of said recesses.

8. The boat construction of claim 7 wherein said hull shell includes vertical support braces upwardly engaging said support panel and seating in others of said recesses.

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