United States Patent

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[45] Patented **Nov. 10, 1970**

[54] **KIT FOR CONVERTING BOAT TO CATAMARAN**
7 Claims, 6 Drawing Figs.

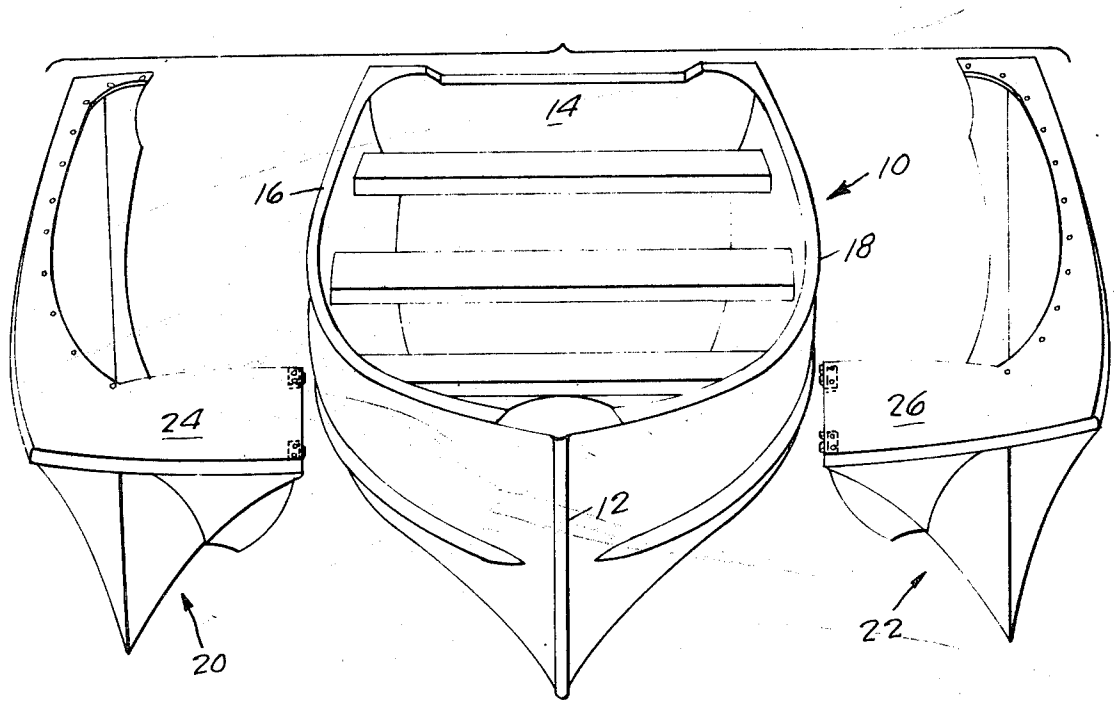
[52] **U.S. Cl.** **114/61, 9/2**
[51] **Int. Cl.** **B63b 1/02**
[50] **Field of Search** ..... 9/2(S); 114/123, 61

[56] **References Cited**
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ABSTRACT: A kit for converting a conventional boat into a catamaran, said kit comprising: a pair of pontoonlike structures each having a keel, a bow portion and a stern portion joined by the keel, an outer hull portion joining said keel; bow and stern portions; an inner hull portion contoured in part to fit the upper gunwale of the boat to which it is to be attached and having a lower margin contoured to fit the hull of the boat to which it is to be attached, said inner hull portion joining said keel, bow and stern portions and at least one member joining both of said bow sections and overlying partly, at least, bow portions of the boat to which the hull sections are to be joined.



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FIG. 1.

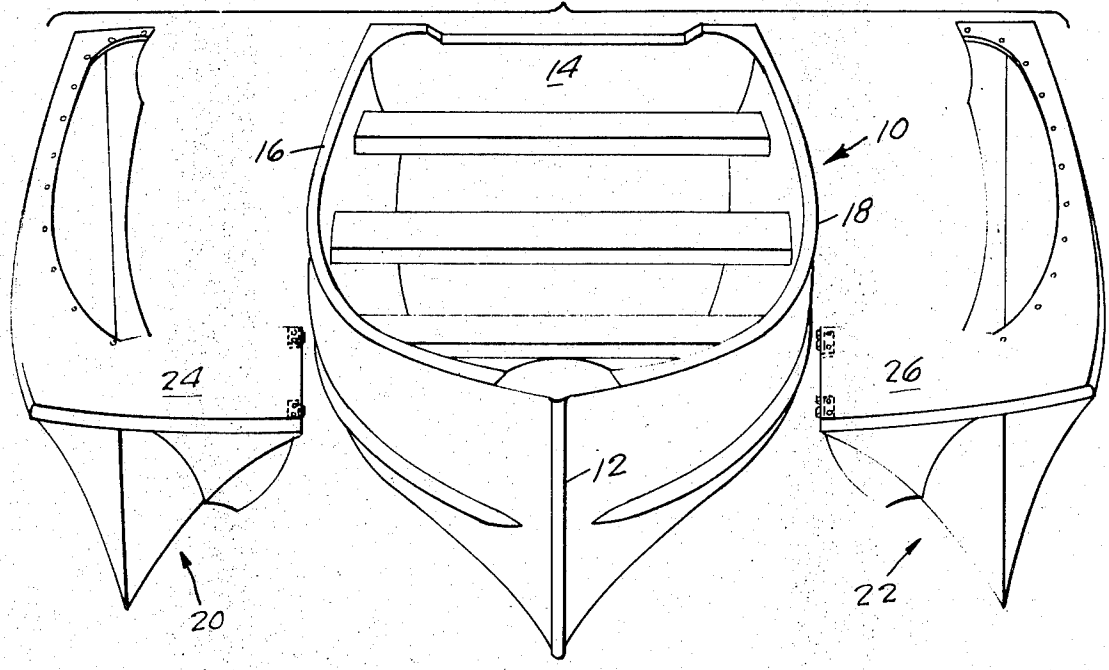
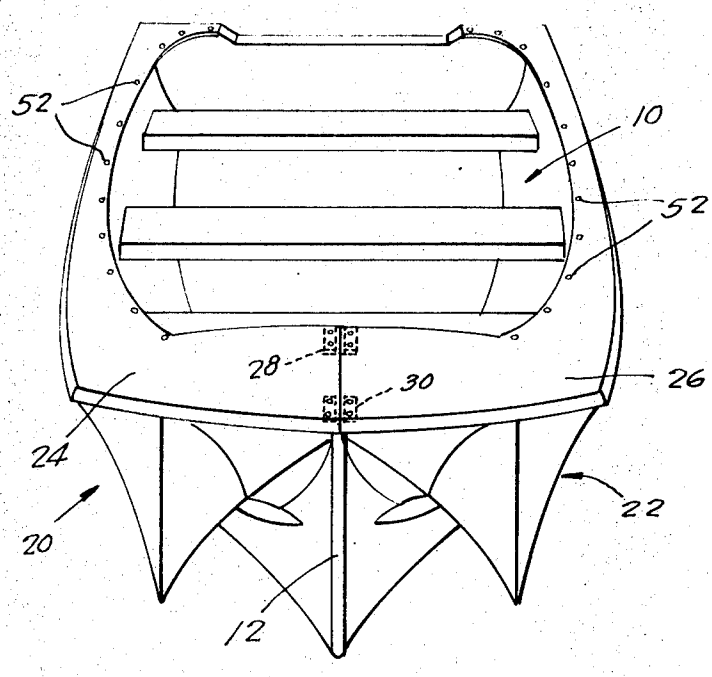


FIG. 2.



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FIG. 3.

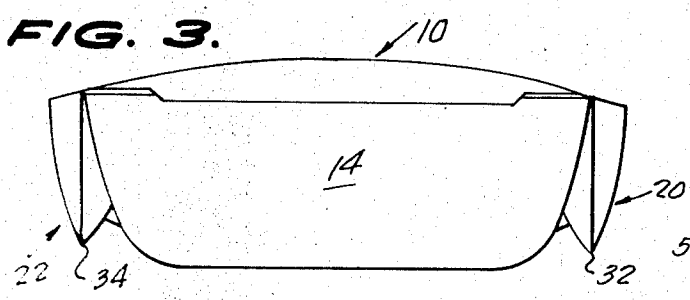


FIG. 4.

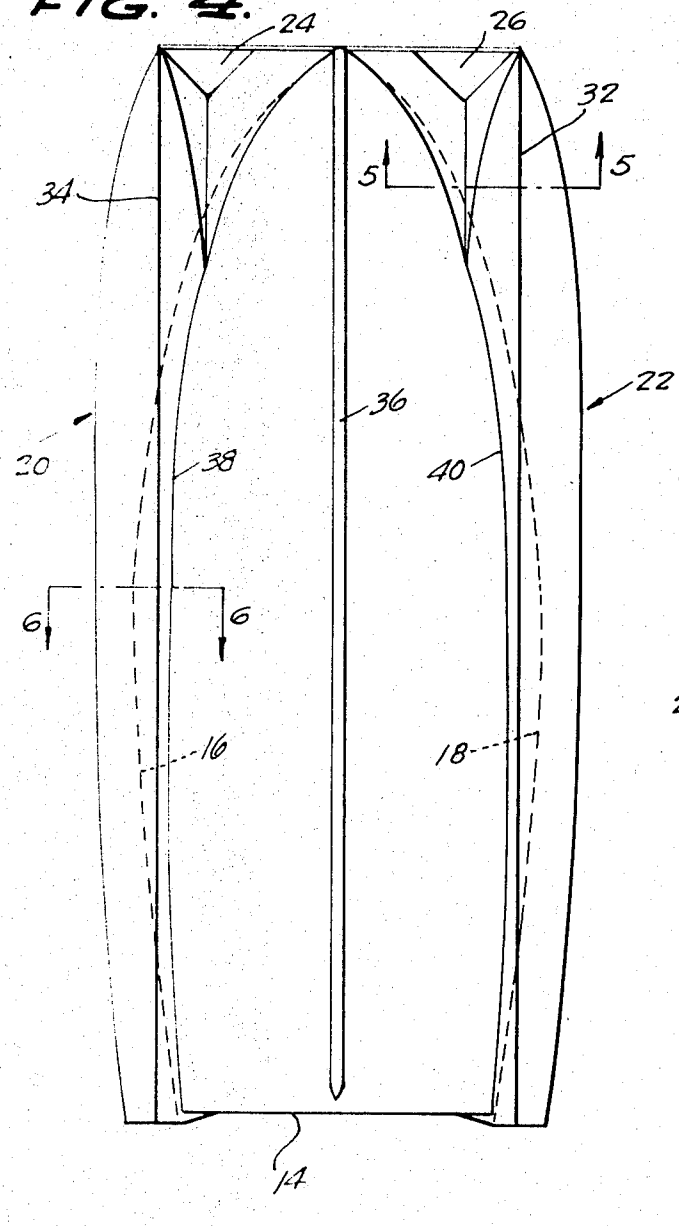


FIG. 5.

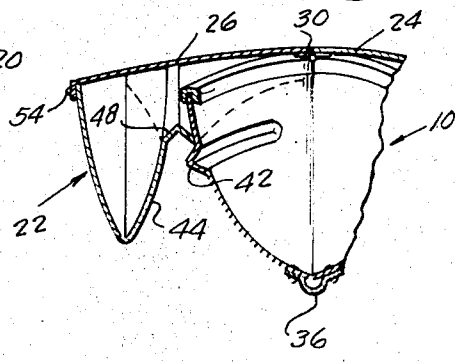
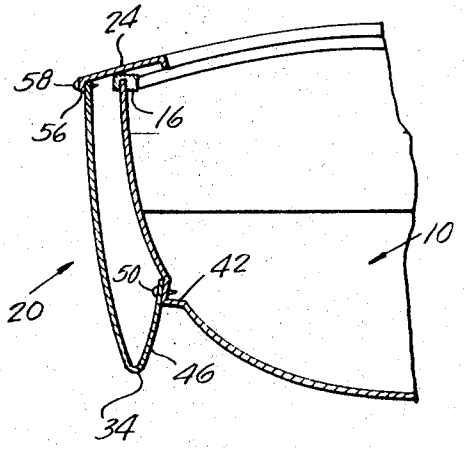


FIG. 6.



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KIT FOR CONVERTING BOAT TO CATAMARAN

Small boats in rough water, particularly if they are at all overloaded, tend toward instability as a result of which many tragedies occur annually through capsizing. It is equally well known that the catamaran type of hull involving two or three hull sections with two or three keels is among the most stable of all hull designs and virtually impossible to capsize.

It is accordingly an object of this invention to provide a kit by means of which an ordinary small boat readily and economically may be converted into a three hull, three keel catamaran type of craft, thereby greatly contributing to the stability and hence the safety of the boat even when the presence of unexpected guests may call for emergency overloading conditions.

It is a further object of this invention to provide a kit as aforesaid which is economical to produce, of minimum weight, requiring minimum storage and transportation space, and which easily may be attached to a conventional boat.

The above and other objects will be made clear from the following detailed description taken in connection with the annexed drawings, in which:

FIG. 1 is a bow-on perspective view of a conventional boat with the mating catamaran sections (which make up the kit of this invention) placed respectively to port and starboard ready for assembly;

FIG. 2 is a view similar to FIG. 1, showing the two catamaran sections joined or assembled with the boat hull;

FIG. 3 is a stern-on elevation of the catamaran craft fully assembled;

FIG. 4 is a bottom plan view of the assembled construction;

FIG. 5 is a section on the line 5–5 of FIG. 4; and

FIG. 6 is a section on the line 6–6 of FIG. 4.

Referring now to FIG. 1, a conventional boat is designated generally by the numeral 10. The boat has the usual bow 12, stern transom 14, starboard gunwale 16 and port gunwale 18. The members comprising the kit of this invention include a starboard catamaran generally designated 20 and a port catamaran generally designated 22. A deck piece 24 generally overlies the starboard catamaran 20 and a similar deck piece 26 generally overlies the port catamaran 22.

In FIG. 2, the port catamaran 20 is shown having its hull juxtaposed to that of the boat 10 with its deck plate 24 overlying the forward port of the boat 10 and its bow 12, while the port side catamaran 22 is juxtaposed to the hull of the boat 10 with its top plate 26 overlying the forepart of the boat 10 and being joined to the deck plate 24 by hinges 28 and 30 which may be located either on the top side or underside of the cover plates 24 and 26.

With the construction just described with reference to FIG. 2, it is clear that the catamaran structures 20 and 22, for the purpose of storage and shipment, may be folded together on the line defined by the hinges 28 and 30 so as to form a compact mass or bulk of minimum width.

The use of hinges 28 and 30 is preferred, though other conventional means could be used, or indeed, the cover plates 24 and 26 could be made integral from a single plate and assembly could be carried out by various conventional means whereby to secure the cover plates 24 and 26 to the catamarans 20 and 22 and to the boat 10.

Referring now to FIG. 3 which, as previously noted, is a stern-on elevation, it will be seen that the starboard catamaran 20 is provided with a keel 32 while the port side catamaran 22 is provided with a keel 34.

It is interesting to note that when completely formed, it is not essential that either of the catamarans 20 and 22 be made water-tight either in their own structure or in their attachment to the hull of the boat 10. This permits the catamarans to achieve self-equalization under weather conditions and automatically prevents the formation of bilge. It is further interesting to note that except for the cover plates 24 and 26 the catamarans 20 and 22 may be formed from such light metal as aluminum plate by stamping or die-cutting in the flap and that the only forming steps required are simple and conventional folding steps. If the blanks are properly cut, proper double curvatures will appear as a result of fitting the catamarans to the hull. All of this makes for extreme economy in manufacture. While aluminum plate is preferred, it is perfectly possible to use any of a number of reinforced plastic sheets in place of the aluminum and, if desired, the sheet material for which the catamaran is formed may be a "sandwich" of plastic foam such, for example, as polyurethane contained between two sheets of reinforced plastic.

Referring now to FIG. 4, it will be seen that the boat 10 has a keel 36 running from the bow 12 to the stern transom 14. The inner edge 38 of the starboard catamaran 20 lies against the starboard side of the boat 10 while the inner edge 40 of the port side catamaran 22 lies against the port side of the boat 10.

As shown in FIGS. 5 and 6, the hull of the boat 10 preferably, but not necessarily, it provided with a continuous rib 42 sloping from bow to stern and formed in that portion which is engaged by the inner edges 38 and 40 of the catamarans 20 and 22. Whether or not the rib 42 be present, the inboard wall of each catamaran (44 in FIG. 5 and 46 in FIG. 6) is provided in its inner extremity with a resilient fold line 48 in the case of the wall 44 in FIG. 5 and 50 in the case of the wall 46 in FIG. 6 which has the effect of bringing the walls 44 and 46 into conformity with the sides of the boat 10.

As shown particularly in FIG. 2, the cover plates 24 and 26 are secured to the gunwales 16 and 18 by any suitable fastener means 52 which may be conventional screws, bolts or fasteners or any other available type. This applies even where the cover plates 24 and 26 are made integral, as previously discussed. As shown in FIGS. 5 and 6, cover plate 26 is provided with a downturned flange 54 conforming to the port side catamaran 22 while the cover plate 24 has a similar downturned flange 56. The flanges 54 and 56 overlie the outboard upper edges of the respective catamarans These flanges are secured to the catamarans by self-tapping screws 58 (FIG. 6) or by any other suitable means.

While certain specific details have been disclosed and discussed herein, a perusal of this specification doubtless will suggest other variations to those skilled in the art. It is not, therefore, intended to limit this invention to the precise details disclosed but only as set forth in the subjoined claims.

I claim:

1. A kit for converting a conventional boat hull, said hull having a conventional, central keel, into a three-keel catamaran, said kit comprising: a pair of pontoons each having a keel and being adapted to fit, respectively, the port and starboard sides of a boat, each with its keel parallel to but spaced from the central keel of said hull, each pontoon having an open top side and an open inboard side; cover plates adapted to overlie said pontoons to complete the closure of each open top side thereof, said cover plates overlying the gunwales of said boat and being adapted to be secured to said gunwales and said open inboard sides being closed by engagement with the sides of said hull.

2. The kit of claim 1, in which said cover plate is in two parts, and fastening means to secure said parts together.

3. The kit of claim 2, in which said fastening means comprise hinges.

4. The kit of claim 1, in which the inboard side of each pontoon has a flexible marginal edge for mating with said boat hull.

5. The kit of claim 1, in which said cover plate has downwardly directed outer marginal flanges overlapping the upper, outboard margins of said pontoons.

6. The kit of claim 2, in which said cover plate has downwardly directed outer marginal flanges overlapping the upper, outboard margins of said pontoons.

7. The kit of claim 3, in which said cover plate has downwardly directed outer marginal flanges overlapping the upper, outboard margins of said pontoons.