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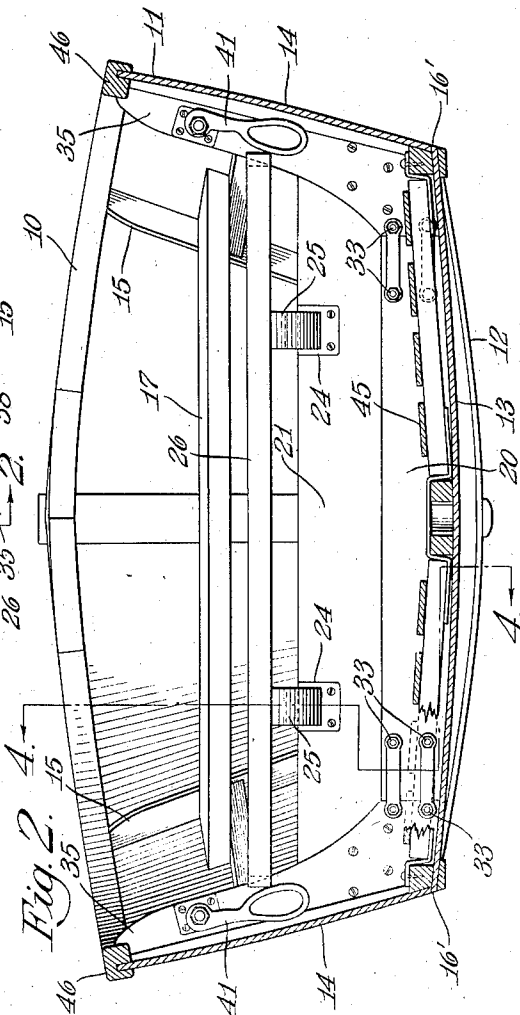
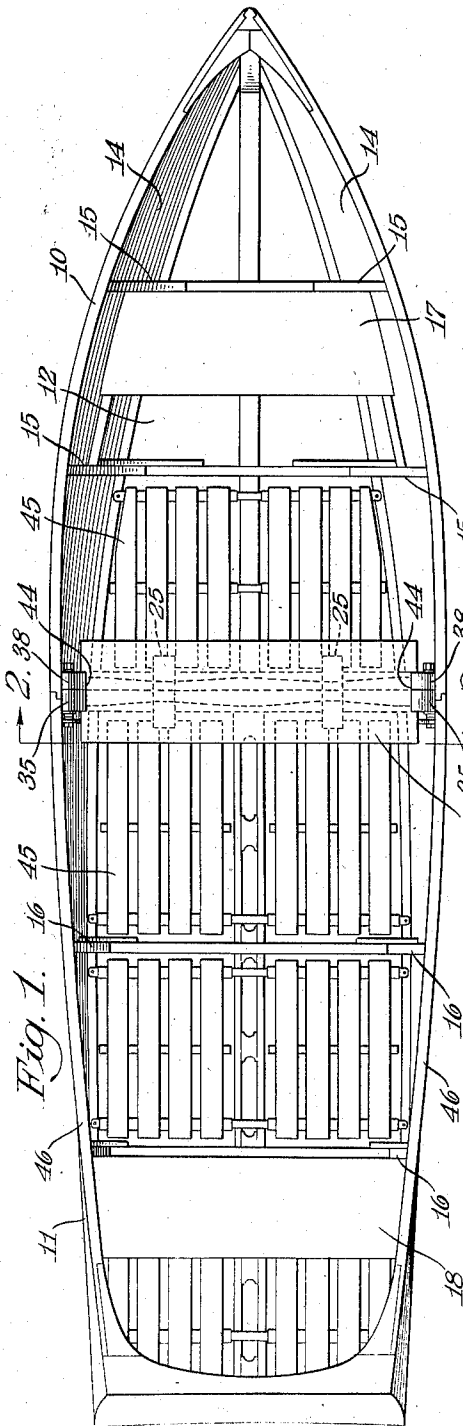
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2,292,972

BOAT CONSTRUCTION

Filed Dec. 18, 1939

3 Sheets-Sheet 1



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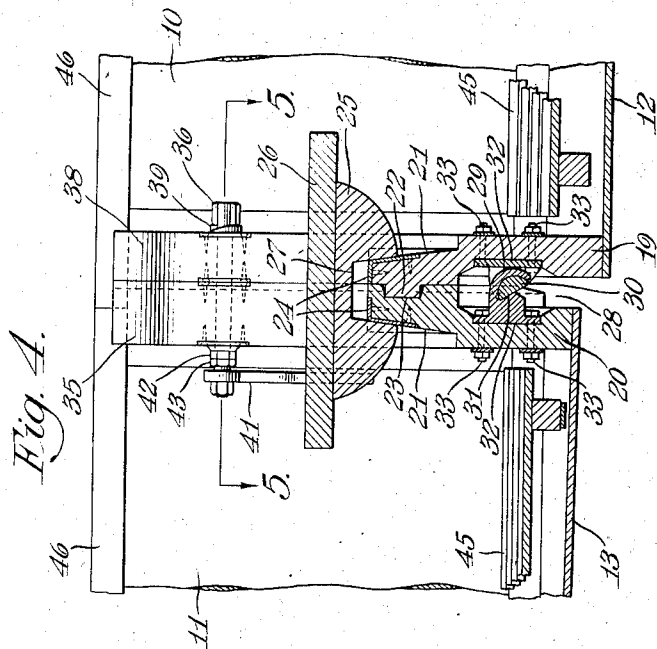
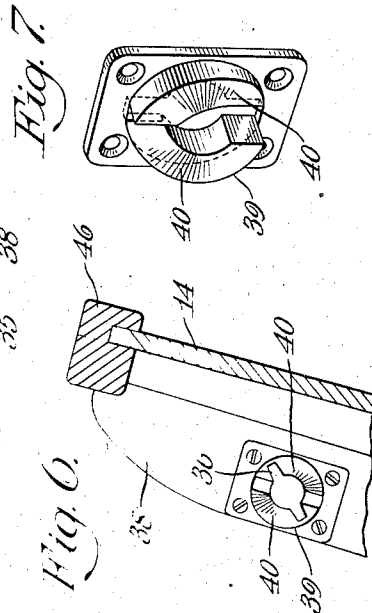
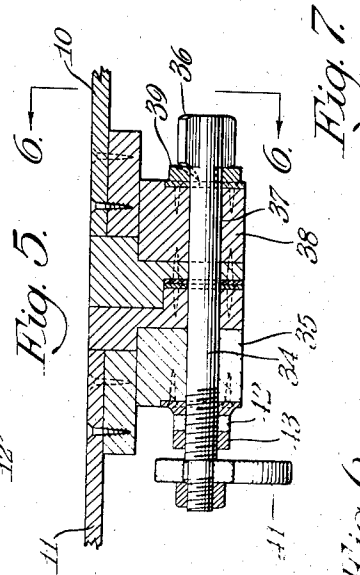
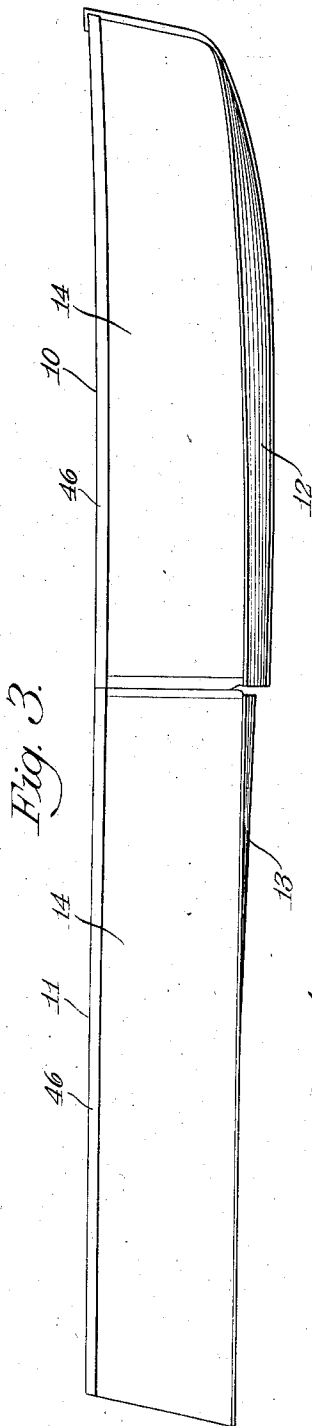
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BOAT CONSTRUCTION

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3 Sheets-Sheet 2



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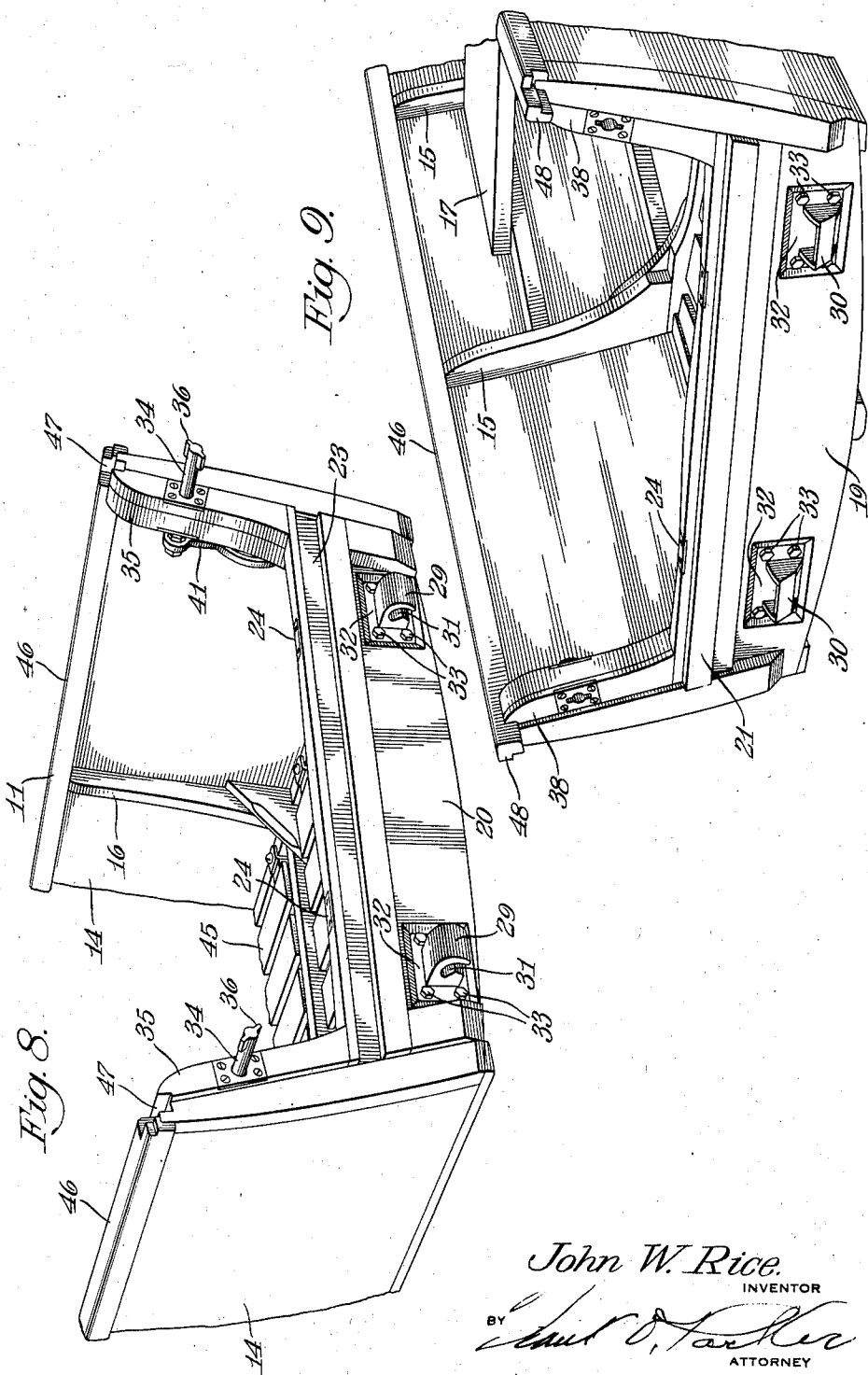
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BOAT CONSTRUCTION

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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BOAT CONSTRUCTION

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Application December 18, 1939, Serial No. 309,886

1 Claim. (Cl. 9—2)

The invention relates to a boat construction, and more particularly to a sectional knockdown type of boat, the sections being separable to facilitate transportation and storage.

The primary object of the invention is the provision of a boat of this character, wherein it can be propelled by an outboard motor or by the use of oars, for fishing, hunting, or for pleasure.

Another object of the invention is the provision of a boat of this character, wherein its separable sections are secured together in an effective and novel manner, without the use of tools, such as a wrench or other implements and avoids the use of nut carrying bolts or the like for this purpose, the said sections being quickly and easily assembled and disassembled without requiring skilled labor for so doing.

A further object of the invention is the provision of a boat of this character, wherein the sections when separated are capable of being conveniently nested for compactness and to facilitate transportation and storage.

A further object of the invention is the provision of a boat of this character, wherein the sections are joined together with couplings or fasteners located inboard and without liability of interference within or without board or at the gunwales.

A further object of the invention is the provision of a boat of this character, wherein the interior will be unobstructed throughout its length for freedom of movements of occupants, excepting at the seats conveniently placed therein as is customary.

A further object of the invention is the provision of a boat of this character, wherein the separable sections of which will be coupled and held together at or near the bottoms thereof and at the sides below the gunwales in a novel manner.

A further object of the invention is the provision of a boat of this character, wherein the lower couplings are wholly separated from the boat's interior by water-tight bulkheads, the companion parts of said couplings being permanently and firmly anchored to the bulkheads.

A further object of the invention is the provision of a boat of this character, wherein the lower couplings supply a firm fulcrum upon which all necessary force can be exerted by upper couplings to bring into water-tight jointure the separate sections at and above the normal water line.

A further object of the invention is the pro-

vision of a boat of this character, wherein the upper and lower couplings or fasteners cannot become loose or released for the accidental separation of the sections of the boat while in use.

A further object of the invention is the provision of a boat of this character, wherein the couplings at the lower portion thereof when assembled supply a fulcrum from which the upward buoyancy of the water on the bottom and sides of the boat and the downward pressure of the load within the said boat will be exerted to close together the sections at their juncture above such couplings.

A further object of the invention is the provision of a boat of this character, wherein the lower and transverse part of the forward frame of the rear section forms a water-tight bulkhead closing the forward end of such section against entrance of water below the water line, while a similar part of the rear frame of the forward section forms a bulkhead closing the rear end of such section against entrance of water below the water line.

A further object of the invention is the provision of a boat of this character, wherein there is interposed between the bulkheads and above the lower couplings two wooden cross members extending lengthwise of the bulkheads and coming within one inch of each end thereof, the upper surfaces of which are flush with the tops of the bulkheads, one being fastened securely to the fore bulkhead and tongued, and the other fastened securely to the aft bulkhead and grooved to interfit in a water-tight juncture lengthwise of the bulkheads and between them, and also to prevent upward and downward movements of either section in relation to the other.

A further object of the invention is the provision of a boat of this character, wherein the inner section of the gunwales of a boat's bow is mortised through the top of the frame upward at the rear of such section and the tops of the intervening members and into the top of the forward upright of the rear section to further eliminate any lateral movements of the one section with relation to the other, and to effect a staggered joint between the gunwales of the bow and stern sections, the outer gunwale being in meeting relation at the line of separation of the sections.

A further object of the invention is the provision of a boat of this character, wherein the sections meet each other, these above the waterline are secured together by pull-up devices which

interconnect the mid-frames at the uprights thereof slightly below the gunwales.

A further object of the invention is the provision of a boat of this character, wherein the sections are securely and rigidly locked together in a novel manner as a complete boat and against all longitudinal, lateral and vertical movements of one section with respect to the other.

A further object of the invention is the provision of a boat of this character, wherein the mid-seat is self adjusting and novel in its function of assisting the maintaining of a watertight jointure of the bulkheads, in that the weight of the occupants upon the seat, transmits such weight as pressure against the bulkheads, thus wedging them and the interfitting tongue and groove connections together.

A further object of the invention is the provision of a boat of this character, wherein the side fasteners can be easily adjusted to varying pressures to allow for shrinkage or swelling at the jointure of the sections, the fasteners being manually actuated for this purpose.

A further object of the invention is the provision of a boat of this character, wherein the fore and aft sections thereof, when connected together disposes the bottom of the fore section, more especially the mid or central portion of the bottom of such fore section, in a dropped relation to the bottom of the rear section, more especially at the mid or central portion thereof, such drop beginning at the chines where it is zero and gradually increasing to its maximum at the keel or longitudinal axis of the boat, and in this manner serves to force water away from the forward end of the rear section, when the boat is in motion, thus preventing drag or retardation of the forward motion of the boat, and also assisting the forward section of the said boat to plane from the water when speed is desired or required.

A further object of the invention is the provision of a boat of this character, which is simple in its construction, reliable and efficient in operation, readily and easily set up and knocked down, assuring rigidity between the sections of the body of the boat when joined together, of moderate weight, convenient for storage, easily transported, strong, durable, fair lines throughout, of pleasing appearance, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings which disclose the preferred embodiment of the invention and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a top plan view of the boat constructed in accordance with the invention in a set-up condition.

Figure 2 is a vertical transverse sectional view through the boat taken on the line 2—2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a side elevation.

Figure 4 is a fragmentary sectional view on a large scale taken on the line 4—4 of Figure 2 looking in the direction of the arrows.

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 4 looking in the direction of the arrows.

Figure 6 is a fragmentary sectional view taken

on the line 6—6 of Figure 5 looking in the direction of the arrows.

Figure 7 is a perspective view of one part of a side latch employed in the boat.

Figure 8 is a fragmentary perspective view of the aft section of the boat looking toward the inner end thereof.

Figure 9 is a fragmentary perspective view of the fore section of the boat looking toward the inner end thereof.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail A designates generally the boat constructed in accordance with the invention and its body involves fore and aft separable sections 10 and 11, respectively. The fore section 10 includes the bow while the rear section 11 includes the stern of the boat. These sections 10 and 11 when separably joined with each other has the bottom 12 of the fore section at the keel or through the longitudinal center dropped below the bottom 13 of the aft section so that when the boat is afloat in water, there will be no dragging action set up by the rear section 11 and the boat body will be caused to plane from the water for increase in its speed when in motion therein. In other words, the fore section 10 steps down at the bottom 12 thereof with relation to the bottom 13 of the aft section 11, the drop beginning at the chines where it is zero and gradually increasing to its maximum at the keel or longitudinal axis of the boat, thereby preventing drag or the retarding of the forward motion of the boat as water is forced away from the front end of the aft section 11 by reason of the relationship of the fore section 10 thereto when the boat is in motion in a body of water. The lower side edge of the sections 10 and 11 are flush with each other.

These sections 10 and 11 at the inner faces of the walls 14 thereof are ribbed and braced as at 15 and 16, respectively in the desired manner to give the required rigidity and strength thereto.

The walls 14 of these sections 10 and 11 are rendered watertight by an overlap joint 16' or in any convenient fashion.

The fore section 10 has a seat 17 built therein and permanently imposed. The rear section 11 has a seat 18 therein readily removable to permit the nesting of the fore section 10 in the rear section 11.

Constructed at the inner separable meeting ends of the fore and aft sections 10 and 11 respectively, are bulkheads 19 and 20 respectively common to the respective sections which rise from the bottoms 12 and 13 to the same height with respect to each other and on the joiner thereof are upwardly tapered, resultant from the inclined outer faces 21 thereof. The height of rise of the bulkheads 19 and 20 from the bottoms 12 and 13 when joined with each other is to the load water line of the boat body to afford protection against leakage at the bulkhead ends of the sections. These bulkheads 19 and 20 and the uppermost portions thereof on the inner faces thereof in contra-distinction to the faces 21 are provided with tongue and groove interfitting portions 22 and 23 respectively, creating gaskets, being permanently installed and interfit with each other on the joining of the sections 10 and 11 with each other. The upper outer corner edges

of the bulkheads 19 and 20 are faced with metal stripping 24 constituting wear plates, while adapted to engage with the said bulkheads 19 and 20 and saddling the plates 24 are notched cleats 25 at the under face of a mid seat 26, the notch in each cleat 25 being indicated at 27 and is of a shape for accommodating the upper portions of the bulkheads 19 and 20 when the gaskets 22 and 23 are interfitted with each other so that these cleats under the weight of occupancy of the seat 26 will effect a wedging action upon the bulkheads 19 and 20 and thus compressing the gaskets in interfitted relationship to each other and thereby effecting a water seal between the bulkheads 19 and 20 at the uppermost portions thereof.

Located between and carried by the bulkheads 19 and 20 in a vacancy or space 28 as provided thereby when joined together are lower couplers, each including a curvilinear bill hook 29 and a semi cylindrical keeper 30 for interfitting separable engagement with each other. The keeper 30 when engaged by the bill 29 has contact with an abutment 31 in association with said bill 29 so that a positive interlocking engagement between the said bill and keeper will be assured for the fastening securely together the sections 10 and 11 on the bringing together of the bulkheads 19 and 20 in their proper relation to each other for the interfitting of the gaskets 22 and 23 in association with said bulkheads 19 and 20. These parts 29 and 30 have their base plates 32 bolted or otherwise secured at 33 in place upon the bulkheads to be confined within the space 28 herein before mentioned.

Arranged at opposite sides at the bulkhead ends of the body sections 10 and 11 of the boat are side rotary latch bolts, these being disposed below the gunwales and each includes a rotary shank or stem 34 rotatably accommodated in suitable clearances in the frame member 35 of the aft section 11 above its bulkhead 20 and such stem at one end is formed with a blade crosshead 36 which is insertable into a way 37 therefor provided in the frame member 38 of the fore section 10 so as to separably couple the said sections 10 and 11 together and also to engage with a cam faced retaining sleeve 39, its cam face being indicated at 40. This sleeve 39 is countersunk in the frame member 38 and accommodates the stem 34. At the other end of the stem 34 is fitted a lever 41 while adjustable lengthwise of the stem are jam and retaining nuts 42 and 43 respectively. Thus it will be seen that by the turning of the lever 41 the crosshead 36 active upon the cam face 40 of the sleeve 39 draws together and separably couples the sections 10 and 11 together at each side thereof. The lever 41 when locking the sections 10 and 11 together is held against accidental release by the mid seat 26 which at opposite notched ends thereof saddles the frame uprights 35 and 38 above the bulkheads 19 and 20. The notches in the ends of the mid seat 26 are indicated at 44 and the straddling relationship of this mid seat with respect to the

frame members 35 and 38 being clearly shown in Figure 1 of the drawings. It is necessary to remove the mid seat 26 before the lever 41 can be actuated for the release or uncoupling of the upper side latches to permit the separation of the sections 10 and 11 of the boat.

The sections 10 and 11 when separated from each other can be nested one within the other so that these units of the boat can be readily and conveniently stored in the rear compartment of a motor vehicles or other transporting medium or carried at the rear thereof or stored within the least possible space when the boat is not in use.

The seats 17 and 18 are releasably interfitted in the bow and stern of the boat body being common to the sections 10 and 11 thereof.

Arranged within these sections 10 and 11 is a convenient grating 45.

The adjustment of the nuts 42 and 43 on the stem 34 of each side latch is to regulate the tightness of coupling of the sections together.

The lower couplings involving the hooks 29 and keepers 30 are of novel construction so that an automatic interlocking action between the hooks and keepers will be assured and a positive waterproof or watertight junction is assured between the sections 10 and 11 through the use of the hooks hereinafter described.

The funwales 46 of the respective sections 10 and 11 at the inner meeting ends of these sections are constructed to effect an interfitted overlap at each side of the boat. The overlap includes a recess 47 and a terminal extension 48 respectively at each side of the boat, the recess and terminal extension being correspondingly shaped to each other, and being an overlapped joint had thereby and in this manner augmented by the side wall joints and the bulkhead joints lateral displacement of one section with respect to the other is entirely eliminated.

From the foregoing it is thought that the construction and manner of operation of the boat will be clearly understood and therefore a more extended explanation has been omitted for the sake of brevity. However, changes, variations and modifications may be made in the structure as come properly within the scope of the appended claim without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed is:

In a boat of the character described, separable sectional body units adapted for end abutment with each other, bulkheads arranged at the abutting ends of said units, a seat for clamping the bulkheads together, and locking means comprising a bolt element transversing said bulkheads, lever means secured to said bolt element for rotating same to releasably lock the units together, said lever means being positioned adjacent to said seat and held against release by said seat when the latter engages the bulkheads.

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