May 8, 1962 W. W. WARD ET AL 3,032,785

BOW CONSTRUCTION FOR SHEET METAL BOATS

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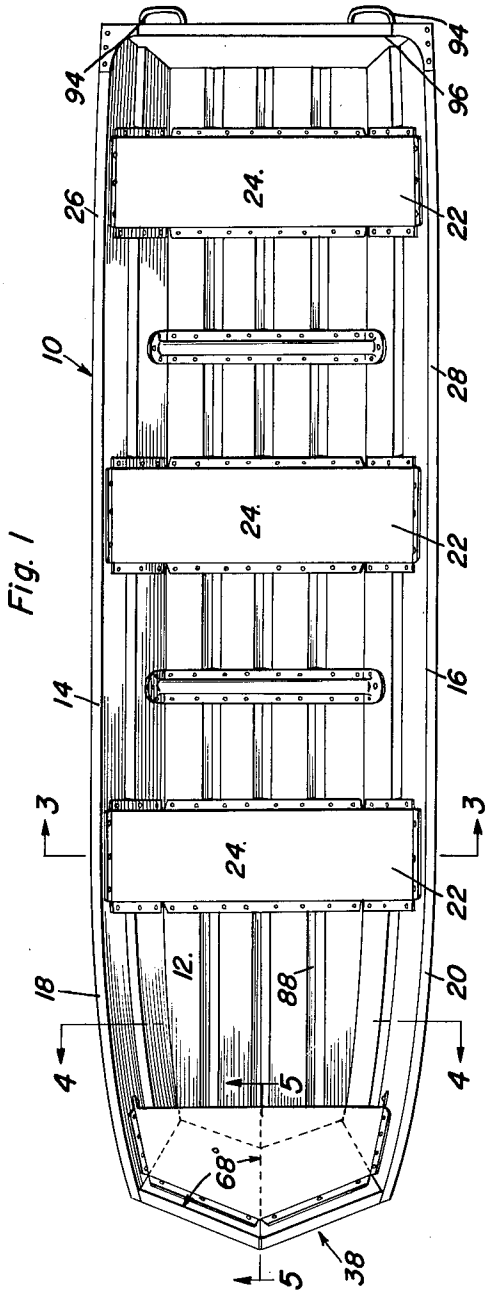



Fig. 1

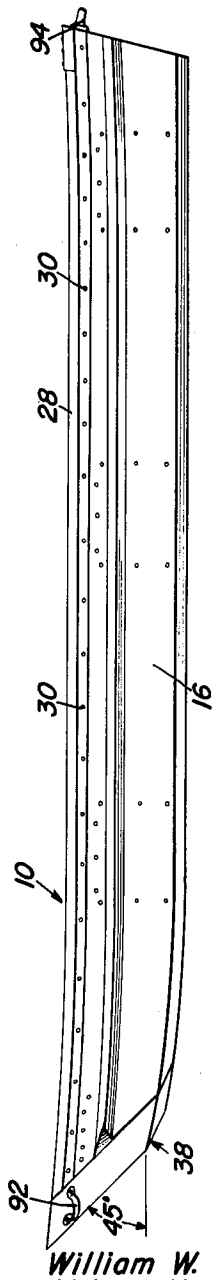



Fig. 2

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Fig. 3

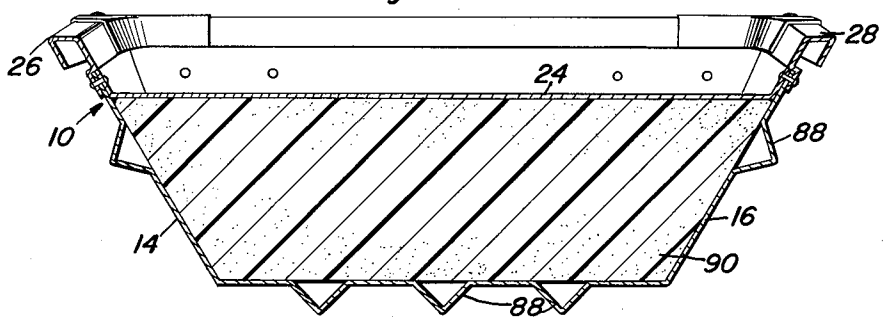



Fig. 4

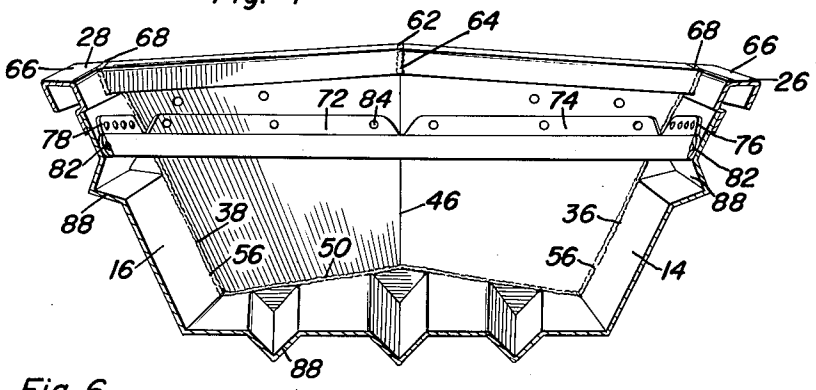



Fig. 6

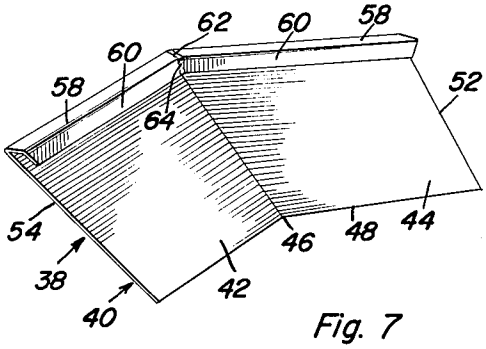



Fig. 5

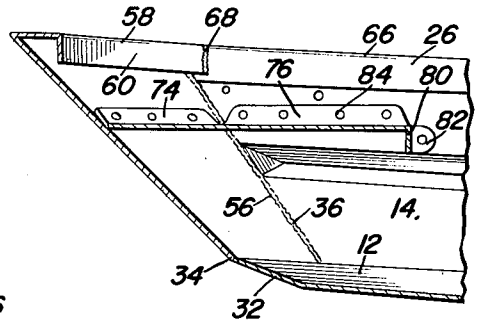
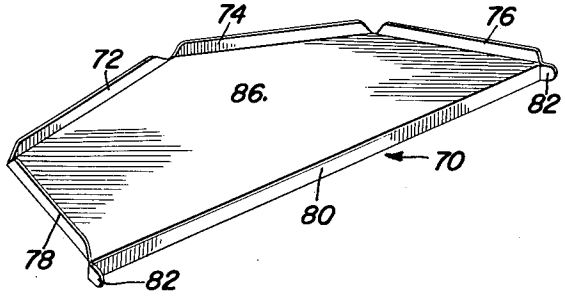



Fig. 7




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# 3,032,785
# BOW CONSTRUCTION FOR SHEET METAL BOATS

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6 Claims. (Cl. 9—6)

This invention relates to a novel and sturdy but light weight bow construction for sheet metal boats and more particularly to a bow construction specifically adapted to be utilized in the construction of flat bottomed fishing boats although it is to be understood that the bow construction of the instant invention is also well adapted to be used in the construction of other types of sheet metal boats.

With the ever-increasing popularity of boating and sports associated with boating such as fishing, a demand has arisen for a light weight but sturdy boat construction which may be manufactured at a low cost.

Accordingly, the main object of this invention is to provide a sheet metal boat with a novel bow construction therefor enabling the sheet metal boat to be constructed of relatively light weight materials without sacrificing strength and durability of the boat.

Still another object of this invention is to provide a bow construction for sheet metal boats which will greatly simplify the construction of sheet metal boats whereby the latter may be produced at a low cost enabling a savings to be passed on to the purchaser of each boat.

A further object of this invention, in accordance with the preceding objects, is to provide a bow construction having also means for providing additional seating space in a sheet metal boat without increasing the weight of the boat.

A still further object of this invention is to provide a bow construction for sheet metal boats of the type having a relatively blunt bow in a horizontal plan with the bow construction provided with means to comprise an extension for gunwale stiffeners carried by the upper edges of the sides of the sheet metal boat whereby further rigidity of the sheet metal boat construction is afforded by the bow construction.

A final object to be specifically enumerated herein is to provide a bow construction for sheet metal boats which will conform to conventional forms of manufacture, be of simple construction and easy to assemble so as to provide a device which will be economically feasible, long lasting and relatively easy to assemble.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a top plan view of a conventional type of sheet metal boat utilizing the bow construction of the instant invention;

FIGURE 2 is a side elevational view of the sheet metal boat illustrated in FIGURE 1;

FIGURE 3 is a vertical transverse sectional view taken substantially upon the plane indicated by the section line 3—3 of FIGURE 1 on somewhat of an enlarged scale;

FIGURE 4 is a vertical transverse sectional view on somewhat of an enlarged scale taken substantially indicated by the section line 4—4 of FIGURE 1;

FIGURE 5 is an enlarged fragmentary longitudinal vertical sectional view taken substantially upon the plane indicated by the sectional line 5—5 of FIGURE 1;

FIGURE 6 is a perspective view of the bow panel of the bow construction; and



FIGURE 7 is a perspective view of the bow construction bracing panel.

Referring now more specifically to the drawings, the numeral 10 generally designates a conventional type of sheet metal fishing boat having a bottom panel 12 and opposite upstanding longitudinally extending side panels 14 and 16. The side panels 14 and 16 are slightly upwardly and outwardly inclined and they extend generally parallel to the longitudinal center line of the boat 10 with the exception of the forward end portions thereof, which forward end portions 18 and 20, respectively, are gradually curved toward each other. The boat 10 includes a plurality of generally horizontally disposed and rectangular sheet metal seats 22 which extend transversely thereof and are secured between the side panels 14 and 16. The top surfaces 24 of the seats 22 are substantially flat and are disposed in substantially the same horizontal plane and below the gunwale stiffening members 26 and 28 which are secured to the upper edges of the side panels 14 and 16, respectively, by means of rivets 30 or other suitable fasteners.

With attention now directed to FIGURES 3 through 7 of the drawings it will be noted that the forward edge 32 of the bottom panel 12 is substantially V-shaped with the apex 34 disposed forwardmost. The forward upstanding edges of the side panels 14 and 16 are forwardly and upwardly inclined as at 36 and 38, respectively.

The bow construction of the instant invention is generally designated by the reference numeral 38 and includes a bow panel generally referred to by the reference numeral 40. The bow panel 40 includes two angularly disposed opposite side portions 42 and 44 which together form a generally V-shaped panel in horizontal section with the apex 46 disposed forwardmost. The bottom edge 48 of the bow panel 40 conforms to the V-shaped forward edge 32 of the bottom panel 12 and is fixedly secured thereto in fluid-tight sealing engagement therewith in any convenient manner such as by welding 50, see FIGURE 4. The end edges 52 and 54 of the bow panel 40 conform to the forward edges 36 and 38 of the sides 14 and 16, respectively, and are secured thereto in any convenient manner such as by welding 56, see FIGURES 4 and 5.

The upper marginal edge portions of the angulated portions 42 and 44 each terminate in a pair of angulated and longitudinally extending flanges 58 and 60 which are successively turned back over the internal surfaces of the bow panel 38. The adjacent ends of the flanges 58 are secured together by means of welding 62 and the adjacent edges of the flanges 60 are secured together by welding 64. The flanges 58 are substantially horizontally disposed and form continuations of the upper surfaces 66 of the gunwale stiffening members 26 and 28. The remote end edges of the flanges 58 and 60 are secured to the inner surfaces of the gunwale stiffening members 26 and 28 by means of welding 68. Thus it may be seen that the bow panel 38 is rigidly secured between the forward ends of the bottom panel 12 and the opposite side panels 14 and 16. Additionally, the back turned flanges 58 and 60 form extremely rigid upper edge stiffening members for the bow panel 38 forming continuations of the gunwale stiffening members 26 and 28.

The bow construction 38 also includes horizontal bracing means in the form of a substantially horizontally disposed bracing panel member generally referred to by the reference numeral 70. The horizontal bracing member 70 has one longitudinal side marginal edge portion terminating a pair of upturned angulated tab portions 72 and 74 which are adapted to abut the inner surfaces of the angulated portions 42 and 44 of the bow panel 40 in surface-to-surface contacting relation therewith. The end edge marginal portions of the bracing panel 70 terminate in upwardly angulated tab portions

76 and 78 adapted to abut the inner surfaces of the opposite side panels 14 and 16 in surface-to-surface contacting relation therewith. The other longitudinal side marginal edge portion of the panel bracing member 70 terminates in a downwardly directed reinforcing tab 80 whose opposite ends each terminate in an angulated anchor tab portion 82 adapted to engage the inner surfaces of the sides 14 and 16 of the boat 10 in surface-to-surface contacting relation therewith.

With attention now directed to FIGURES 1 and 4 it will be noted that the tabs 72, 74, 76, 78 and 82 are each apertured and secured to the adjacent inner surfaces of the boat 10 by means of rivets 84.

Further, it is to be noted that the upper surface 86 of the bracing panel 70 is disposed in substantially the same horizontal plane as the upper surfaces of the seats 24.

The bottom panel 12 and the opposite side panels 14 and 16 of the boat 10 are each provided with at least one longitudinally extending corrugation 88 for adding strength to the boat 10 and the generally rectangular seats 24 each house a block 90 of flotation material such as Styrofoam in order that the boat 10 will not sink even when filled with water, see FIGURE 3.

It may thus be seen that herein described is a boat construction which may be manufactured at a relatively low price in view of the simplicity of construction and the structural design which allows the various panels to be constructed of thinner and thus lighter materials. Accordingly, it may well be appreciated that the boat 10 may readily be handled by two persons and that it is extremely safe inasmuch as the Styrofoam blocks 90 will prevent the boat 10 from sinking even when filled with water.

If it is desired, the bow panel 40 may be provided with a pair of lifting handles 92, one secured to each of the angulated portions 42 and 44, and a pair of lifting handles 94 may be secured to the transom 96.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination with a sheet metal boat of the type having two opposite upstanding side panels interconnected at their lower edges by means of a bottom panel and spaced apart at their forward ends, a bow construction, said bow construction comprising an upstanding bow panel extending transversely of said boat and having upstanding end edges and a bottom edge conforming to the forward end edges of said side panels and the forward end of said bottom panel, said bottom panel including a V-shaped forward end edge with its apex disposed forwardmost, said bow panel being V-shaped in horizontal cross section, means securing said end edges of and said bottom edge of said bow panel to the forward end edges of said sides and the forward end edge of said bottom respectively in fluid tight sealing engagement therewith, the opposite side portions of said bow panel forming obtuse occluded angles with the adjacent forward end portions of the corresponding side panels, said side panels of said boat being provided with gunwale stiffening members rigidly carried by and extending along the upper edges of said side panels, said V-shaped bow panel defining a pair of angularly disposed legs, the upper marginal edge portions of the angularly disposed legs of said V-shaped bow panel each terminating in a pair of backturned flanges whose remote ends conform to and abut the inner surfaces of gunwale stiffening members, means securing each of said remote ends of said backturned flanges to the inner surfaces of the corresponding gunwale adjacent the forward edge thereof.

2. The combination of claim 1 wherein said forward edges of said side panels are forwardly and upwardly inclined.

3. The combination of claim 1 including a bracing means disposed between the inner surface of said bow panel and the adjacent inner surfaces of said side panels, said bracing means comprising a substantially horizontally disposed panel member extending transversely of said boat and including a forward edge portion conforming to the internal surfaces of said bow panel and opposite end edges conforming to the inner surfaces of said side panels, and means securing said forward edge portion and said end edges of said bracing panel member to said bow and opposite side panels of said boat.

4. In combination with a sheet metal boat of the type having two opposite upstanding side panels interconnected at their lower edges by means of a bottom panel and spaced apart at their forward ends, a bow construction, said bow construction comprising an upstanding bow panel extending transversely of said boat and having upstanding end edges and a bottom edge conforming to the forward end edges of said side panels and the forward end of said bottom panel, said bottom panel including a V-shaped forward end edge with its apex disposed forwardmost, said bow panel being V-shaped in horizontal cross section, means securing said end edges and said bottom edge of said bow panel to the forward end edges of said sides and the forward end edge of said bottom respectively in fluid tight sealing engagement therewith, the opposite side portions of said bow panel forming obtuse occluded angles with the adjacent forward end portions of the corresponding side panels, bracing means disposed between the inner surface of said bow panel and the adjacent inner surfaces of said side panels, said bracing means comprising a substantially horizontally disposed panel member extending transversely of said boat and including a forward edge portion conforming to the internal surfaces of said bow panel and opposite end edges conforming to the inner surfaces of said side panels, means securing said forward edge portion and said end edges of said bracing panel member to said bow and opposite side panels of said boat, said forward edge portion and said end edges of said panel member terminating in outwardly angulated integral tab portions disposed in surface-to-surface contacting relation with said bow panel and said side panels of said boat respectively, said last mentioned securing means including rivets secured through said tabs and said bow and opposite side panels, said side panels of said boat being provided with gunwale stiffening members rigidly secured along the upper edges thereof, at least one horizontally disposed and transversely extending seat secured between said opposite side panels, the upper surface of said seat disposed a spaced distance below said gunwale members, the upper surface of said bracing panel member disposed in substantially the same horizontal plane as the upper surface of said seat whereby said bracing panel member may also be used as a seat, the rear marginal edge portion of said bracing panel terminating in a downwardly directed reinforcing tab, the opposite ends of said reinforcing tab each terminating in an angulated anchor tab disposed in surface-to-surface contacting relation with the adjacent portions of said side panels, and means securing said anchor tabs to said side panels, said V-shaped bow panel defining a pair of angularly disposed legs, the upper marginal edge portions of the angularly disposed legs of said V-shaped bow panel each terminating in a pair of back turned flanges whose remote ends conform to and abut the inner surfaces of said gunwale stiffening members, means securing each of said remote ends to inner surfaces of the corresponding gunwale adjacent the forward edge thereof.

5. The combination of claim 1 wherein the outer surfaces of the apex of said V-shaped bow panel form an

occluded angle of approximately 45° with a horizontal plane.

6. The combination of claim 1 wherein each side of said bow panel forms an occluded angle of approximately 68° with a vertical plane passing through the longitudinal center line of said boat.

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