June 26, 1962 G. W. THEAKSTON 3,040,344

BOAT

Filed June 2, 1960

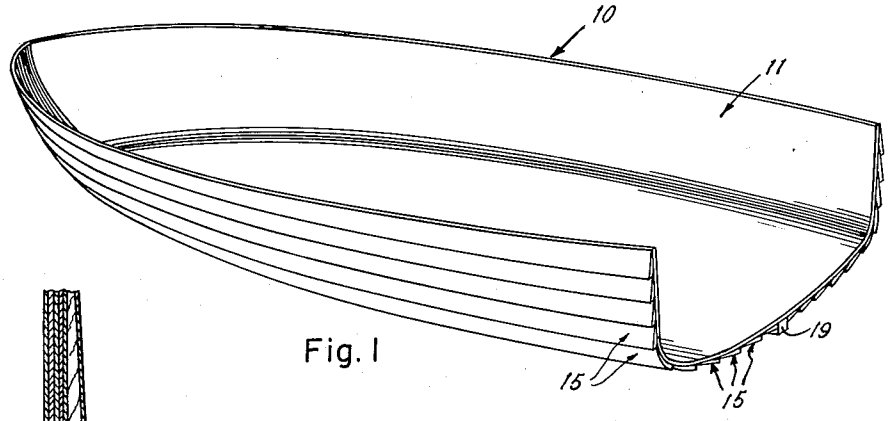


Fig. 1

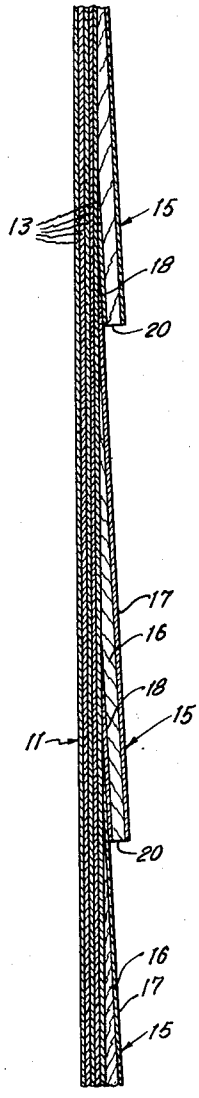


Fig. 2

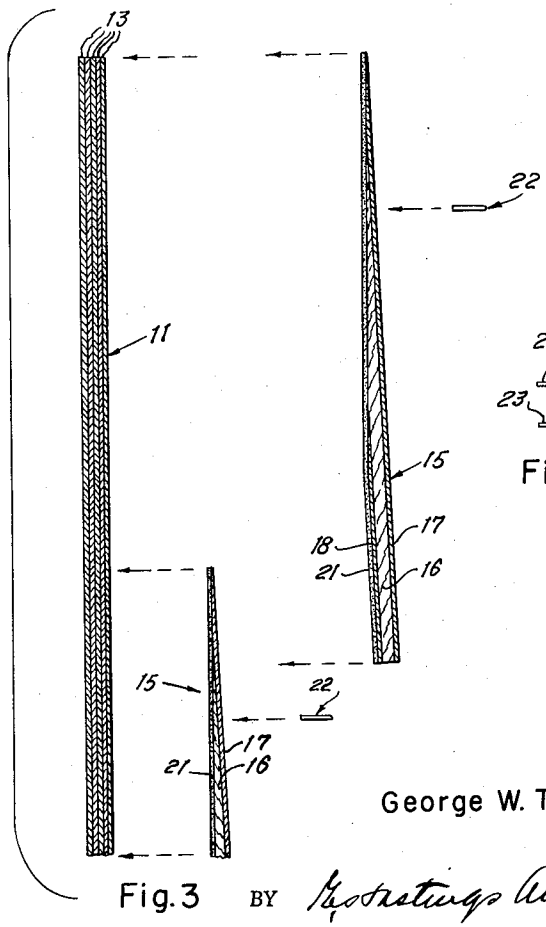


Fig. 3

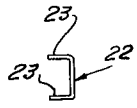


Fig. 4

INVENTOR
George W. Theakston

BY Hopkins Sheldon

ATTORNEY

United States Patent Office

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BOAT

George W. Theakston, P.O. Box 598, Denison, Tex.

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This invention relates to boats and more particularly to a boat having strakes and to a method for constructing a boat having strakes.

An object of this invention is to provide a new and improved boat having an inner hull to the outer surfaces of which longitudinally extending strakes are secured.

Another object is to provide a boat formed of a plywood hull having a plurality of plywood strakes secured to the outer surface thereof wherein the upper portions of the strakes are tapered toward the upper edges thereof.

Still another object is to provide a boat having a hull having strakes secured to the outer surface thereof in overlapping relationship to one another.

A further object is to provide a boat having strakes wherein the lower portions of upper strakes abut and overlap the outer surfaces of lower strakes.

A still further object of the invention is to provide a boat having a hull provided with overlapping strakes wherein each strake is adhesively secured both to the hull and to immediately adjacent upper overlapping and lower overlapped strakes.

Another object of the invention is to provide a boat having overlapping strakes wherein the strakes are formed of plywood, at least one side of which is water treated to be water resistant and wherein the opposite side along the upper edge portions of the strake is removed to provide a taper whereby the upper edge portions may be inserted between the hull and the next uppermost strake to provide for a secure connection of the strakes to the hull and to one another.

Still another object is to provide a new and improved method of forming a boat having an inner hull and strakes secured to the outer surface of the hull in overlapping relationship to one another.

A further object is to provide a method of forming a boat including providing an inner hull, temporarily securing strakes to the hull in overlapping relationship to one another with adhesive interposed therebetween, and then subjecting the strakes and the hull to pressure and heat to cause the adhesive to secure or bond the strakes rigidly to one another and to the boat hull.

A still further object of the invention is to provide a method of constructing boats wherein the temporary securing means are withdrawn after the layers of adhesive have effected bonding of the strakes to one another and to the boat hull.

Additional objects and advantages of the invention will be readily apparent from the reading of the following description of a device constructed in accordance with the invention, and reference to the accompanying drawings thereof, wherein:

FIGURE 1 is a perspective view with some parts broken away of a boat constructed in accordance with the method of the invention;

FIGURE 2 is a fragmentary vertical sectional view showing the manner in which the strakes are secured to the boat hull;

FIGURE 3 is a vertical sectional exploded view showing the manner in which the strakes are assembled on the boat hull; and,

FIGURE 4 is a plan view of a staple for temporarily securing the strakes to the boat hull.

Referring now to the drawings, the boat **10** includes a hull **11** which may be formed of plywood having a plurality of plies **13** adhesively bonded or secured to one another. The plywood hull **11** may be molded in any suitable manner to form a boat hull of the desired configuration. The adhesive or glue used to bond or secure the plies **13** of the plywood **11** to one another is of the usual waterproof type whereby immersion of the hull in water will not cause dissolution of the glue and consequently separation of the plies **13**.

A plurality of strakes **15** are assembled on the outer surface of the hull and are secured in vertical alignment to the plywood hull and in overlapped relationship to one another.

Each of the strakes may be formed of plywood having an inner ply or sheet **16** to whose opposite sides are glued or bonded outer sheets **17** and **18** by a suitable waterproof adhesive or suitable liquid resinous binder such as a phenolic resin adhesive. Each strake has its upper portion beveled or tapered by the removal of the upper portions of the inner side or sheet **18**, the middle sheet **16**, and to some extent the inner and upper side portions of the outer sheet **17**. The outer sheet **17** of each strake is water resistant having been subjected to any suitable process which makes it water resistant. The lower portion of each strake abuts the upper tapered portion of the next immediately lower strake whereby each strake is fastened along its upper beveled portion to the outer surface of the boat hull **11** and along its lower portion to the upper portion of the immediately adjoining next lowermost strake.

A keel bar **19** may be secured to the bottom of the boat hull in any suitable manner, as by an adhesive, and so positioned that the broad edge surface **20** of the two most innermost strakes abut and are secured to, as by an adhesive, the opposite sides of the keel bar **19**.

It will be apparent that the boat is formed by first molding or forming the hull **11** of plywood whose sheets are bonded together by a suitable waterproof glue or adhesive which may be of the phenolic resin type. The inner surfaces of the strakes are then provided with a layer **21** of adhesive, which may be of a phenolic resin type. The keel bar may then be secured to the bottom of the hull and the innermost strakes whose broad surfaces abut the sides of the keel bar may be secured temporarily to the hull by the use of a suitable staple gun, the legs **23** of the staples penetrating through the strakes and into the hull to temporarily fasten the strakes to the boat. The next outermost and uppermost strakes are then secured to the boat hull by means of the staples **22** in such manner that their broad portions overlap the tapered portion of the strakes which abut the keel bar. Each succeeding strake is then applied and temporarily secured to the boat hull in a similar manner until the uppermost strakes are secured thereto. The layers **21** of a suitable adhesive which may be of the phenolic resin type do not at this time secure the strakes to one anther and to the boat hull since it is necessary to heat the phenolic resin to cause it to bond the strakes to one another and to the boat hull.

The boat hull together with the strakes **15** which are detachably or temporarily secured to the hull by means of the staples **22** are then inserted in a flexible bag outer mold which is inflatable to exert pressure to the strakes and the hull which forces overlapping portions of the strakes into contact with one another and forces the portions of the strakes which abut the hull into tight contact with the hull. The mold may be inflated by heated air or water or the assembly of the mold and the boat may be subjected to heat in any suitable manner, as in an oven, to cause the adhesive to melt and cure and adhesively bond or secure the strakes to one another and to the plywood inner hull. After the adhesive has been treated by pressure and heat to cause it to bond the strakes to the hull and to one another to form a unitary structure of great strength, the boat is removed from the mold and all visible clamps **22** are withdrawn. The holes

caused by the staples are then filled with a suitable sealing compound so that water may not enter through such holes through the plywood layers of the strakes.

It will now be apparent that each strake is very firmly secured to the boat hull 11 along upper portions of its width so that the thin upper portion of each strake is overlapped by the lower portion of the immediately next outermost and uppermost strake so that only the thicker lower portions of the strakes protrude to provide the desired lapstrake appearance and construction, the lapstrake boats having the advantage of being buoyed up when waters move upwardly against the bottom edges of the strakes and of providing greater speed because of this increased buoyancy and stability.

It will now be seen that a new and improved boat has been illustrated and described which includes a hull 11 formed of plywood which has been bent and formed into the desired configuration and to which strakes 15, having tapered or beveled upper portions, are secured in overlapped relation to one another.

It will further be seen that the overlapping portions of adjacent strakes are rigidly bonded to one another by a phenolic resin to provide further greater rigidity and strength to the boat.

It will further be seen that the strakes are formed of three or more sheets or plies of wood with the outermost sheets 17 thereof being treated to be water resistant, the beveling of the upper portions being accomplished by removal of the inner sheets or plies 18 and the middle ply or sheet 16 of the strake in an angular manner in any suitable manner, as by a planning mill.

It will further be seen that the method of constructing the new and improved boat includes forming a hull of the desired configuration, temporarily securing the strakes to the hull in longitudinal alignment and in overlapped relation to one another with an adhesive substance disposed between the inner surface of each strake and the outer surface of the boat hull 11 and the surface of the strake overlapped by each such strake, heating the assembly of the strakes and hull while exerting pressure thereon to urge the strakes into intimate contact with one another and with the boat hull to cause the adhesive to bond the strakes to one another and to the boat hull, removing the temporary fastening means and sealing any apertures in the lapstrakes and hull formed by the temporary fastening or securing means.

It will further be seen that the upper planar surface of the outer sheet 17 of each strake is overlain and abutted by the lower planar surface of the inner sheet 18 of the adjoining outer strake, the beveled or feathered upper portions of the sheets 18, 16 and 17 abutting the outer surface of the hull of the boat.

The foregoing description of the invention is explanatory only, and changes in the details of the construction illustrated may be made by those skilled in the art, within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A boat comprising an inner hull; a plurality of strakes secured to the outer surface of said hull in overlapped relationship to one another, said strakes being in contacting relationship to said outer surface throughout their lengths, the outer surface of each of said strakes sloping inwardly from one longitudinal edge to the other longitudinal edge whereby said one edge has greater thickness than the other thereby providing a lapstrake type outer surface to substantially the entire boat to reinforce the boat and impart a stabilizing characteristic thereto, said strakes being formed of plywood having a plurality of sheets bonded to one another, the innermost sheets of said plywood of each strake extending from a longitudinal line intermediate the said one longitudinal edge and said other longitudinal edge to said one longitudinal edge to cause said strake to be tapered from said longitudinal line to said other longitudinal edge and to have a first substantially planar surface extending from said longitudinal line to said one longitudinal edge and a second substantially planar surface extending from said one longitudinal line to said other longitudinal edge, said first and second surfaces being disposed in planes extending divergently at an obtuse angle from said longitudinal line, said first surface of each strake abutting the outer surface of its adjacent lower strake and said second surface of each strake abutting said hull.

2. A boat comprising a plywood inner hull; a plurality of strakes adhesively bonded to the outer surface of said hull in overlapped relationship to one another, said strakes contacting and being bonded to the outer surface of the hull throughout their lengths along the upper portions thereof, the lower portions of each strake overlapping and being adhesively secured to the upper outer portions of the surface of the next lower and inner strake, the outer surfaces of each of said strakes sloping inwardly from one longitudinal edge of the strake to the other longitudinal edge whereby said one edge has greater thickness than the other longitudinal edge thereby providing a lapstrake type outer surface to substantially the entire boat to reinforce the boat and impart a stabilizing characteristic thereto, said strakes being formed of plywood having a plurality of sheets bonded to one another, at least the outermost sheets of said strakes being water resistant, the innermost sheets of said plywood of each strake extending from a longitudinal line intermediate said one longitudinal edge and said other longitudinal edge to cause said strake to be tapered from said longitudinal line to said other longitudinal edge and to have a first substantially planar surface extending from said longitudinal line to said one longitudinal edge and a second substantially planar surface extending from said one longitudinal line to said other longitudinal edge, said first and second surfaces being disposed in planes extending divergently at an obtuse angle from said longitudinal line, said first surface of each strake abutting the outer surface of its adjacent lower strake and said second surface of each strake abutting said hull.

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