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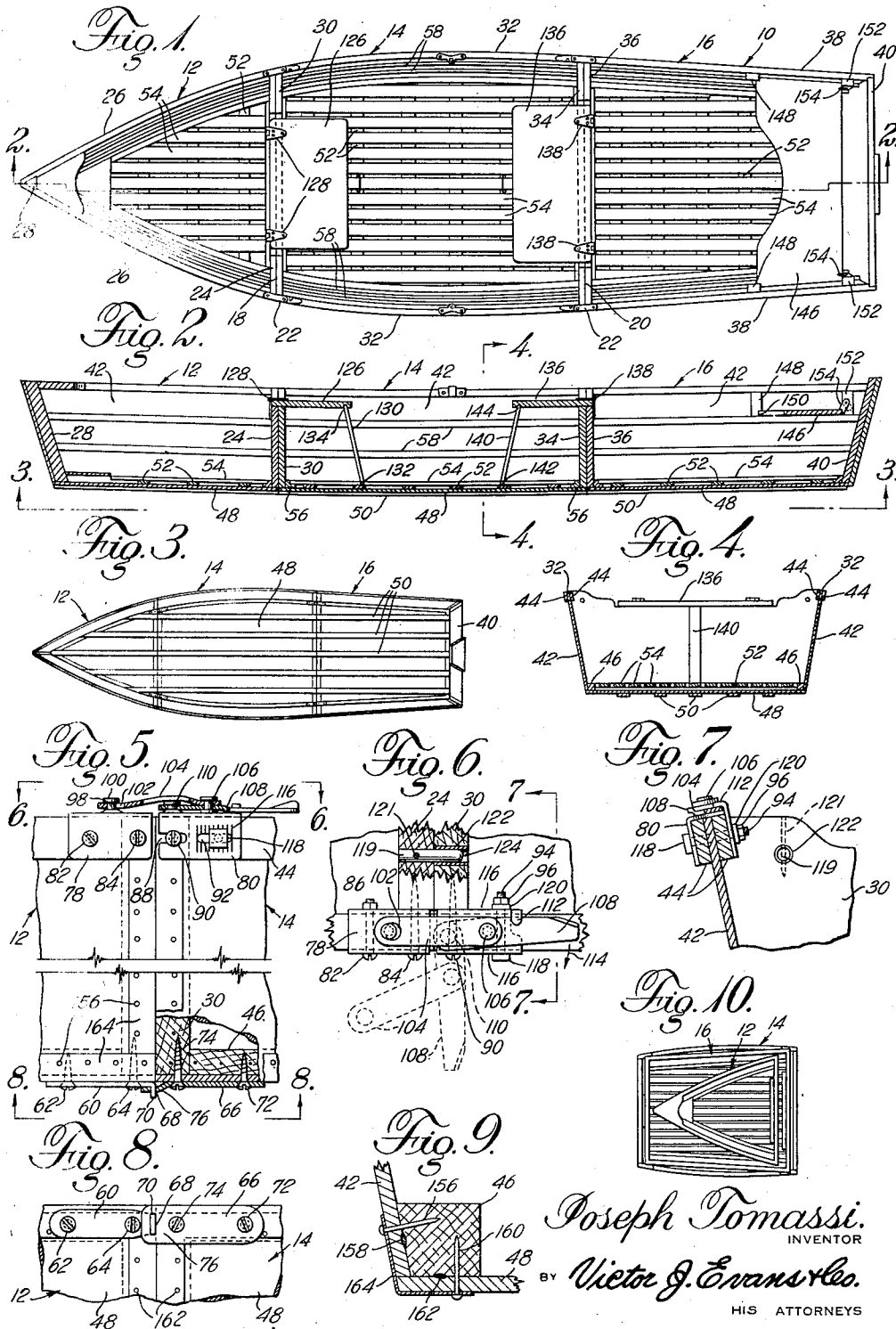
J. TOMASSI

2,212,088

SECTIONAL BOAT

Filed Feb. 8, 1938

2 Sheets-Sheet 1



Joseph Tomassi.
INVENTOR

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Aug. 20, 1940.

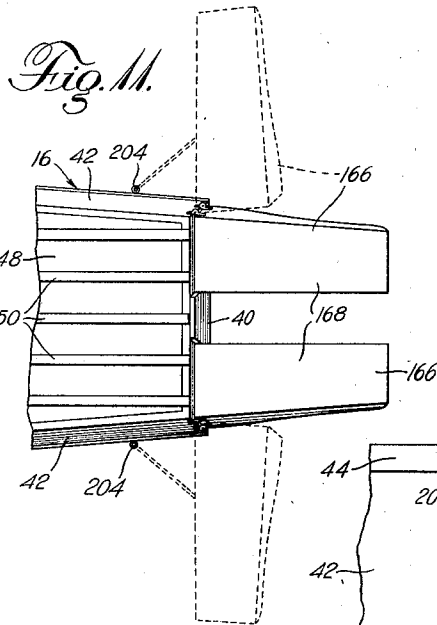
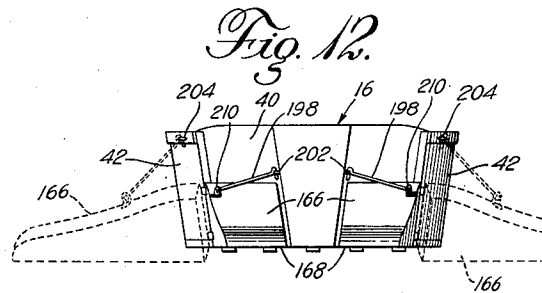
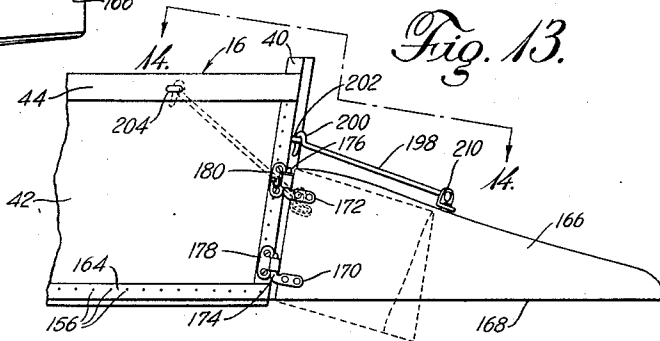
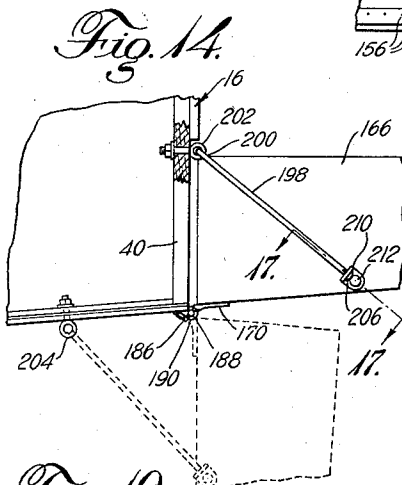
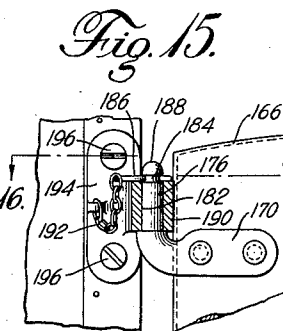
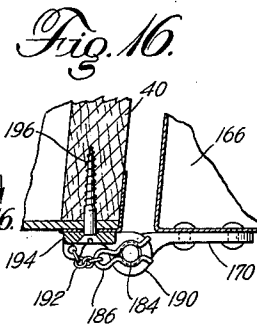
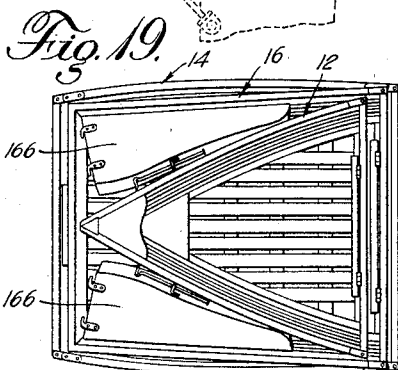
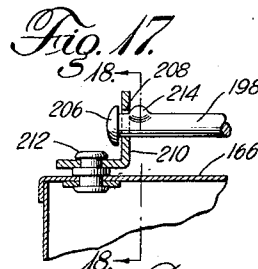
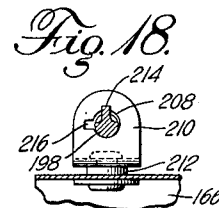
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SECTIONAL BOAT

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,212,088

SECTIONAL BOAT

Joseph Tomassi, Knox, Ind.

Application February 8, 1938, Serial No. 189,406

1 Claim. (Cl. 9—2)

My invention relates to boats and includes among its objects and advantages the provision of a sectional boat designed to facilitate handling and transportation thereof.

5 An object of my invention is to provide a boat made up of detachable sections with the sections so shaped as to be nestable one within the other to provide a compact arrangement for transportation purposes.

10 Another object is to provide a boat made up of detachable sections in which novel means are employed for latching the sections into a unitary structure.

15 Another object is to provide a sectional boat including means for positively latching the sections in connected relation and in which the latch means are provided with adjustability to compensate wear and variation in structural parts incident to expansion, contraction, and the like.

20 A further object is to provide a boat made up of light-weight material and in which the parts are so designed as to sustain heavy loads and rough usage.

25 Another object is to provide a boat made up of detachable sections and in which the abutting sections define partitions extending transversely across the boat, together with novel seats cooperable on said transverse partitions for supporting purposes.

30 A further object is to provide a boat made up of detachable sections together with seats hingedly connected with some of said sections and in which novel seat supporting means are associated with other of the sections.

35 A further object is to provide a light-weight boat of such construction and proportions as to facilitate transportation and in which novel float means are incorporated for balancing the boat. The float means are so related to the boat as to be movable into longitudinal alignment therewith as when rowing, but means is included for holding the float means in projecting relation with respect to the sides of the boat, thus increasing the balancing characteristics of the float means. The float means are also designed for detachable connection with the boat and are nestable within one of the boat sections.

In the accompanying drawings:

50 Fig. 1 is a plan view of a boat embodying my invention;

Fig. 2 is a sectional view along the line 2—2 of Fig. 1;

55 Fig. 3 is a diagrammatic view taken from the position indicated by line 3—3 of Fig. 2;

Fig. 4 is a sectional view along the line 4—4 of Fig. 2;

Fig. 5 is a sectional detail view of the latch mechanism cooperable on two adjacent boat sections;

Fig. 6 is a view taken from the position indicated by line 6—6 of Fig. 5 with certain parts broken away for the sake of clearness;

Fig. 7 is a sectional view along the line 7—7 of Fig. 6;

Fig. 8 is a view taken from the position indicated by line 8—8 of Fig. 5;

Fig. 9 is a detail view of a corner construction;

Fig. 10 is a diagrammatic view showing the boat sections nested one within the other;

Fig. 11 is a bottom plan view of the rear boat section showing floats attached thereto;

Fig. 12 is an end view of the structure of Fig. 11 with the boat sections positioned in an upright position;

Fig. 13 is a side view;

Fig. 14 is a view taken from the position indicated by line 14—14 of Fig. 13;

Fig. 15 is an enlarged detail view of one of the hinges with certain parts broken away for the sake of clearness;

Fig. 16 is a sectional view along the line 16—16 of Fig. 15;

Fig. 17 is a sectional view along the line 17—17 of Fig. 14;

Fig. 18 is a sectional view along the line 18—18 of Fig. 17; and

Fig. 19 is a view illustrating the boat sections in nested relation with the floats nested within one of the sections.

In the embodiment selected to illustrate my invention, the boat 10 comprises sections 12, 14 and 16 which have end to end abutting relation at 18 and 20 with the sections connected into a unitary structure through the medium of latches 22. When unlatched, the sections may be nested one within the other, as illustrated in Fig. 10, so as to provide a compact arrangement of relatively small proportions, thus facilitating transportation and packaging.

In Fig. 1, the sections 12, 14 and 16 are so shaped as to take the general configuration of a conventional boat when arranged in end to end relation. Section 12 includes an end wall 24 and side walls 26 which are arranged in converging relation with the forward ends nailed to the upright rail 28. Section 14 includes an end wall 30 and side walls 32, and the end wall 30 lies in pressure relation with the wall 24 when the sec-

tions 12 and 14 are connected. Section 14 also includes an endwall 34 which lies in pressure relation with the end wall 36 of the section 16, which also includes side walls 38 and the rear end wall 40.

Apart from general configuration, the sections 12, 14 and 16 are of similar construction. Referring to Fig. 4, which illustrates the section 14 in cross section, the side walls 32 comprise panels 42 of "presswood" reinforced along their upper edges by wood slats 44 which may be screwed or riveted to the panels. The lower edges of the panels 42 are nailed to rails 46 while the floor 48 also comprising "presswood" is nailed to the rails 46. Longitudinal slats 50 are screwed or riveted to the bottom face of the floor 48. Slat 50 are spaced in parallel relation. To the inner face of the floor 48 I screw a plurality of spaced transverse slats 52 while upon the slats 52 I place parallel slats 54 which extend longitudinally of the section. Slat 54 may be screwed to the slats 52 while the latter may be screwed to the floor 48 and the slats 50. Reinforcing rails 56 are positioned on the inner face of the floor 48 adjacent the end walls 30 and 34. A rail 56 is connected with the floor 48 in the section 12 and its end wall 24, while in the section 16 I make use of two rails 56 anchored to the floor 48 thereof and the end walls 36 and 40. All the rails may be nailed to their respective floor 48 and the end walls associated therewith. Floors 48 have overlapping relation with the lower edges of their respective end walls and are nailed thereto, which is also true of the side panels 42.

In making use of "presswood," I secure a light-weight boat which is particularly adapted to the needs of hunters in that its collapsibility and light-weight facilitate overland transportation from place to place. Because of the nesting feature of the sections, the boat may be easily carried on an automobile or truck, and in most cases the nested sections are of such proportions as to be receivable within the baggage compartment of conventional automobiles.

While the floor 48 of each section comprises "presswood" of light-weight, the slat reinforcement strengthens the floor structure to such a degree as to satisfy all demands and ordinary rough usage. To the side panels 24 I screw or rivet reinforcing slats 58 which extend longitudinally of the boat on its inner sides only. Four latch units 22 are employed, which units are located along the upper edges of the side walls of the boat at the juncture of the sections 12, 14 and 16. Means is also provided for latching the sections at their bottoms.

Referring to Figs. 5 and 6, the boat sections 12 and 14 are indicated in part only. Section 12 is provided with a metallic strap 60 which is made secure by screws 62 and 64 anchored in the side rails 46 and the end wall 24, respectively. Section 14 carries a metallic strap 66 which is provided with a slot 68 for the reception of the hook 70 formed at one end of the strap 60. Strap 66 is made secure by screws 72 and 74 anchored in the side rail 46 and the end wall 30, respectively. Figs. 5 and 8 illustrate the lower latch unit as being located at the edge margin of the bottom structure of the sections. The opposite edge margin also carries a similar latch unit so that the adjoining sections are effectively latched on both sides of the boat structure. Since all the latch units associated with the bottom structure of the boat are identical in construction, the description of one will of

course apply to all. Similarly, the latch units 22 which latch the sections at their upper parts are identical in construction.

The bottom structure of the sections 12, 14 and 16 lie in the same plane. Referring to Fig. 5, it will be noted that the strap 66 is offset at 76 so as to extend over the lower face of the strap 60 when the sections 12 and 14 are connected. The hook 70 and the slot 68 are so related as to permit the hook to be passed through the slots only with the end walls 24 and 30 arranged in close relation. When so positioned, the straps 60 and 66 are effectively latched in such a manner as to prevent separation of the sections. Figs. 5 and 6 illustrate one of the latches 22. The latch comprises U-shaped parts 78 and 80 which are connected with the sections 12 and 14, respectively. The U-shaped parts 78 and 80 are inverted and pressed over the reinforcing slats 44 of their respective sections. Part 78 is made secure by a bolt 82 and a screw 84. The screw 84 is anchored in the end wall 24 while the bolt 82 passes through the reinforcing slats 44 and is provided with a nut 86. Part 80 is slotted at 88 for receiving a screw 90 and is also slotted at 92 for the reception of a bolt 94 which extends through the part for the reception of a nut 96.

Part 78 carries a pin 98 having a head 100 arranged to be passed through the slot 102 in a strap 104 pivotally connected at 106 with a strap 108 pivotally connected at 110 with the part 80. The opening 102 is of sufficient diameter to permit the strap 104 to be disconnected from the pin 98. Fig. 6 illustrates the latch 22 in its holding position, at which time the end walls 24 and 30 are drawn into snug relation. Part 80 carries an ear 112 against which the strap 108 may abut to prevent pivotal action beyond the full line position illustrated. In the full line position, the pivotal axis 110 is slightly offside with respect to a straight line intersecting the axis of the pin 98 and the pivot 106 so that the forces effective on the latch hold the strap 108 in pressure relation with the ear 112. In disconnecting the sections, the strap 108 is pivoted in the direction of the arrow 114 to a degree which permits the end of the strap to be lifted in the clear of the pin 98, after which the latch uncouples the two sections.

In Figs. 5 and 6, I illustrate the part 80 as being provided with surface irregularities 116 while the bolt 94 includes a serrated head 118 and carries a serrated washer 120. Head 118 and the washer 120 are brought into pressure and holding relation with the surface irregularities 116 when the nut 96 is tightened so as to prevent shifting of the part 80. By unloosening the nut 96, the part 80 may be shifted for taking up slack in the latch 22 to compensate wear or to lend slack thereto for compensating expansion of the boat parts. Thus, the latch 22 may be accurately adjusted so as to secure the proper amount of pull for effectively holding the sections in connected relation.

To facilitate connection of the boat sections and accurate alignment thereof, Fig. 1 illustrates the wall 24 as carrying a pin 119, which pin may be bored for the reception of a key pin 121. End wall 30 is bored for the reception of a metallic sleeve 122 which slidably receives one end of the pin 119. The pin is rounded at 124 to facilitate entrance into the sleeve 122. The wall 24 is provided with two such pins. In the same manner, end walls 34 and 36 are provided with pins 119 and sleeves 122 for aligning purposes.

In connecting the boat sections 12, 14 and 16, the sections are raised at their abutting ends sufficiently far to facilitate entrance of the hooks 70 in the slots 68, after which the sections are lowered and the latches 22 manipulated for connecting the straps 104 with the pins 98. With such connection established, the straps 108 are moved to the full line position of Fig. 6, which draws the upper parts of the adjoining boat sections into pressure relation.

In Figs. 1 and 2, I illustrate the end wall 24 as being provided with a seat 126 hinged to the end wall at 128. The seat 126 is arranged to be pivoted upwardly and downwardly into parallel relation with the end wall 24, but in the position of Figs. 1 and 2, the seat extends across the upper edge of the end wall 30. One of the slats 54 in the section 14 is cut to provide a bracing reach 130 hinged at 132 to one end of the cut slat. The lower face of the seat 126 is provided with a groove 134 into which the upper end of the reach 130 may be located. Reach 130 provides an effective support for the seat so as to remove the load from the hinges 128.

End wall 36 of the section 16 includes a seat 136 hinged at 138 to the wall and arranged to extend across the upper edge of the end wall 34. One of the slats 54 in the section 14 is cut to provide a reach 140 hinged at 142. The upper end of the reach 140 is receivable within a recess 144 in the lower face of the seat 136 for connecting purposes. Seat 136 may be pivoted into the section 16 to lie adjacent the end wall 36. Thus, boat seats 126 and 136 may be closely nested within their respective sections for the sake of compactness, as when nesting the sections for transportation. The upper slats 58 in the section 16 may form supports for the rear seat 146. The side panels 42 of this section may be provided with cleats 148 recessed at 150 to receive the forward corners of the seat 146. The rear edge of the seat 146 lies adjacent cleats 152, and these cleats may be provided with pivoted latches 154 arranged to swing partly over the seat so as to hold it in place. However, the seat may be removed by swinging the latches 154 out of holding relation with the seat and lifting its rear edge upwardly.

Fig. 9 illustrates the manner in which the corners of adjacent "presswood" pieces may be tied into a unitary structure and afford additional protection. The side panel 42 is anchored to the rail 46 by nails 156. The panel 42 and the rail 46 are recessed slightly for the reception of packing 158, which is compressed when the nails 156 are driven home. Similarly, the floor 48 is attached to the rail 46 by nails 160. Rail 46 and the floor 48 are recessed for the reception of packing 162. A metallic corner 164 may be attached to the side panel 42 and the floor 48 by the nails 156 and 160. The metallic trim 164 may extend along the bottom corners of each section as well as its upright corners, as illustrated in Fig. 5.

In a boat of this type, it is essential that it be so designed as to carry the necessary load in addition to being readily portable and light in weight. To increase buoyancy as well as balance of the boat when heavily loaded, I connect two floats 166 with the stern of the boat. Figs. 11, 12 and 13 illustrate the specific relation between the floats and the boat. The bottom surfaces 168 of the floats lie substantially flush with the bottom of the boat. The slats 50 project below the planes of the bottom surfaces 168, which

affords protection for the ends of the floats with respect to catching on obstructions. The floats taper outwardly longitudinally and lie substantially in parallel relation when the boat is being moved through the water. The floats are identical in construction and connected with the boat in the same manner so that the description of one will suffice for both.

In Fig. 13, I illustrate the float 166 as being provided with hinge elements 170 and 172 fixedly connected therewith. These elements terminate in vertical shanks 174 and 176. The float may pivot about the aligned shanks as an axis. To the section 16 of the boat, I connect hinge members 178 and 180 for pivotally supporting the shanks 174 and 176. The members 178 and 180 are bored, as at 182 in Fig. 15, for rotatably receiving the shanks. In Fig. 15, the shank 176 is grooved at 184. A spring element 186 may be pressed over the shank 176 to lie within the groove 184 between the head 188 and the socket 190 of the hinge member 180. With the parts connected according to Fig. 15, the shank 176 is rotatable within the socket 190 but is latched against accidental disconnection because of the element 186. The latter may be connected with a chain 192 attached to the base plate 194 of the hinge member. The chain includes sufficient slack to permit connection and disconnection of the element. Hinge members 178 and 180 are attached to the sides of the section 16 by screws 196.

Each section 166 includes a rod 198 provided with a hook 200 for connection with an eye 202 attached to the wall 40 of the section 16. The opposite end of each rod 198 includes a head 206, and the rod passes through an opening 208 in a metallic plate 210 pivotally connected at 212 with the float 166. These floats are preferably made of sheet metal sealed to provide effective buoyancy. In Fig. 17, the rod 198 is distorted at 214 to provide a lug cooperating with the element 210 for restraining the rod from endwise movement.

Fig. 11 illustrates the floats 166 arranged for balancing purposes. To the sides of the section 16, I connect two eyes 204 for the reception of the hooks 200 to hold the floats in right angular relation to the boat. When in this position, the floats balance the boat in an effective manner. Fig. 19 illustrates the sections 12, 14 and 16 arranged in nested relation with the floats 166 nested adjacent the section 12. The floats are shaped to fit snugly between the sections 12 and 16 so as to afford a compact arrangement. Rods 198 while being restrained from relative longitudinal movement with respect to the elements 210 when hooked to the eyes 202 or 204 may be shifted longitudinally by rotating the rods 90° for aligning the distortions 214 with slots 216. In this manner, the rods may be shifted to the positions illustrated in Fig. 19 for the sake of compactness.

Without further elaboration, the foregoing will so fully explain my invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

A boat comprising detachable sections fashioned to be nested one within the other, each section having an end wall lying in face to face relation with the end wall of the other section when the sections are assembled in operating relation, means for detachably connecting the sections, a seat, means pivotally securing one

edge of said seat to the end wall of one section, said pivot means being so constructed and arranged with respect to said one end wall and said seat whereby said seat may be swung downwardly within the section and against the inner face of said one end wall and also upwardly and

over said one end wall and the adjacent end wall of another section to a seating position, and means cooperating with an opposite edge of said seat and a portion of said other section of said boat to act as an additional support for said seat. 5

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