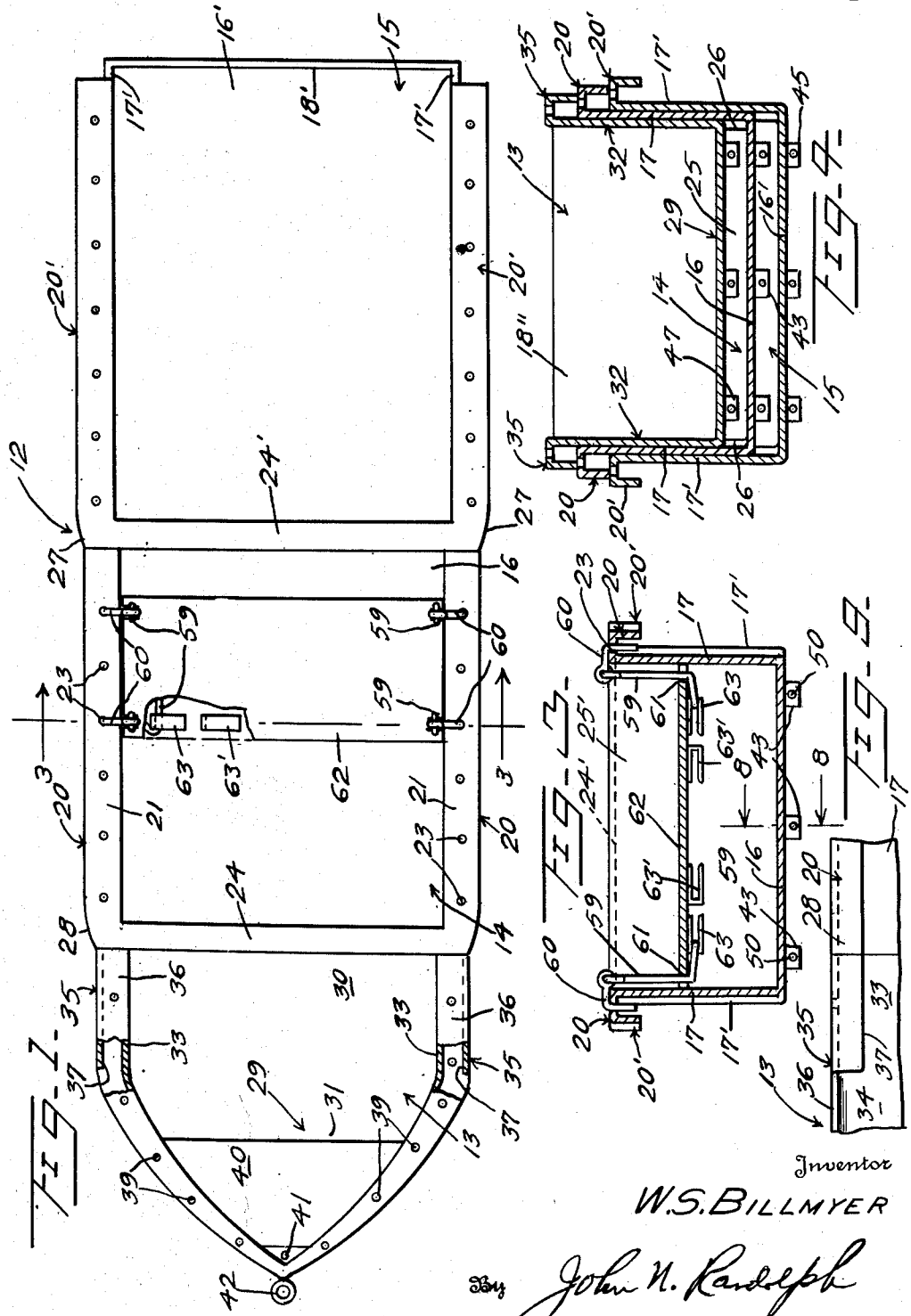
March 19, 1963 W. S. BILLMYER 3,081,465

SECTIONAL BOAT

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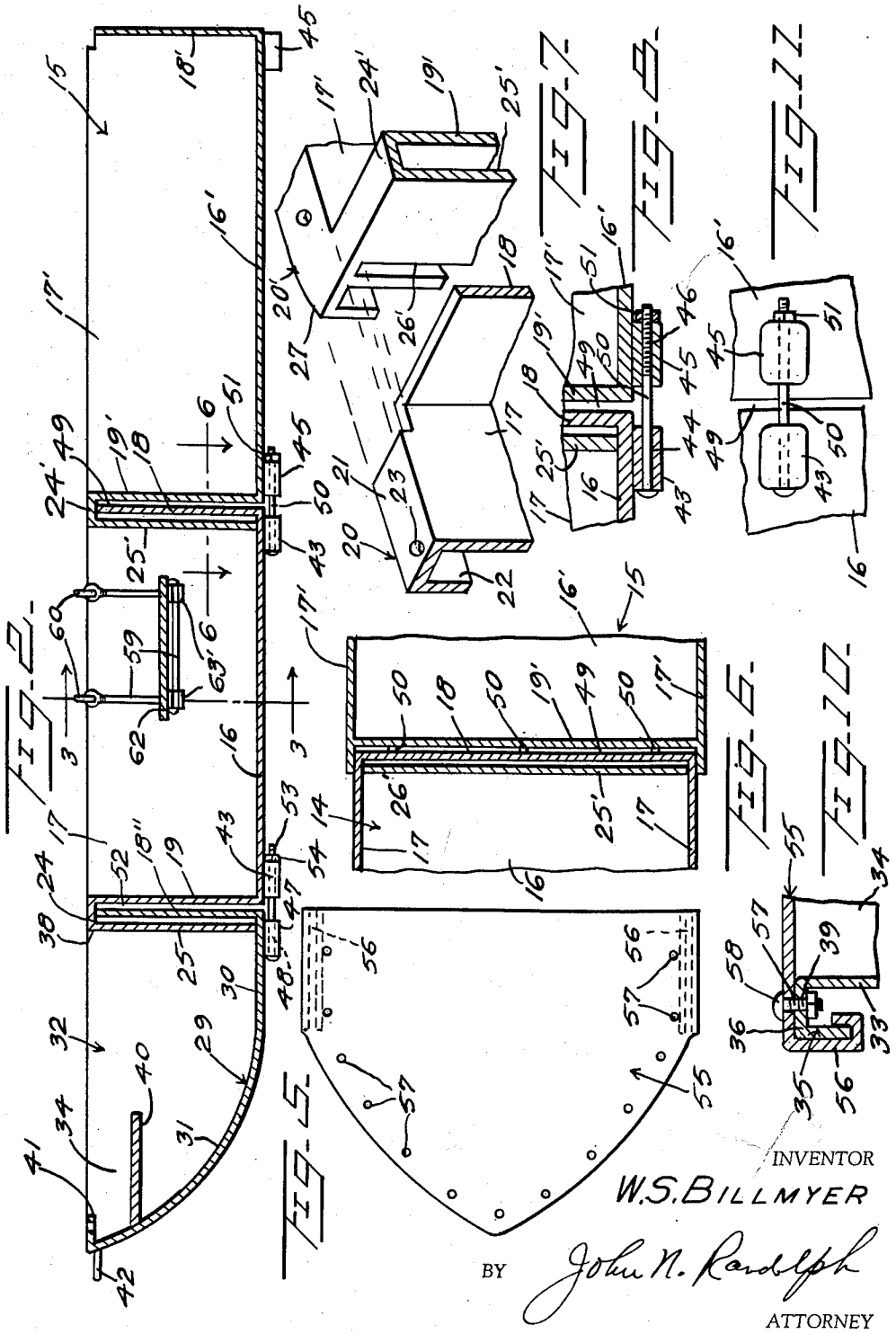


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SECTIONAL BOAT

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SECTIONAL BOAT

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7 Claims. (Cl. 9—2)

This invention relates to a novel sectional boat composed of two or more longitudinally aligned sections and having novel means forming an interlocking connection between the sections at adjacent ends thereof.

More particularly, it is an object of the present invention to provide a boat composed of sections which may be nested one within another for transportation and storage and which may be readily secured rigidly together with the sections in end-to-end relation.

A further object of the invention is to provide a sectional boat wherein each section provides a separate open top compartment, and wherein the boat sections are connected by novel joints by which the compartments are sealed from one another to substantially above the waterline of the boat.

Still a further object of the invention is to provide a novel interlocking joint between the sections of the boat to provide maximum rigidity between the assembled boat sections and to enable the boat sections to be assembled and disassembled very quickly and easily.

Still a further object of the invention is to provide a sectional boat the sections of which are so designed that said sections may be readily molded or cast.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, illustrating a presently preferred embodiment thereof, and wherein:

FIGURE 1 is a top plan view, partly in horizontal section, of the assembled boat;

FIGURE 2 is a longitudinal substantially central sectional view thereof;

FIGURE 3 is a cross sectional view taken substantially along a plane as indicated by the line 3—3 of FIGURE 1;

FIGURE 4 is a cross sectional view showing the boat sections nested for transportation or storage;

FIGURE 5 is a plan view of a boat deck attachment for the bow section;

FIGURE 6 is a fragmentary horizontal sectional view taken substantially along a plane as indicated by the line 6—6 of FIGURE 2;

FIGURE 7 is an exploded fragmentary perspective view, partly in section, and on an enlarged scale, showing parts forming the interlocking joint between two of the boat sections;

FIGURE 8 is an enlarged fragmentary longitudinal vertical sectional view, taken substantially along a plane as indicated by the line 8—8 of FIGURE 3;

FIGURE 9 is a fragmentary side elevational view of a part of the assembled boat;

FIGURE 10 is a fragmentary cross sectional view showing the connection of the boat deck attachment of FIGURE 5 to a part of the bow section, and

FIGURE 11 is an enlarged bottom plan view of a part of the assembled boat.

Referring more specifically to the drawings, the sectional boat in its entirety is designated generally 12 and in the embodiment thereof as illustrated, includes a bow section 13, an intermediate section 14 and a stern section 15.

The intermediate section 14 has a substantially flat bottom 16, corresponding vertical side walls 17, a transverse vertical rear end wall 18 and a transverse vertical front wall 19. The side walls 17 at their upper edges are provided with integral gunwales 20, each of which includes an outwardly projecting horizontal portion 21 and a depending vertical portion 22 which extends downwardly

from the outer edge of the portion 21, as best seen in FIGURE 7. The horizontal gunwale portion 21 is provided with longitudinally spaced openings 23, for a purpose which will hereinafter be described. The rear wall 18 terminates below the level of the gunwales 20 and said gunwales terminate forwardly of the rear wall 18 so that the side walls 17 have upper edge portions, disposed behind the gunwales 20, which are disposed coplanar with the upper edges of the transverse wall 18, as seen in FIGURE 7. The front wall 19 has a forwardly extending horizontal flange 24 at its upper edge which is disposed above the level of the upper edge of the rear wall 18 and substantially coplanar with the horizontal gunwale portions 21. A wall 25 is formed integral with and extends downwardly from the forward edge of the top flange 24 and terminates in its bottom edge just above the level of the bottom 16. The wall 25 has slots 26 at the ends thereof which extend from the bottom of said wall to the horizontal flange 24, lower portions of said slots being seen in FIGURE 4.

The stern section 15 likewise includes a substantially flat bottom 16', upright substantially parallel side walls 17', an upright transverse rear wall 18' and an upright transverse front wall 19'. As seen in FIGURE 6, the stern section 15 is slightly wider than the intermediate section 14 so that the side walls 17' are spaced apart a distance slightly greater than the spacing between the walls 17. The side walls 17' have gunwales 20', corresponding to the gunwales 20, and which are disposed at the same height above the bottom 16' as the gunwales 20 are disposed with respect to the bottom 16. The rear wall 18' corresponds to the rear wall 18 and its upper edge is disposed coplanar with the portions of the upper edges of the walls 17' which are located behind the gunwales 20'. Thus, another boat section, not shown, can be added to the boat 12 behind the section 15. As seen in FIGURE 7, the front wall 19', which corresponds to the front wall 19, has a forwardly extending horizontal top flange 24', and a wall 25' which extends downwardly from the forward edge of the flange 24' and which terminates slightly above the level of the upper surface of the bottom 16'. The flange 24' and the wall 25' correspond with the flange 24 and wall 25, said wall 25' being provided with slots 26' at the ends thereof, corresponding to the slots 26. As seen in FIGURE 7, the side walls 17' extend beyond the front wall 19' to terminate coplanar with the forward edge of the flange 24' and the front surface of the wall 25', so that the slots 26' separate the side walls 17' from the wall 25'. The gunwales 20' extend to the forward ends of the side walls 17' and are beveled on their outer sides and at their forward ends, as seen at 27, in FIGURES 1 and 7. The gunwales 20 are similarly beveled on their outer sides and at their forward ends as seen at 28 in FIGURE 1.

The bow section 13 includes a bottom 29 having a substantially flat rear portion 30 of a width somewhat less than the width of the bottom 16, and an upwardly curved and tapered forward portion 31. The bow section 13 includes corresponding side walls 32 which are spaced apart a distance less than the spacing between the walls 17 and which side walls include substantially parallel rear portions 33, which are spaced apart a distance less than the spacing between the walls 17, and inwardly curved converging forward portions 34 the bottom edges of which conform in contour to the bottom portion 31 and the forward ends of which converge with one another and with the forward end of said bottom portion 31. The bow section 13 has a rear wall 18'', corresponding to the rear wall 18.

The bow section 13 has gunwales 35 along its side walls 32, each including a horizontal top flange 36 which

extends to the forward ends of the walls **32** and an outer vertical depending flange **37**, which extends only along a part of the gunwale which is spaced outwardly from the wall portion **33**. The rear ends of the gunwales **35** and wall portions **33** correspond with the rear ends of the walls **17** and gunwales **20**, as seen in FIGURE 7, to provide notches **38** to accommodate the tapered forward ends **28** of the gunwales **20**, and end portions of the top flange **24**, as will hereinafter be described. The horizontal gunwale portions **36** are provided with spaced openings **39** similar to the openings **23**. The bow section **13** may be provided with a bow seat **40** which extends rearwardly from the bottom portion **31** and between the wall portions **34**, somewhat below the level of the gunwale surfaces **36**. An apertured plate **41** may be provided at the forward end of the wall portions **34** and above the seat **40**, and a mooring eye **42** may be provided externally of the bow section and at the upper forward end of the bottom portion **31**.

The bottom **16** is provided on its underside and adjacent each end thereof with longitudinally disposed lugs **43** having bores **44** extending longitudinally therethrough, as seen in FIGURE 8. The underside of the bottom **16'**, adjacent both of its ends, has similar lugs **45** provided with longitudinal bores **46**, and the underside of the bottom portion **30**, near the rear wall **18''**, has similar lugs **47** provided with bores **48**.

To assemble the boat **12**, the boat sections **13**, **14** and **15** are preferably inverted and the rear wall **18** of the intermediate section is displaced downwardly into the space **49** between the front wall **19'** and the wall **25'**. The wall **25'** is of a length to fit snugly between the side walls **17**, portions of which side walls are accommodated in the slots **26'**, as seen in FIGURE 6, so that the forward ends of the walls **17'** overlap the rear ends of the walls **17**. The width of the space **49** is substantially greater than the thickness of the wall **18**, and when the forward ends of the gunwales **20'** are in abutting engagement with the rear ends of the gunwales **20**, as seen in FIGURE 1, the wall **18** is disposed in the space **49** between and spaced from the walls **19'** and **25'** and with its upper edge abutting the top flange **24'**. With the parts thus disposed, the bores **44** of the rear lugs **43** are disposed in alignment with the bores **46** of the front lugs **45** to receive headed bolts **50** which engage detachably through said aligned bores **44** and **46** and to which nuts **51** are applied and tightened for detachably securing the sections **14** and **15** rigidly together, with the adjacent ends of the gunwales **20** and **20'** in abutting engagement and with the horizontal flange **24'** resting upon the upper edge of the rear wall **18** and the upper edge of the rear wall **18** and the upper edges of the rear ends of the walls **17**.

The rear wall **18''** is similarly applied in the space **52** of the intermediate section **14**, between the walls **19** and **25**, so that the upper edge of the wall **18''** and the upper edges of the rear ends of the wall portions **33** abut against the underside of the horizontal flange **24**. The walls **17** similarly overlap the rear ends of the wall portions **33** and the forward ends of the gunwales **20** abut against the rear ends of the gunwales **35**. When thus disposed, parts of the wall portions **33** will be snugly received in the slots **26** so that the sections **13** and **14** will be disposed in correct alignment and with the bores **44** of the forward lugs **43** in alignment with the bores **48** of the lugs **47** to receive additional bolts **53** which are secured to said lugs by nuts **54**. It will thus be seen that the joint including the space **52** corresponds with the joint having the space **49** and that said joints, as best seen in FIGURE 7, due to their unique construction, provide a connection permitting no lateral movement of the sections relative to one another and only a slight lengthwise movement to the extent that the wall **18**, for example, can move forwardly in the space **49** against the wall **25'** until the fastenings **50**, **51** are applied and tightened, and which effectively holds the joint immovably in the position as illustrated in FIGURES 2, 6 and 8.

It will also be noted that each section of the assembled boat **12** constitutes a separate open top compartment so that any water which might leak or otherwise collect in any one compartment or boat section cannot reach the other compartments or boat sections.

FIGURES 5 and 10 illustrate a boat deck **55** of the same shape as the top of the bow section **13** and which may be applied thereover. The deck **55** has inwardly turned back side edge portions **56** at its rear end forming upwardly opening inturned hooks which slidably engage the vertical gunwale flanges **37**, when the deck **55** is slid rearwardly relative to the bow section **13**. The deck **55** has openings **57** disposed to register with the openings **39** when the deck **55** is applied. Selected ones of the aligned openings **39** and **57** can be engaged by nut and bolt fastenings **58** for detachably securing the boat deck **55** in an applied position covering the open top of the bow section **13**.

The openings **23** of the gunwales are adapted to receive conventional oarlocks, not shown, and are also adapted to be engaged by canopy poles, not shown, and seat supports. The seat supports, as illustrated in FIGURES 1 and 3, each includes two ropes or other nonelastic flexible elements **59**. One end of an angular pin **60** is secured to each end of each rope **59** and the other ends of the pins **60** engage two openings **23** of one of the gunwales of the boat **12**, as seen in FIGURES 1 and 3. The pins **60** of the other rope are engaged in corresponding openings **23** of the other gunwale. Each rope **59** extends downwardly from the pins **60** thereof through transversely spaced end notches **61** of a rigid seat member **62**. An intermediate portion of the rope, which extends between said transversely spaced notches, engages either an outer pair of hooks **63** or an inner pair of hooks **63'**. The elevation of the seat relative to the gunwales can thus be varied. The seat member **62** is preferably of a length to extend to adjacent the side walls **17** to thereby cooperate with the hooks **63** or **63'** in retaining the ropes **59** in engagement with the notches **61**.

As previously stated, the intermediate section **14** is somewhat narrower than the stern section **15** and wider than the bow section **13** and is also of a greater length than said bow section and of a lesser length than the stern section, so that when the sections are disconnected, the intermediate section **14** can be nested in the stern section **15** and the bow section **13** can be nested within said intermediate section **14** for transportation and/or storage of the boat, as illustrated in FIGURE 4.

Various other modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A sectional boat comprising at least two longitudinally aligned sections including a first section and a second section; an interlocking joint detachably interconnecting said sections to one another, said interlocking joint including an inner transverse wall, an outer transverse wall and a top flange disposed above and rigidly connecting said transverse walls together in spaced apart substantially parallel relation to one another to define a downwardly opening space therebetween extending from top to bottom of said transverse walls, said transverse walls and top flange constituting an end of said first section, said second section having a transverse end wall fitting detachably in said space and bearing against the top flange, said outer transverse wall having downwardly opening end slots, and said second section having side walls including recessed top portions snugly engaging in said slots and abutting portions of said top flange; said boat sections each comprising an upwardly opening compartment and said interlocking joint being interposed

between and separating said compartments from one another.

2. A sectional boat as in claim 1, said boat sections having bottoms provided with apertured lugs disposed on the undersides thereof, said lugs being disposed in alignment with one another when said top flange is abutting said transverse end wall and the recessed end portions of said side walls, and fastening means detachably engaging through said lugs for retaining the joint parts in interlocked engagement with one another.

3. A sectional boat as in claim 1, said first section having side walls including end portions overlapping said inner and outer transverse walls and the top flange and disposed in overlapping relation to said recessed end portions of the side walls of the second section.

4. A sectional boat as in claim 3, said side walls having outwardly extending horizontal gunwale portions provided with spaced openings, a boat seat, flexible elements detachably connected to and extending upwardly from the boat seat and having pins engaging in certain of the openings of oppositely disposed gunwale portions for detachably suspending the seat in one of said boat sections.

5. A sectional boat as in claim 1, said second section being of a length and width less than the length and width, respectively, of the first section for storing the second section nested within the first section.

6. A sectional boat as in claim 1, a third boat section, and a second interlocking joint, corresponding to said first mentioned interlocking joint, formed in part by one end of said third boat section and in part by the other end of said second section, for interconnecting the second and third sections with said second section interposed between the first and third sections.

7. A sectional boat as in claim 6, said third section comprising a bow section and defining an upwardly opening compartment, a deck member detachably mounted on and covering the open top of the compartment of said third section, and means detachably securing the deck member on said third section.

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