Aug. 4, 1964 N. B. JAGEMANN ETAL 3,142,849

BOAT SEAT STRUCTURE

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Fig. 1.

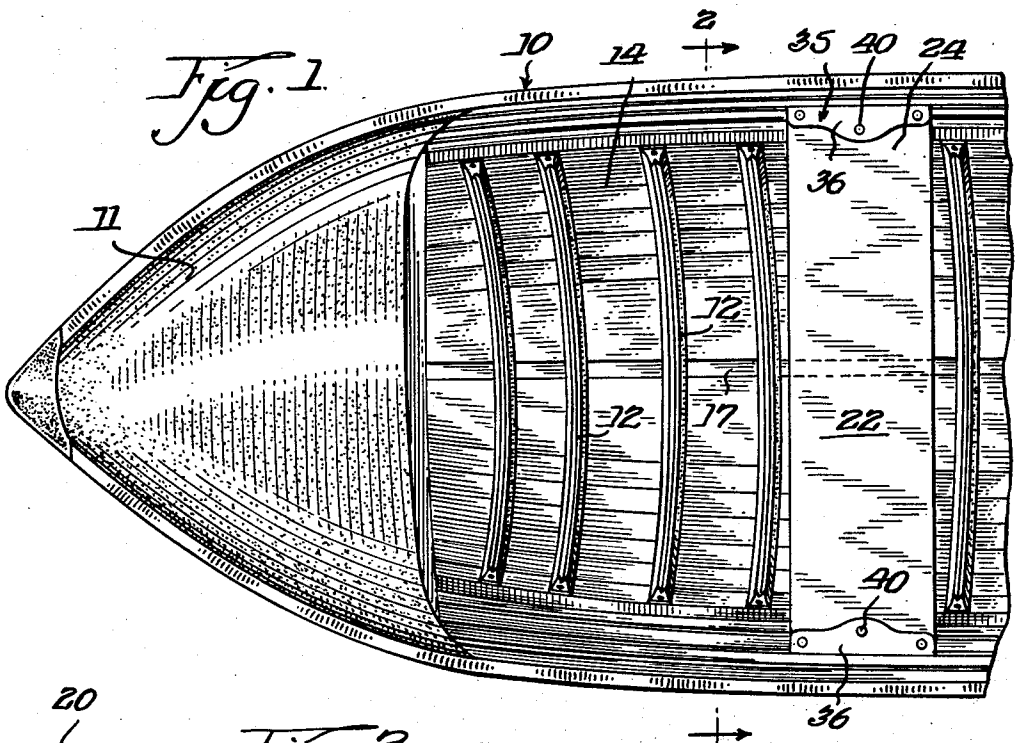
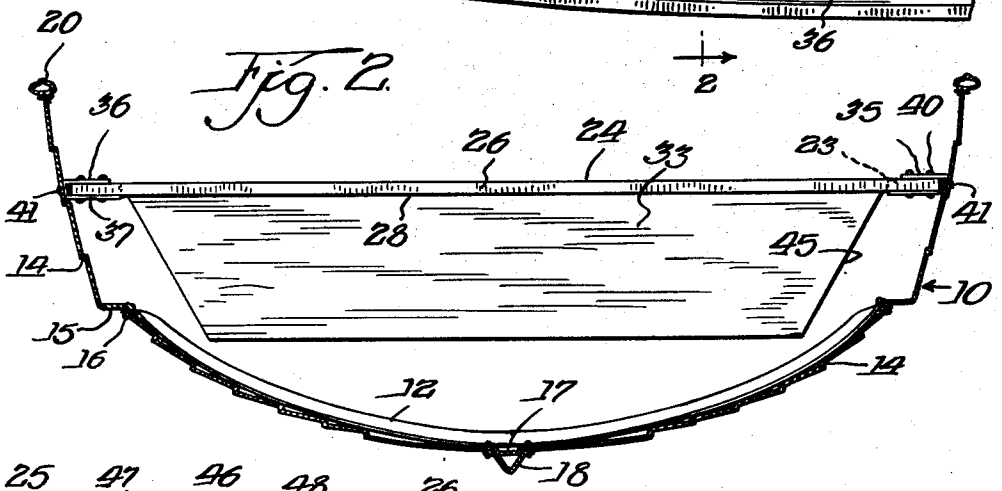


Fig. 2.



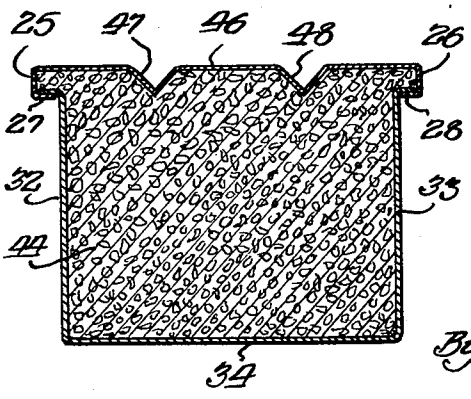


Fig. 8.

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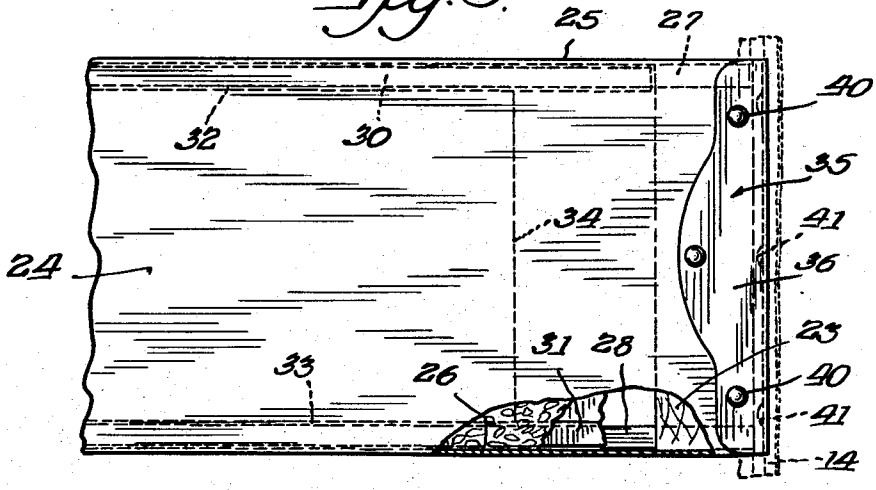
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BOAT SEAT STRUCTURE

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Fig. 3.



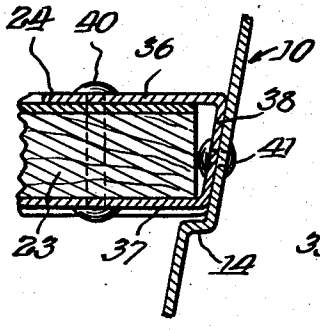
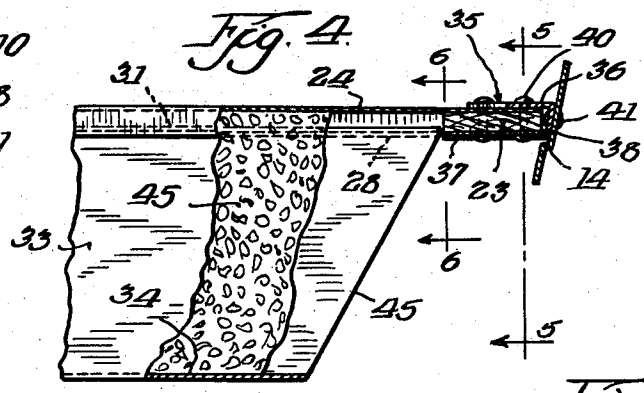


Fig. 7.

Fig. 4.



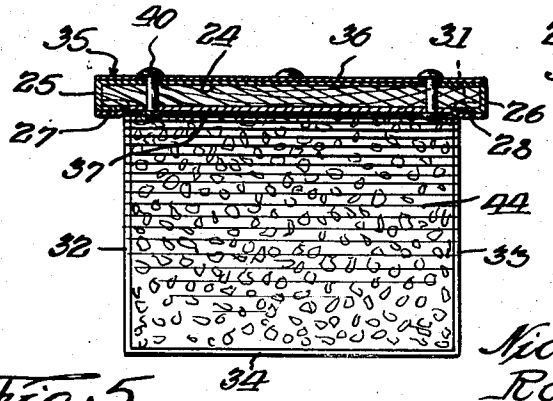
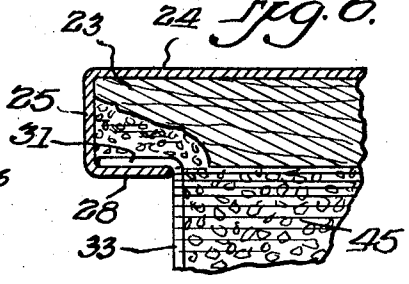


Fig. 5.

Fig. 6.



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Fig. 9.

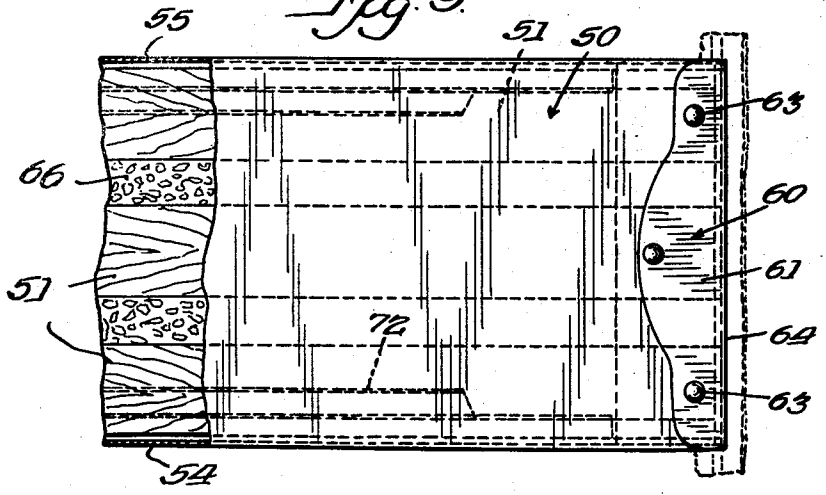


Fig. 10

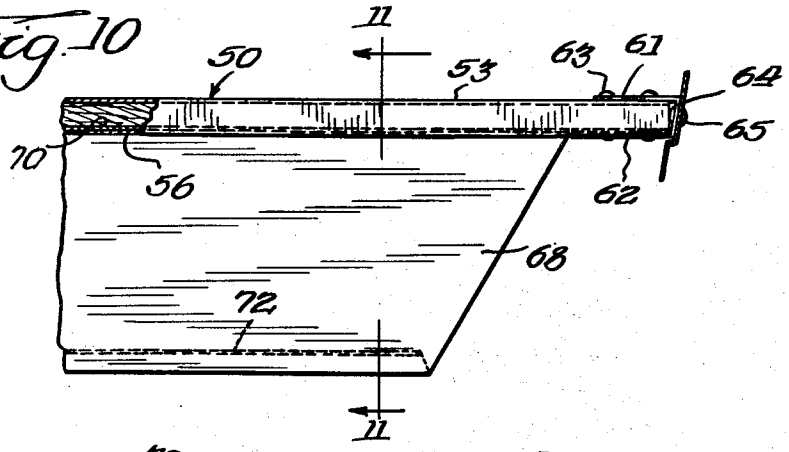
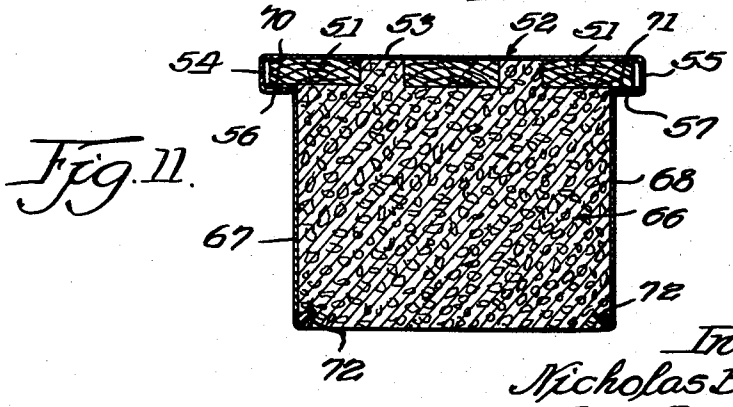


Fig. 11.



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BOAT SEAT STRUCTURE

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Filed Dec. 13, 1962, Ser. No. 244,344
10 Claims. (Cl. 9—7)

The invention relates to boats and has particular reference to seat structure for pleasure boats of either the outboard or the in-board type, and which will incorporate reinforcing means for strengthening the seat structure with an improved flotation box being supported below and between the ends of the seat.

The invention has for a major objective to improve the seat structure of pleasure boats as described, so that structures of this nature can be produced economically in production quantities, and so that such structures can also be readily affixed to the hull of a boat at the time the seat structures are being assembled.

Another and more specific object of the invention is to provide a transverse seat for a pleasure boat which will embody reinforcing means and telescoping metal units for joining the seat structures at each end thereof to the hull of the boat.

A further and more specific object of the invention is to provide a horizontal seat for attachment to the sides of a boat, and which will essentially include a longitudinal panel of metal having reinforcing means of wood, at least at respective ends, and having an intermediate formation for retaining flotation material.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation, as will be more fully described and particularly pointed out in the specification, drawings and claims appended thereto.

FIGURE 1 is a fragmentary top plan view of the forward section of a boat showing internal strengthening ribs for the hull and a transverse seat embodying the improvements of the invention;

FIGURE 2 is a sectional view taken transversely through the boat substantially along line 2—2 of FIGURE 1;

FIGURE 3 is a top elevational view of the transverse seat for a pleasure boat as shown in FIGURE 1;

FIGURE 4 is a side elevational view of the horizontal seat structure of FIGURE 3 with parts being shown in section;

FIGURE 5 is a sectional view taken substantially along line 5—5 of FIGURE 4;

FIGURE 6 is a fragmentary enlarged sectional view taken substantially along line 6—6 of FIGURE 4;

FIGURE 7 is a fragmentary enlarged sectional view showing the manner of riveting the yoke members to the sides of the hull;

FIGURE 8 is a sectional view showing a modified form of boat seat structure coming within the invention;

FIGURE 9 is a top plan view of another modified form of seat structure coming within the invention;

FIGURE 10 is a side elevational view of the seat structure as shown in FIGURE 9; and

FIGURE 11 is a vertical sectional view taken substantially along line 11—11 of FIGURE 10.

For illustrating the seat structure of the invention a pleasure boat substantially conventional in basic structure has been selected as shown in FIGURE 1. The hull of the boat is indicated by numberal 10 and the said hull may be formed of aluminum, fiberglass or other suitable material. The said hull includes the usual foredeck 11 and strengthening ribs 12 for the bottom of the hull. The boat may have a lapped construction for increasing hull impact and yield strength and for reducing drag. The

lapped effect is produced by the offsets 14 which are formed integral with the hull. The hull may also include the chine formations 15 located approximately at the water line of the boat, and in connection therewith it will be observed that the ribs 12, which are located interiorly of the hull and which are spaced longitudinally for the length of the boat, terminate on each side at the chines approximately, and are secured to the hull at said locations by the securing rivets 16. The cross-sectional shape of the ribs 12 is such as to increase their rigidity, and this inherent characteristic is further augmented by their arcuate shape.

The drainage of the hull is facilitated by the longitudinal depressed strip 17 extending from the bow of the boat to the transom and having the metal keel 18 of triangular shape associated therewith. The keel is located on the exterior of the hull being riveted to each side of the drainage strip and on the interior the transverse stiffening ribs 12 pass over this depressed strip 17 leaving a passage under the ribs through which water will drain to the stern of the boat and be removed through the drain plug in the transom. On respective sides of the hull the gunwales extend above the seat structures, to be presently described, and said gunwales terminate in an edge formation 20 which is integral in construction so as to increase hull strength.

The boat is provided with a number of transverse seats, one of which is shown in FIGURE 1 and indicated in its entirety by numeral 22. Essentially the seat includes a wood spacer 23 at each end of the seat, with the wood spacers being connected by a longitudinal metal panel. The panel has a special shape in section as best shown in FIGURES 5 and 6, and which may be described as having integral closed side formations. The panel accordingly includes the longitudinally extending top portion 24 which provides the seating surface of the structure. The side portions 25 and 26 are integral with portion 24 and they depend downwardly for a depth of about three-fourths of an inch. The underneath flanges 27 and 28 are integral with the side portions 25 and 26, respectively, and they project inwardly towards each other. The metal panel is telescoped at each end over a wood spacer 23 with the top portion 24 having contact with the top surfaces of the wood spacers, and with the side portions 25 and 26 having contact with the side edges of the spacers. The flanges 27 and 28 also contact the wood spacers, but only the undersurface of the wood spacers adjacent their side edges.

Before describing the function of the side skirts 32 and 33, and the connecting bottom wall 34 for said skirts, it is necessary to understand that the wood spacers 23 are each fixedly secured to a side of the hull, whereby the seat structure is fixedly secured to the boat so as to extend transversely of the hull. A metal yoke member 35 is provided at each end of the seat structure, and each yoke member has a top section 36 which is specially shaped to provide a pleasing and decorative formation. Each yoke member also includes a bottom section 37 and a portion 38 which is integral with the top and bottom sections for connecting them. As previously described a wood spacer has an inserted relation within each terminal end of the metal panel and in accordance with the invention a yoke member is telescoped over each said terminal end. The parts as thus assembled are secured together by the rivets 40. Each yoke member is fixedly secured to its respective side of the hull by one or more rivets such as 41, and it will be observed that the connecting portion 38 of the yoke member is angled to coincide with the angularity of the hull. However, the invention does not depend on the lap for any strength and the seat brackets are attached at the proper height as determined by measuring from the top of the gunwales.

Flotation material 44 is supported below the horizontal seat by the box structure formed by the skirts 32 and 33, and by the connecting bottom wall 34. The outwardly directed flanges 30 and 31 formed on the side skirts 32 and 33 have an overlapping supported relation with the inwardly directed flanges 27 and 28 of the metal panel. In this manner the retaining structure for the flotation material 44 is suspended below the seat structure of the invention. The flanges 30 and 31 extend from one wood spacer to the other and at each end the skirts 32 and 33 taper at 45° in an outward direction from the connecting bottom wall to the outwardly directed flanges. The flotation material 44 may comprise any of the conventional materials such as polystyrene. However, polyurethane foam is preferred.

The metal panel is materially strengthened by its cross sectional shape which is substantially box-like having side walls integral with the top seating portion 24 and also having integral flanges which extend inwardly from the side walls. The metal panel at its respective ends is telescoped over the wood spacers 23, and each terminal end portion of the seat structure is fixedly secured to a yoke member which is in turn riveted to the gunwales of the boat. The box-like shape of the retainer for the flotation material is also such as to give maximum strength and rigidity to this structure. In the production of the present seat structure the flotation material is poured into place through one open end of the box-like retainer. When in place the flotation material helps to unite the panel to the said depending retainer.

In the modified form of the invention as shown in FIGURE 8 the seat structure is identical to that as described with the exception of the top portion of the metal panel. In this modification the top seating portion of the metal panel is identified by numeral 46 and the same is characterized by one or more V-shaped indentations or depressions such as 47 and 48, and which extend longitudinally for substantially the entire length of the metal panel. The indentations as thus provided add to the strength and rigidity of the panel member.

The modified form of seat 50 as shown in FIGURES 9, 10 and 11 essentially includes one or more longitudinal members 51 which extend from end to end of the seat in transverse spaced relation and which are preferably of wood. The metal panel 52 forms a top seating surface for the longitudinal members 51 and said metal panel thus provides a top portion 53, depending side edges 54, 55, respectively, and the inwardly directed flanges 56 and 57. The side edges 54 and 55 are integral with the top portion and the flanges 56 and 57 are integral with the side edges. At each end the seat structure is finished by the yoke member 60, having top and bottom sections 61 and 62. Each yoke member is preferably of metal such as aluminum and each member is telescoped over its respective end of the seat structure with its top and bottom sections 61 and 62 being fixed to the longitudinal members 51 by the bolts or rivets 63. Each yoke member also has a connecting section 64 which joins the top and bottom sections of the member, and as previously described each yoke member is secured to the gunwales of the boat by rivets 65 which connect the section 64 to its side of the boat.

The flotation material 66 is supported below the horizontal seat by the depending side walls 67 and 68. The side walls have outwardly directed flanges formed thereon, respectively, adjacent the top of the walls and which are placed in overlapping relation with the flanges 56 and 57. Accordingly, the side walls 67 and 68 are supported from the metal panel member so as to depend therefrom. The flotation material 66 fills the interior of the box-like space thus formed, and in this modification a bottom wall is not required, since the side walls terminate in bent ends 72 which are disposed upwardly and inwardly at approximately a forty-five degree angle. The molded polyurethane foam adheres to the wood and metal parts of the seat structure to hold all of the parts in place.

Since a boat seat serves as a support connecting the sides of the boat and strengthening the entire structure, it will be appreciated that the present seat has many advantages. In the first place the seat is attached at each end to metal yoke members by bolts which pass through the top and bottom sections of the yoke, through the metal panel, and also through the wood reinforcing members. This makes for a strong construction and which can be easily secured to the sides of the boat. The flotation material adheres well to the wood and metal parts of the seat and as regards both modifications the construction permits the use of side walls of lighter gauge than that of the metal panel. In fact, dissimilar materials can be used for the seat top and box sides, depending on the quality and cost desired.

The invention is not to be limited to or by details of construction of the particular embodiment thereof illustrated by the drawings, as various other forms of the device will, of course, be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

We claim:

1. In seat structure for a pleasure boat, in combination with the hull of the boat, a transverse panel member extending from inside the hull on one side of the boat to inside the hull on the opposite side, said panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with integral, inwardly directed underneath flanges, a spacer at each end of the panel member, said panel member at each said end having telescoping relation with its spacer, a yoke member at each end of the panel member and having telescoped relation therewith, securing means fixedly uniting the panel member, the spacer and the yoke member respectively in assembled relation, and other means for fixedly securing each yoke member to its respective side of the hull.

2. In seat structure for a pleasure boat, in combination with the hull of the boat, a metal panel member extending transversely from inside the hull on one side of the boat to inside the hull on the opposite side, said metal panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with each side wall having an inwardly directed underneath flange, a spacer of wood located at each end of the metal panel member and each wood spacer being telescoped by the adjacent end of the metal panel member, yoke members each including a top section and a bottom section, a yoke member in telescoped relation with each end of the metal panel member whereby the top section of the yoke member overlies the top seating portion and the bottom section underlies the inwardly directed flanges, securing means fixedly uniting the panel member, the wood spacer and the yoke member at respective ends, and other means for fixedly securing each yoke member to its respective side of the hull.

3. In seat structure for a pleasure boat, in combination with the hull of the boat, a metal panel member extending from inside the hull on one side of the boat to inside the hull on the opposite side, said panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with each side wall having an integral flange projecting inwardly, a spacer of wood in telescoped relation by the metal panel member at each end of the member, a yoke member at each terminal end of the metal panel member, each yoke member including a top section in contact with the top seating portion of the member, and a bottom section in contact with the underneath inwardly directed flanges, each yoke member also including an end connecting wall, rivets fixedly uniting in assembled relation the metal panel member, the wood spacer and the yoke member at each end of the member, and other rivets

fixedly securing the connecting wall of each yoke member to its respective side of the hull.

4. In seat structure for a pleasure boat as defined by claim 3, additionally including retainer structure for containing flotation material, said retainer structure including outwardly directed flanges which have an overlapping relation with the inwardly directed flanges of the metal panel member, whereby the retainer structure is supported from the panel member so as to depend therefrom.

5. In seat structure for a pleasure boat as defined by claim 4, wherein the flotation material consists of polyurethane foam.

6. In seat structure for a pleasure boat, in combination with the hull of the boat, a transverse panel member extending from inside the hull on one side of the boat to inside the hull on the opposite side, said panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with integral, inwardly directed underneath flanges, reinforcing means for the panel member, said means having a location within the panel member in contact with the top seating portion thereof for strengthening at least the respective ends of the panel member, a yoke member at each end of the panel member and having telescoping relation with the panel member at its end, securing means fixedly uniting the panel member, the reinforcing means and the yoke member, respectively, in assembled relation, and other means for fixedly securing each yoke member to its respective sides of the hull.

7. In seat structure for a pleasure boat as defined by claim 6, additionally including retainer structure for containing flotation material, said retainer structure including outwardly directed flanges which have an overlapping relation with the inwardly directed flanges of the metal panel member, whereby the retainer structure is supported from the panel member so as to depend therefrom.

8. In seat structure for a pleasure boat, in combination with the hull of the boat, a metal panel member extending from inside the hull on one side of the boat to inside the hull on the opposite side, said panel member having a box-like formation in cross-section and which includes a top seating portion having integral depending side walls with each side wall having an integral flange projecting inwardly, a reinforcing member located within the panel member in contact with the top section thereof, said reinforcing member extending longitudinally from end to end of the panel member, a yoke member at each terminal end of the metal panel member, each yoke member including a top section in contact with the top seating portion of the panel member, and a bottom section in contact with the underneath inwardly directed flanges, each yoke member also including an end connecting wall, rivets fixedly uniting in assembled relation the metal panel member, the reinforcing member and the yoke member at each end of the panel member, and other rivets fixedly securing the connecting wall of each yoke member to its respective side of the hull.

9. In seat structure for a pleasure boat as defined by claim 8, wherein a plurality of reinforcing members are employed, and wherein each said reinforcing member consists of wood.

10. In seat structure for a pleasure boat as defined by claim 8, wherein a plurality of reinforcing members of wood are employed, and additionally including retainer structure for containing flotation material, said retainer structure including outwardly directed flanges which have an overlapping relation with the inwardly directed flanges of the metal panel member, whereby the retainer structure is supported from the panel member so as to depend therefrom.

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