Oct. 31, 1967 R. A. SCHOLLE 3,349,415

SECTIONAL BOAT CONSTRUCTION AND HINGED SEAT CONNECTING MEANS THEREFOR

Filed Jan. 3, 1966

Fig. 1.

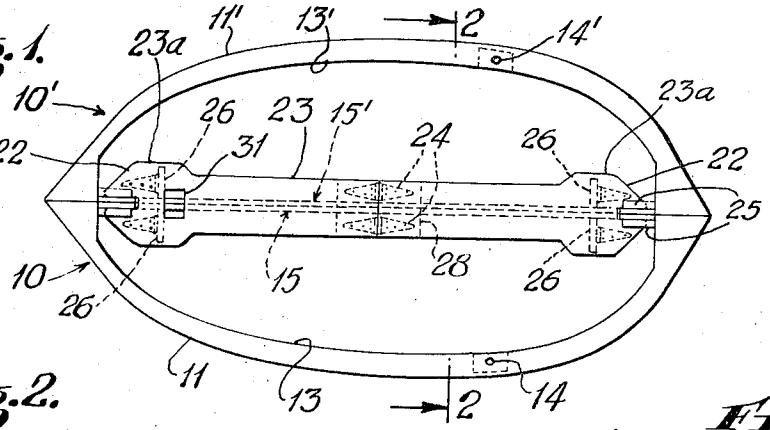


Fig. 2.

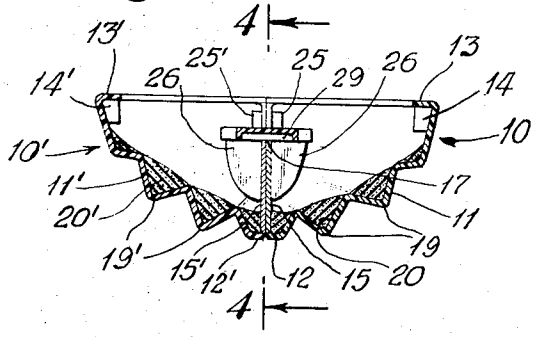


Fig. 3.

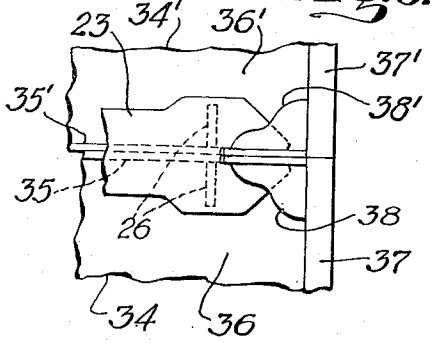


Fig. 4.

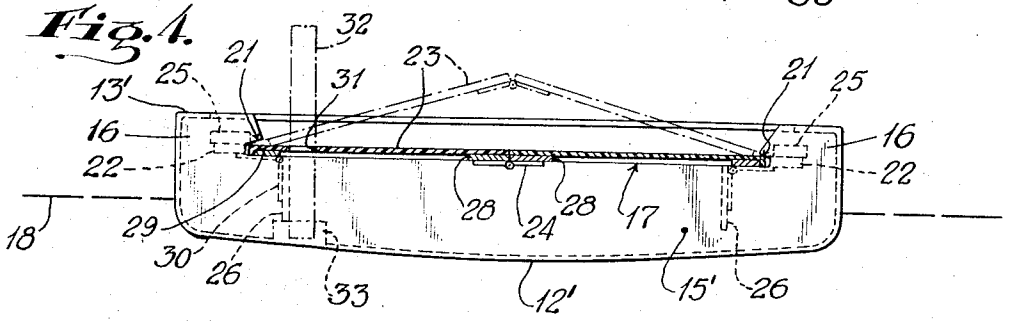


Fig. 5.

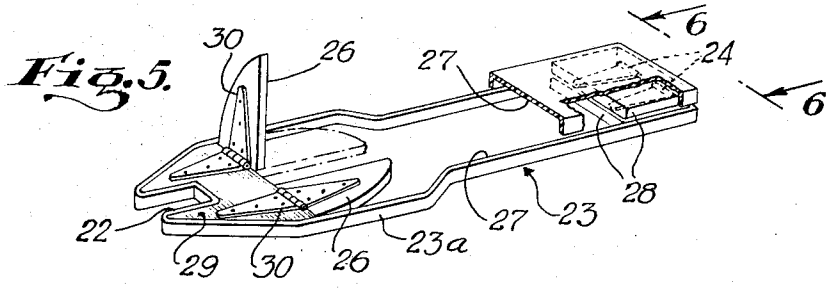
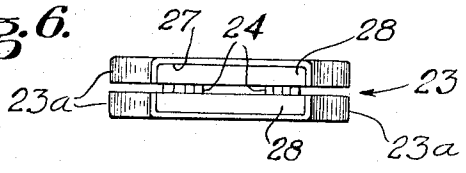


Fig. 6.



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SECTIONAL BOAT CONSTRUCTION AND HINGED SEAT CONNECTING MEANS THEREFOR

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ABSTRACT OF THE DISCLOSURE

A sectional boat assembly by the abutting of coextensive inner gunwales, said coextensive inner gunwales having end portions extending from the bottom to the deck of the boat sections and lower central portions with upper edges disposed below the deck and above the intended water line for the boat, an elongated seat member adapted to overlie said central upper edges of the gunwales, said seat being centrally hinged transversely of the longitudinal center line thereof, and interfitting notch means on end portions of said seat member and inner gunwales providing three-way longitudinal, transverse and vertical clamping engagement for said gunwales when said hinged seat is fully extended.

Members protruding from the inner gunwales and engaging upper surfaces of the notched ends of the seat enhance the vertical clamping of the boat sections, and hinged brace members projecting downwardly from said seat enhance the transverse clamping of said gunwales.

In a preferred adaptation of the invention a pair of boat sections with longitudinally extending inner gunwales are clamped together by a seat extending longitudinally of the boat, which seat may include apertured means for supporting the forked end of a mast which straddles the abutting gunwales.

The present invention had its inception in solving the problem in cabin pleasure boats of both the sail propelled and power driven types in the small to moderate size range of effectively storing a dinghy or tender while the boat is underway. On such boats deck space is normally too limited to provide for storage of a dinghy and towing the dinghy behind is impractical and can be dangerous in rough water.

When a boat of this type is underway the cabin area, and particularly the bunk space therein is generally not in use, but the limited space is insufficient to receive a conventional dinghy. A basic concept of the present invention is to provide a dinghy construction which can be quickly and easily separated into two longitudinal sections each of a size to be temporarily stored in the bunk space available in most small cabin boats. In providing the solution to this basic concept, a principle of quick clamping of inner gunwales of boat sections has been evolved wherein inter-engagement of the boat sections with a hinged seat member having hinged gunwale clamps at opposed ends thereof effectively supports the boat sections against relative movement in three mutually perpendicular directions. This novel seat construction and interengagement with the boat sections is therefore generally applicable to use in any sectional boat construction involving coextensive inner gunwales adapted to be arranged in abutting relationship.

Novel features of the present invention will readily

be understood from a consideration of the following description together with the accompanying drawings, in which preferred adaptations of the invention are illustrated with the various parts thereof identified by suitable reference characters in each of the views, and in which:

FIG. 1 is a plan view of a typical sectional boat in the form of a dinghy with the hinged seat and clamp means in assembled position.

FIG. 2 is a sectional view substantially on the line 2—2 of FIG. 1.

FIG. 3 is a fragmentary view similar to FIG. 1 showing a modification in the orientation of outer walls of the boat sections.

FIG. 4 is a view substantially on the line 4—4 of FIG. 2.

FIG. 5 is a perspective view of the seat member in collapsed or folded position with part of one section broken away to expose details of the under side of the other section; and

FIG. 6 is a view of the collapsed seat as seen in the direction of the arrows 6—6 in FIG. 5.

As shown in FIGS. 1, 2, and 4 of the drawings the invention has been illustrated as applied to a dinghy comprising two longitudinal sections **10**, **10'** each comprising a formed outer shell or hull **11**, **11'** extending from a keel part **12**, **12'** to a narrow reinforcing upper edge or deck **13**, **13'** which may include suitably positioned oarlocks **14**, **14'**, and a flat longitudinal inner gunwale **15**, **15'**. As clearly shown in FIGS. 2 and 4 the inner gunwales have opposed ends **16** thereof extending to the full height of the outer shells **11**, **11'**, but throughout the major portion of their length they terminate in flat aligned upper edges **17**, which are below the upper edges of the outer sections **11**, **11'** by a distance about one-quarter to one-third of the keel to upper edge dimension. The upper edges **17** of the inner gunwales are accordingly substantially above the normal waterline of the dinghy in use, as indicated at **18** in FIG. 4.

While the boat sections can be made from various materials such as wood, metal, plastics, and combinations thereof, and the particular selection of construction materials, forms no part of the present invention, it is noted that a practical construction for the dinghy sections can utilize marine plywood as the inner gunwales **15**, **15'**, securely bonded to molded fiberglass outer sections **11**, **11'**. The ribbed contour in the sections **11**, **11'**, as shown in FIG. 2, is particularly adapted to such molded fiberglass construction since the ribs provide necessary stiffness with a minimum thickness of fiberglass. Furthermore, the lower ribs **19**, **19'** act to appreciably stabilize the craft in the water. Inner irregularities in the hull sections **11**, **11'** can suitably be filled out with plastic foam as indicated at **20**, **20'**. With this type of construction individual sections of a seven-foot dinghy may weigh as little as 25 to 30 pounds.

As shown in FIG. 4 of the drawing, the inner gunwale ends **16** have tapered undercuts **21** providing in conjunction with the upper gunwale edges **17** a notch for interfitting engagement with notched ends **22** (note FIG. 5) of a hinged seat member **23**. The seat member **23** is hinged centrally thereof by a pair of strap hinges **24** or other suitable hinge means, and it will be apparent that as the seat member **23** is moved from the dotted line position to the full line position, as shown in FIG. 4, the notched

ends 22 are forced into wedging engagement with the bevelled undercuts 21 of the inner gunwales to firmly support the same against relative longitudinal, vertical and separating movement. To minimize wear on the bevelled surfaces 21 supplemental bearing members 25 are preferably secured to the end portions 16 of the gunwales in a position to firmly engage upper surfaces of the seat member at the notched ends 22 thereof.

While the notched inter-engagement of the seat member and assembled gunwales as above described provide the basic three-way clamping together of the boat sections an essential supplementary support is provided by hinged braces 26 mounted adjacent the notched ends 22 of the seat member and adapted to firmly clamp together the inner gunwales 15, 15' through a substantial vertical distance, as clearly shown in FIGS. 2 and 4. In order to provide ample supporting leverage in the braces 26 the associated end portions of the seat member are suitably made of slightly wider dimension as seen at 23*a*. With the braces 26 proportioned substantially as shown in the drawing it is found that the seat 23 is firmly supported as a rigid member of the assemblage and that relative movement between the boat sections when in use is effectively prevented.

To minimize weight in the hinged seat member 23 it can be suitably fashioned from a channeled fiberglass body 27 having fillers of wood or other suitable material bonded thereto centrally of the seat member 23 as seen at 28 for mounting of the hinges 24, and at end portions thereof as seen at 29 for mounting the hinges 30 which support the braces 26. The seat member 23 can also be provided, if desired, with an enlarged hole 31 adjacent the hinged ends of the braces 26 for receiving the forked, gunwale straddling end of a mast 32 permitting use of the boat as a sailing dinghy. In such event suitable socket means 33 should be provided on inner surfaces of the gunwales 15, 15' for receiving the lower end of the mast 32.

While the dinghy shown in FIGS. 1, 2 and 4 has been illustrated as pointed at both ends it will be recognized that it is frequently desirable to permit mounting of a small outboard motor on a dinghy, in which event a blunt end construction is necessary. Such a structural modification is illustrated in FIG. 3 of the drawing wherein two boat sections 34, 34' having inner gunwales 35, 35' include outer shell or hull parts 36, 36' having wall portions 37, 37' which are essentially perpendicular to the gunwales 35, 35'. With this type of construction the previously described supplemental bearing members 25 are suitably replaced by combination braces and bearing members 38, 38' extending to the outer walls 37, 37'.

It will be understood that the engagement of a seat 23 with the gunwales, 35, 35' and bearing members 38, 38' of the assemblage shown in FIG. 3 functions in the same manner as that previously described in connection with FIGS. 1, 2 and 4. It will further be understood that FIG. 3 illustrates the end construction for a longitudinally divided blunt-end boat, as well as the construction at opposed sides of a transversely divided sectional boat. In other words, the quick-mounting, three-way supporting, hinged seat construction can be utilized in joining together any two boat sections having coextensive inner gunwales adapted for abutting relationship.

Both the bearing members 25 (or 38, 38') and the braces 26 aid in supporting the seat perpendicular to the abutting gunwales. The braces provide the further advantage of supporting the gunwales against separation at the bottom portion of the boat. In fact, depending on the gunwale length, and the intended load capacity of the boat, it may be desirable to provide additional hinged braces 26, as for example at the central fillers or fringe mountings 28 of the seat.

Various changes and modifications in the improved sectional boat and hinged seat clamping means therefor as herein disclosed will occur to those skilled in the art, and to the extent that such changes and modifications are embraced by the appended claims it is to be understood that they constitute part of the present invention.

I claim:

1. A sectional boat adapted to be assembled by the abutting of coextensive inner gunwales of separate sections thereof, said coextensive inner gunwales having end portions extending from the bottom to the deck of said boat sections and lower central portions with upper edges disposed below said deck and above the intended water line for said boat, an elongated seat member adapted to overlie said central upper edges of the gunwales, said seat member being centrally hinged transversely of the longitudinal center line thereof, and interfitting notch means on end portions of said seat member and inner gunwales providing three-way longitudinal, transverse and vertical clamping engagement of said gunwales when said hinged seat is fully extended.

2. A sectional boat as defined in claim 1 wherein said interfitting notch means includes beveled undercuts in the end portions of said gunwales adjacent said lower central portions, and notches in the ends of said seat member, said notches being of a width to compressively engage the exposed surfaces of the abutting inner gunwales for transverse clamping of said gunwales, and said notches further being of a depth to provide firm longitudial and vertical bearing engagement with the undercuts of said inner gunwales when the hinged seat is fully extended, and means supporting said seat member substantially perpendicularly with respect to said gunwales.

3. A sectional boat as defined in claim 2 wherein said last named means comprises members projecting from exposed surfaces of the end portions of said gunwales adapted for bearing engagement with the upper surface of said seat adjacent said notches in the ends thereof, said projecting members thereby enhancing the vertical clamping of said gunwales.

4. A sectional boat as defined in claim 2 wherein said last named means comprises a pair of members at the under side of each end of said seat hingedly movable on aligned axes extending transversely of said seat, said members being spaced to provide, when downwardly extended, a firm bearing engagement with exposed surfaces of said gunwales throughout a major portion of the height of said gunwales, thereby enhancing the transverse clamping of said gunwales.

5. A sectional boat as defined in claim 2 wherein said last named means comprises members projecting from exposed surfaces of the end portions of said gunwales adapted for bearing engagement with the upper surface of said seat adjacent said notches in the ends thereof, said projecting members thereby enhancing the vertical clamping of said gunwales, and a pair of members at the under side of each end of said seat hingedly movable on aligned axes extending transversely of said seat, said members being spaced to provide, when downwardly extended, a firm bearing engagement with exposed surfaces of said gunwales throughout a major portion of the height of said gunwales, thereby enhancing the transverse clamping of said gunwales.

6. A sectional boat as defined in claim 3 wherein said projecting members engaging at least one end of said seat are braces which extend to walls of said boat sections adjacent said gunwales.

7. A sectional boat as defined in claim 1 wherein said boat consists of two boat sections having said inner gunwales extending longitudinally of the boat.

8. A sectional boat as defined in claim 3 wherein said boat comprises a plurality of boat sections having said inner gunwales of adjacent boat sections extending transversely of said boat, and said projecting members are braces joining said gunwales with adjacent outer walls of said boat sections.

9. A sectional boat as defined in claim 3 wherein outer walls of said boat sections adjacent at least one end of the abutting inner gunwales are disposed substantially

perpendicularly to said gunwales, and said projecting members are braces joining said gunwales with adjacent outer walls of said boat sections.

10. A sectional boat as defined in claim **1** wherein said seat has an aperture at the longitudinal central line thereof, and said boat sections have socket means at the base of said abutting gunwales in vertical alignment with said aperture, said socket means and aperture providing detachable support for a forked-end mast adapted to straddle said abutting gunwales.

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