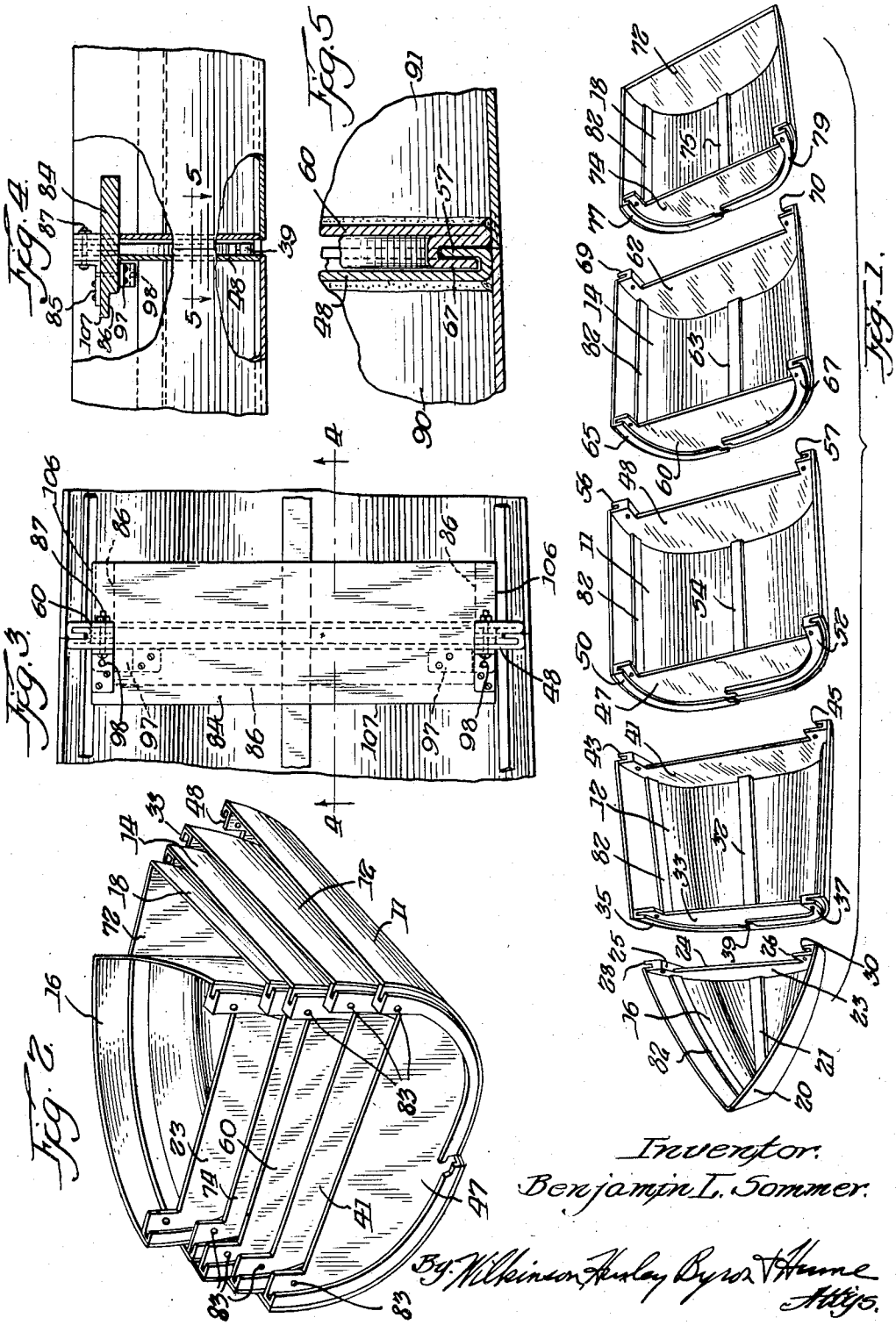
Sept. 1, 1953 B. L. SOMMER 2,650,376

SECTIONAL BOAT

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SECTIONAL BOAT

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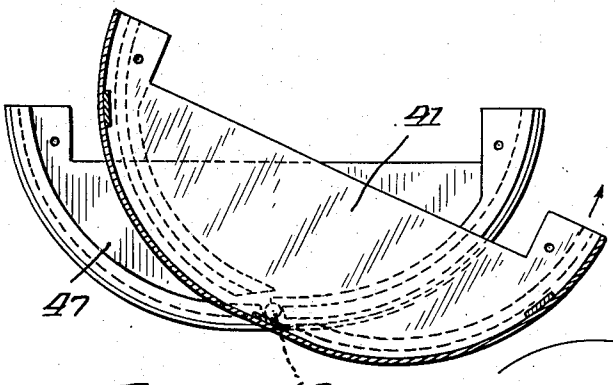


Fig. 9.

Fig. 8.

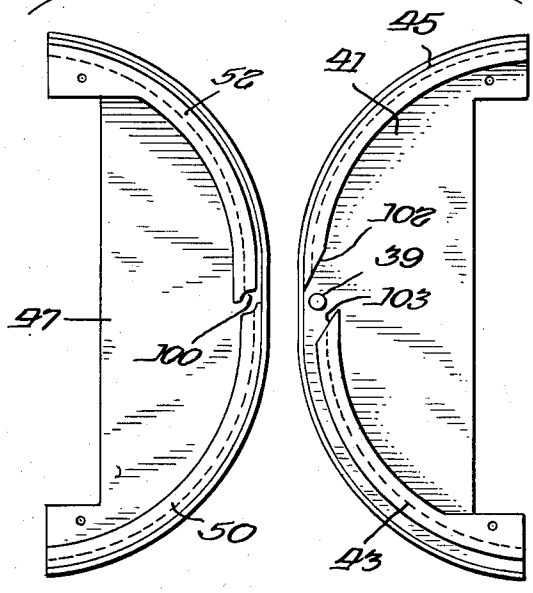


Fig. C.

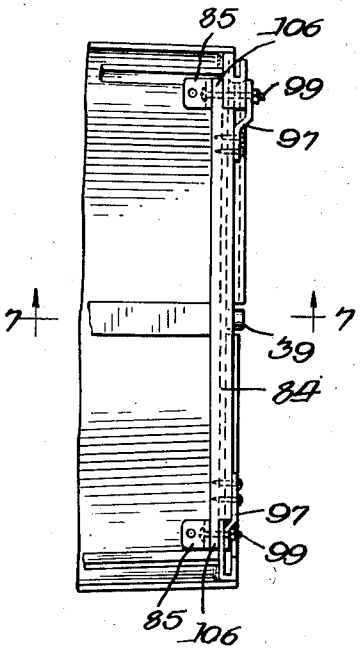
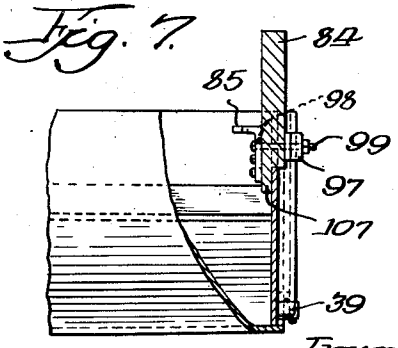


Fig. 7.



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SECTIONAL BOAT

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Application February 7, 1950, Serial No. 142,783

4 Claims. (Cl. 9—2)

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This invention relates to a new and improved sectional boat, and more particularly to a boat formed of a plurality of sections adapted to be interlocked for use and separated and nested for transportation.

Sectional boats have heretofore been designed in various forms with different types of interlocking members on the meeting portions of the several sections. In the present construction, the interlocking and connecting means are all within the contour of the completed boat so that the outer surface of the boat is free from obstructions and the general appearance is that of a unitary boat.

It is an object of the present invention to provide a new and improved sectional boat with effective means for interlocking the sections.

It is a further object to provide a boat of this type in which less than the full number of sections may be operated if desired or in an emergency.

It is an additional object to provide a boat made up of sections having interlocking flanges on the meeting edges of the sections, the flanges being interlocking or separated by a twisting or rotary movement, together with means for locking associated sections against such twisting movement.

It is also an object to provide a boat in which separate sections are in part held together by removable members which also function as seats.

It is another object to provide a sectional boat with means for effectively closing intermediate section ends in the event of damage or leakage into adjacent sections or if it is desired to use a smaller boat.

It is a further object to provide a boat of this character which is simple in design and construction and adapted for commercial production and use.

Other and further objects will appear as the description proceeds.

I have shown certain preferred embodiments of my invention in the accompanying drawings, in which—

Figure 1 is an exploded perspective of the boat;

Figure 2 is a perspective showing the nested sections;

Figure 3 is a fragmentary plan view showing two sections connected;

Figure 4 is a fragmentary section taken on line 4—4 of Figure 3;

Figure 5 is a fragmentary section taken on line 5—5 of Figure 4;

Figure 6 is a fragmentary plan view, showing

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means closing the end of an intermediate section;

Figure 7 is a fragmentary section taken on line 7—7 of Figure 6;

Figure 8 is a separated view showing two mating end faces; and

Figure 9 is an elevation showing the method of assembling two sections.

The boat shown in the drawings consists of five sections, but it will be understood that other numbers of sections may be provided and different numbers of sections may be used to make up smaller or larger boats, as desired.

As shown in Figure 1, the boat comprises a center section 11, a forward intermediate section 12, a rearward intermediate section 14, a bow section 16 and a stern section 18. The bow section 16 has a pointed forward end 20, as is usual in boat design, and a central reinforcement 21, which may be considered an inner keel as is customary in boat construction. The rear wall 23 of this bow section 16 is notched down, as shown at 24, thus providing short vertical walls 25 and 26 at each end of the notched portion adjacent the sides of the boat. The starboard half of the rear face of the rear wall 23 is provided with an outwardly facing flange 28. The port half of this wall is provided with an inwardly facing flange 30.

The forward intermediate section 12 is provided with the central reinforcing member 32 and its forward wall 33 is notched in the same manner as the rear wall 23 of the forward section. The starboard half of this wall is provided with an inwardly facing flange 35. The port half of this wall is provided with a similar outwardly facing flange 37. The rear wall 41 of section 12 is notched downwardly, as are the other walls, and its starboard half has the outwardly directed flange 43, while the port side of the wall has the inwardly directed flange 45.

The middle section 11 is provided with the forward wall 47 and rear wall 48. The starboard side of wall 47 is provided with the inwardly facing flange 50, while the port side of that wall is provided with the outwardly facing flange 52. This section is also provided with the reinforcing member 54 extending longitudinally on its bottom. The rear wall 48 of section 11 has its starboard side provided with the outwardly directed flange 56 and its port side provided with the inwardly directed flange 57. The rear intermediate section 14 is provided with the forward wall 60, the rearward wall 62 and the central bottom reinforcing member 63. The forward wall 60 is provided, on its starboard side, with the inward-

ly facing flange 65 and, on its port side, with the outwardly facing flange 67. The rear wall 62 is provided, on its starboard side, with the outwardly facing flange 69 and, on its port side, with the inwardly facing flange 70. The stern section 18 is provided with a flat stern wall 72 and with a forward flanged wall 74. The stern wall 72 extends to its full height for its entire width, while the forward wall 74 is notched down, as are all other intermediate walls. This stern section 18 is also provided with the usual center reinforcing member 75. The outer face of the forward wall 74 is provided, on its starboard side, with the inwardly facing flange 77 and, on its port side, with the outwardly facing flange 79. Each sectional rear wall which mates with another wall, that is walls 23, 41, 48 and 62, is provided at its lower central portion with an outwardly projecting pivot stud 39 which is cylindrical in shape. Such a stud 39 is shown in Figure 4, projecting from wall 48.

In order that the sections may be suitably nested for storage, their dimensions as to length and width must be carefully coordinated. In the example shown, the intermediate section 11 is longer than any of the other sections of the boat. In nesting the sections, the forward intermediate section 12 may be placed inside of the section 11, as shown in Figure 2, being reversed in direction so that the wider rearward wall of section 12 is adjacent the wider forward wall of section 11. The rear intermediate section 14 may then be placed inside of section 12, faced in its normal direction so that its wider forward wall 60 is adjacent the wider rear wall 41 of section 12. The rear or stern section 18 may then be placed in section 14 with the forward wall 74 of section 18 adjacent the rear wall 41 of the section 12. Finally, the bow section 16 is placed within the stern section 18, the rear wall 23 of the bow section being located adjacent the forward wall 74 of the stern section.

The sections are all shown with lateral reinforcing members 82, and it will be understood that the particular location and relationship of these and any additional reinforcing members may vary without departing from the invention. The boat sections are preferably integrally cast from aluminum or magnesium alloys, but it will be understood that they may be made of any metal by welding or riveting or otherwise securing metal elements together. Also, various parts of the boat may be made of plywood or similar material.

Separate seat members or securing members 84 are provided to fit over each adjacent pair of walls when they are in interfitted relation. Such a seat section is shown in Figures 3 and 4. This section 84 is shown with upwardly extending angle irons 85 which are provided with holes to receive bolts 87 which pass through perforations 83 in the end walls of adjacent sections to hold the seat section 84 in place and, also, to hold the end walls in intimate contact and to restrain them against relative rotation. Portions of the under side of the seat member 84 are reduced in thickness, as indicated by the broken lines 86 in Figure 3.

The manner in which the mating flanges on the intermediate wall sections are located is shown in Figure 5. In this detailed showing, the end walls 48 and 60 are shown as welded to continuous side and bottom walls 90 and 91. The outwardly facing flange 67 interlocks with the inwardly facing flange 57.

It will be apparent that, as shown in detail in Figure 4, the seat section 84 fits down against the top of the recessed section of the two mating end walls. The ends of the seat section 84 are notched and the base of the notches are in close contact with the vertical edges of the end wall at the sides of their cut-away portion. The notches permit the seat section 84 to extend for a greater width than the notched down portions of the end walls. In the event that it is desired to use a smaller boat than all five sections or, in the event that any section becomes damaged so as to leak water and it is desired to cut it off from the rest of the boat, the seat section 84 may be set vertically, as shown in Figures 6 and 7. The offset securing members 97 at each end of the section are provided with perforations which receive bolts 99, as best shown in Figure 6, thus securing the seat section vertically and completely filling the cut-away portion of the end wall. The bolts 99 also pass through perforations 98 in the angle irons 85 and through the same perforations 83 in the boat sections as are used for bolts 87 in Figures 3 and 4. The portions of reduced thickness of the seat 84, indicated by lines 86 in Figure 3, provide flanges 106 of reduced thickness at the sides in Figure 6 and a similar flange 107 at the bottom of member 84 in Figure 7.

The method of assembling the sections will be apparent from consideration of the construction as shown in Figures 8 and 9. If, for example, the wall at the right of Figure 8 be taken as the rear wall 41 of the forward intermediate section, its starboard side has the outwardly facing flange 43, while its port side has the inwardly facing flange 45. The mating end wall 47 of the intermediate section 11 has, on its port side, the outwardly facing flange 52 which mates with the corresponding inwardly facing flange 45. Its starboard side has the inwardly facing flange 50 which mates with the flange 43 on end section 41. The pivot stud 39 fits into the recess 100 formed between adjacent edges of flanges 50 and 52. When the two sections are brought together while relatively tilted, as shown in Figure 9, the ends of flanges 43 and 45 which are cut away, as shown at 102 and 103, permit the parts to be placed in this position by a longitudinal movement bringing the two sections together. After the parts reach this position, as shown in Figure 9, a movement of the section 12 and its end wall 41 in the counter-clockwise direction about the stud 39 as a pivot will bring the sections into exact alignment and registration. This movement will bring the outwardly facing flange 52 interlocked within the inwardly facing flange 45 and will, similarly, bring the outwardly facing flange 43 into interlocking relationship with the inwardly facing flange 50.

When the seat section 84 is placed in the notch or recess and the securing bolts put through the two ends and the angles 85, the parts will be rigidly secured together. It will be understood that the space between the adjacent end walls is not water-tight and that the depth of the notches in the mating walls should be shallow enough to provide ample freeboard for the top surfaces of the mating walls. The seat section 84, when placed vertically, also is not entirely water-tight and its main function is to provide against water splashing into the boat, while it has the additional function of providing the support for an outboard motor if such is to be applied to the rear of an intermediate section in use as the stern.

While I have shown certain preferred embodiments of my invention, they are to be understood to be illustrative only as I contemplate such modifications as come within the spirit and scope of the appended claims.

I claim:

1. A sectional boat comprising a plurality of sections having interlocking means on the meeting surfaces, said means comprising interlocking flanges, the flanges on one side of the vertical center line of the cross-section of a section facing outwardly of the boat and the flanges on the opposite side of the boat facing inwardly whereby said flanges on adjacent sections may be interlocked and freed by relative rotation between the sections.

2. A sectional boat comprising a plurality of sections having interlocking means on the meeting surfaces, said means comprising interlocking flanges, the flanges on one side of the vertical center line of the cross-section of a section facing outwardly of the boat, the flanges on the opposite side of the boat facing inwardly whereby said flanges on adjacent sections may be interlocked and freed by relative rotation between the sections, and interfitting pivot means on the sections to guide said relative rotation.

3. A sectional boat comprising a plurality of sections having interlocking means on the meeting surfaces, said means comprising interlocking flanges, the flanges on one side of the vertical center line of the cross section of a section facing outwardly of the boat, the flanges on the opposite of the section facing inwardly, a pivot pin on one section fitting into a socket on the other section, said pin and socket being located at the lower portion of the central vertical axis of the cross section of the boat and serving as an axis of rotation of the sections relative to each other to interlock and to free the flanges and means for locking the sections against relative rotation.

4. A sectional boat comprising a plurality of sections, said sections having certain end walls adapted to engage and to match a similar wall of another section, said matching end walls having portions downwardly notched from their upper edges, and seat members adapted to fit in said notched portions of a pair of engaging end walls, said seat members being of a size to completely fill such notched portions when placed in the plane of an end wall, and means for securing each seat member selectively horizontally in the notched portions of a pair of engaging end walls or in the plane of a free end wall to close the notched portion of said wall and form part of an end of the sectional boat.

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