Oct. 27, 1959 R. O. WAGEMAKER 2,909,790

MOLDED BOAT STRUCTURE OR THE LIKE

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Fig. 1.

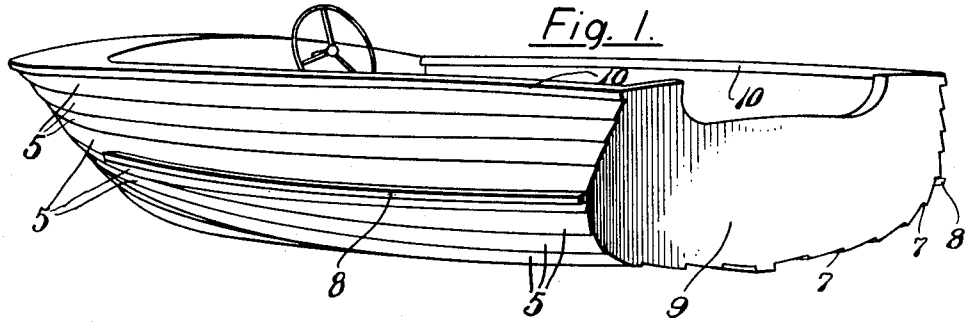



Fig. 2.

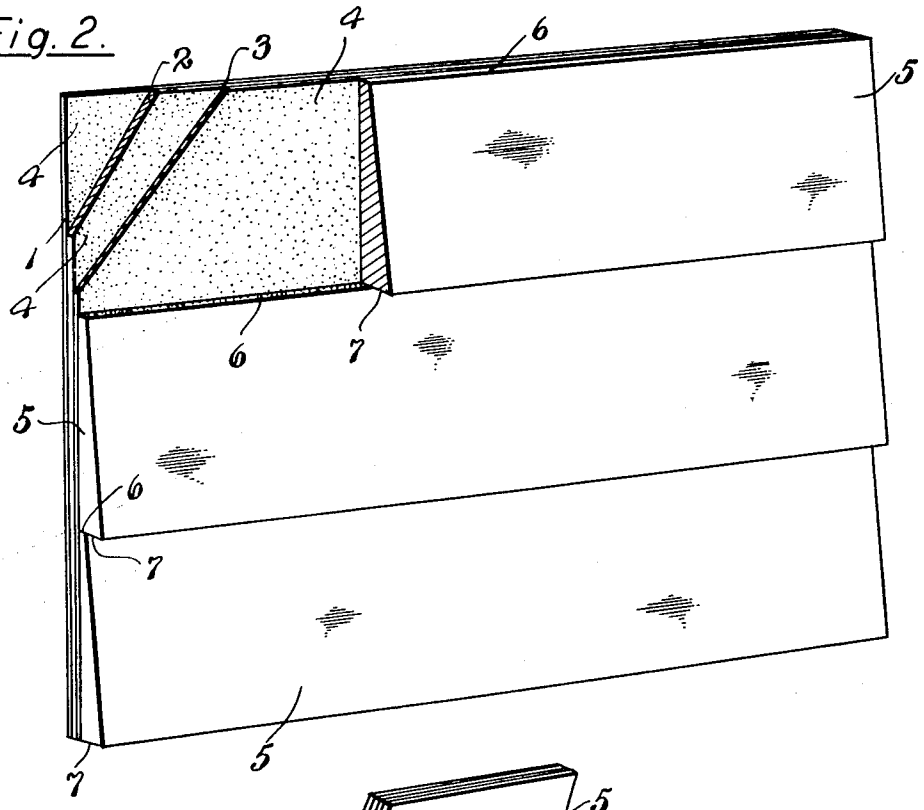
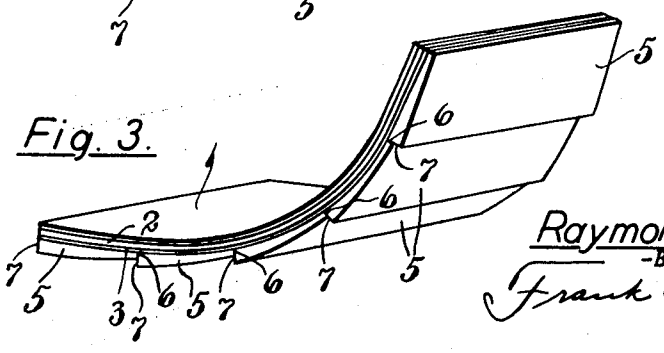



Fig. 3.




INVENTOR.

Raymond O. Wagemaker

-BY-

Frank E. Liverance, Jr.

Attorney

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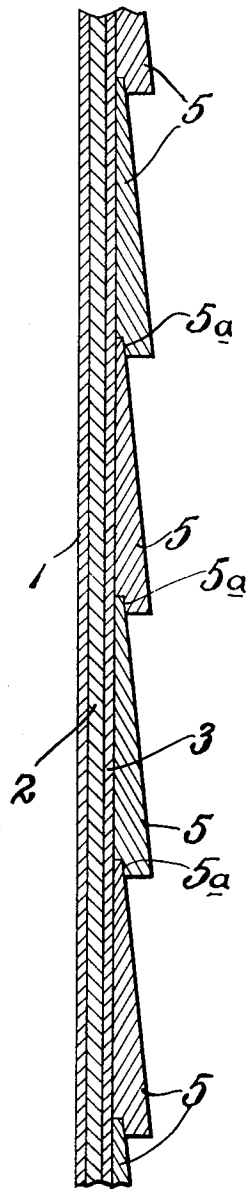
Fig. 4.




INVENTOR.
Raymond O. Wagemaker
-BY-
Frank E. Liverance, Jr.
Attorney

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2,909,790

# MOLDED BOAT STRUCTURE OR THE LIKE

Raymond O. Wagemaker, Grand Rapids, Mich.

Application March 25, 1955, Serial No. 496,697

1 Claim. (Cl. 9—6)

This invention relates to novel structure which may be used in the manufacture of boat hulls, for outside siding for buildings and the like and in many other ways where a waterproof, useful and attractive appearance construction is desired. With my invention molded shapes are obtainable as well as those which are substantially flat, and a strong wear resistant completely water impervious construction made which has a long life. It lends itself particularly for the molding of the hulls of boats and providing strakes at the outer side thereof which not only add to the strength of the hull but are also of great utility in enhancing its stability in the water.

My invention may be understood from the following description taken in connection with the accompanying drawing, in which,

Fig. 1 is a perspective view showing a boat hull in which my invention is incorporated.

Fig. 2 is a perspective view showing a section of the novel structure of my invention with parts broken away and shown in section for better disclosure.

Fig. 3 is a fragmentary section in perspective of a lower side portion of a molded boat hull incorporating my invention, and

Fig. 4 is a fragmentary transverse section through a modification in structure differing slightly from that shown in the previous figures.

Like reference characters refer to like parts in the different figures of the drawing.

In the manufacture of boat hulls there is a construction commonly known as a "lap-strake" wherein the strakes are overlapped to provide an appearance similar to house siding. These are also known as rough water boats and have the advantages of being buoyed up when the water moves upwardly against the bottom edges of the strakes. This lap-strake design also provides for greater speed because of the increased buoyancy and at the same time causes any water spray to be diverged outwardly away from the boat rather than permitting it to come inwardly.

Heretofore such lap-strake boats have been made by lapping the strakes and securing them to each other by means of nails or screws and then securing all of the strakes, also by screws, to transversely extending bars. In such a construction the inside of the boat appears unfinished and in addition thereto is expensive and adds considerably to the weight of the boat. The increased expense is due partly to the high grade of wood necessary and the increase in weight is due partly to the fact that either solid heavy wood pieces must be used or five or seven-ply plywood. The manual labor involved in forming and securing the strakes together to form the hull is an additional factor which increases the cost.

The application of the present invention to the manufacture of boat hulls avoids the foregoing objections and adds to the advantages of that type of construction, as will appear more fully hereinafter.

The broader aspect of the present invention contemplates either a boat hull or a panel which includes a backing member to which may be adhesively secured a plurality of elongated members or strakes wherein each member has one longitudinal edge thereof of greater thickness than the other and wherein the narrower edge of one member is positioned adjacent the wider edge of an adjacent member. Adjacent members are bonded or sealed to each other at their edges and to the backing member. The structure thus imparts a lapped appearance to the strakes or elongated members and has all of the advantages of such a construction with the additional advantages of the backing member bonded to the strakes, thereby insuring a watertight construction and preventing warping.



In the preferred form of the invention a plurality of sheets of plywood 1, 2 and 3 are adhesively bonded together by the use of any suitable bonding means, such as a waterproof glue 4, at the adjacent surfaces thereof. The three sheets of plywood are shown merely for purposes of illustration since it will be obvious that more than this number may be used if desired without in any way changing the invention.

The inner sheet of plywood 1 and the outer sheet 3 may be used with a thicker intermediate sheet 2 with cross grain location of the respective sheets, the sheet 2 providing a core between the inner and outer sheets, and such sheets may be bent and molded over a suitable form therefor, such as in the manufacture of a boat hull, as indicated in Fig. 3.

To the outer sheet 3 a plurality of longitudinal strips or bars 5 are glued using the same glue at 4 on the outer plywood sheet 3 and the members 5. The members 5 are of a trapezoidal form having narrow upper edges 6 and lower wider edges 7 with outwardly and downwardly inclined outer sides as best shown in Fig. 2. In one form of the invention the upper edges 6 come against the inner portions of the wider lower edges 7 and are glued thereto. Such upper edges 6 may also be inset into the lower edges 7 and be overlapped thereby. In a boat hull such elongated members or bars 5 extend lengthwise of the sides thereof from front to rear and provide strakes for the boat as in Fig. 1 Such boat hull may be made so as to in effect be of one piece with respect to its front end, sides and bottom. The hull may be completed by the securing of chines 8 lengthwise thereof at opposite sides between the bottom and the upper edges thereof, connecting a rear end 9 in place and an upper frame 10, which parts may be secured in any suitable manner by attaching screws, by gluing or any other way which is preferred.

With the use of a good quality of waterproof glue or a suitable liquid resinous binder for the purpose, the molded shell of a boat hull is provided in substantially one piece integral in effect. Such hull is waterproof, of great strength and rigidity, very light in weight and resistant to wrenching and strains coming therefrom.

While both forms of the invention are of great utility in conjunction with the production of the hulls of boats it is also evident that sections of siding or roofing to be attached in buildings at their outer sides are likewise produceable in accordance with my invention. Such sections of any desired rectangular area are easily secured to the studding or the like used in building and provide a waterproof exterior for a house or other building having all of the appearance and effect of lapped siding.

In accordance with the above, in Fig. 4 the plywood consisting of the sheets 1, 2 and 3 glued together, has the strakes 5 glued to the outer side of the plywood sheet 3, such strakes at their lower edges being recessed upwardly at the inner sides making the recess 5*a* into which the upward narrowed portions of the next strakes 5 below are inserted, such strakes being glued to the outside sheet 3 and glued together at the upper edge of a lower strake

and the lower edge of the strake next above. Such panel has evident flexibility, is easily produced and when used will conform readily to the surface or other inner support to which attached.

It will be evident that the elongated strips or strakes could be made either from plywood material or solid wood. The beneficial results and advantages above enumerated would still be present but it would have the further advantage that if they were made from a plywood material, inferior materials such as core stock, could be used, thus reducing the cost. End-joining or lapping such plywood material with an outside ply of veneer would still permit a mahogany or piano finish because the defects would then be covered up.

Laminating the outside strakes would also eliminate any possibility of checking or buckling which might otherwise occur in the use of solid wood strakes over the molded plywood hulls or other form of backing member.

The invention has proved very successful in use. A boat having a hull made in accordance with my invention is substantially insured against the leakage of water into it. Its light weight and exceptional strength are also very desirable features.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

A molded ribless boat hull comprising an inner plywood backing member in the form of a unitary boat hull and having a continuous smooth inner surface, said molded hull including a plurality of strakes bonded on the outer surface of said inner plywood backing member in substantial abutting relationship substantially throughout the said outer surface, said strakes being in contacting relationship to said outer surface throughout their length and width, the outer surface of each said strake sloping inwardly from one longitudinal edge thereof to the other whereby said one edge has a greater thickness than the other, thereby providing a lap-strake type outer surface to substantially the entire hull to reinforce said hull and impart a stabilizing characteristic thereto.



References Cited in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,425,113 | Loughead | Aug. 8, 1922 |
| 1,520,313 | Skinner et al. | Dec. 23, 1924 |
| 2,235,230 | Malarky | Mar. 18, 1941 |
| 2,379,051 | Wallace | June 26, 1945 |
| 2,390,087 | Fink | Dec. 4, 1945 |
| 2,426,729 | Davidson | Sept. 2, 1947 |
| 2,624,920 | Anderson | Jan. 13, 1953 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 579,035 | Great Britain | July 22, 1946 |