

[54] SECTIONAL CANOE

[76] Inventors: Yves E. Tetreault, 12, rue St-Antoine Sud; Leonard Arcouette, 326 Mountain; Serge Cadorette, 184, Dufferin, all of, Granby, Quebec, Canada

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[58] Field of Search 9/2 S, 6; 114/0.5 F, 77 R

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Primary Examiner—Trygve M. Blix

Assistant Examiner—Gregory W. O'Connor

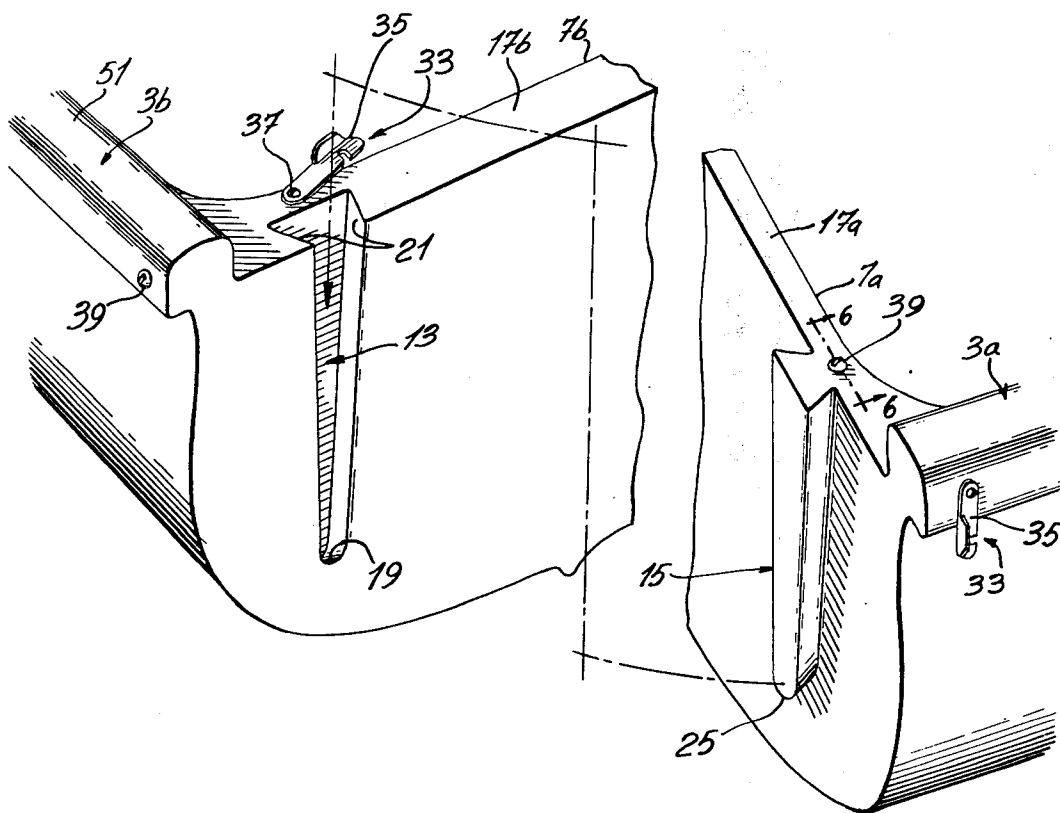
Attorney, Agent, or Firm—Raymond A. Robic; Peter G. Mack; Arthur Schwartz

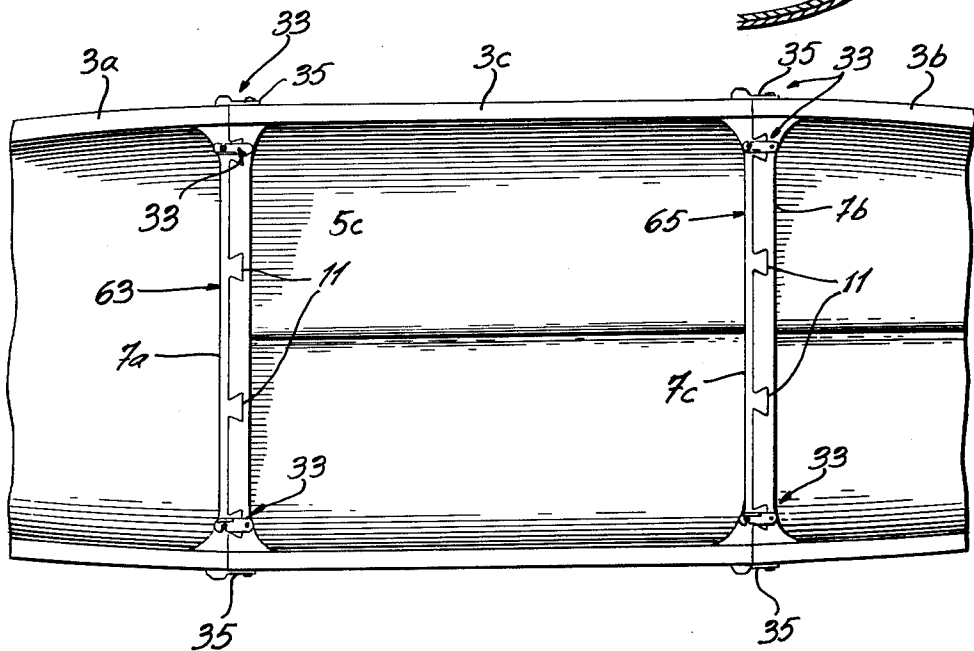
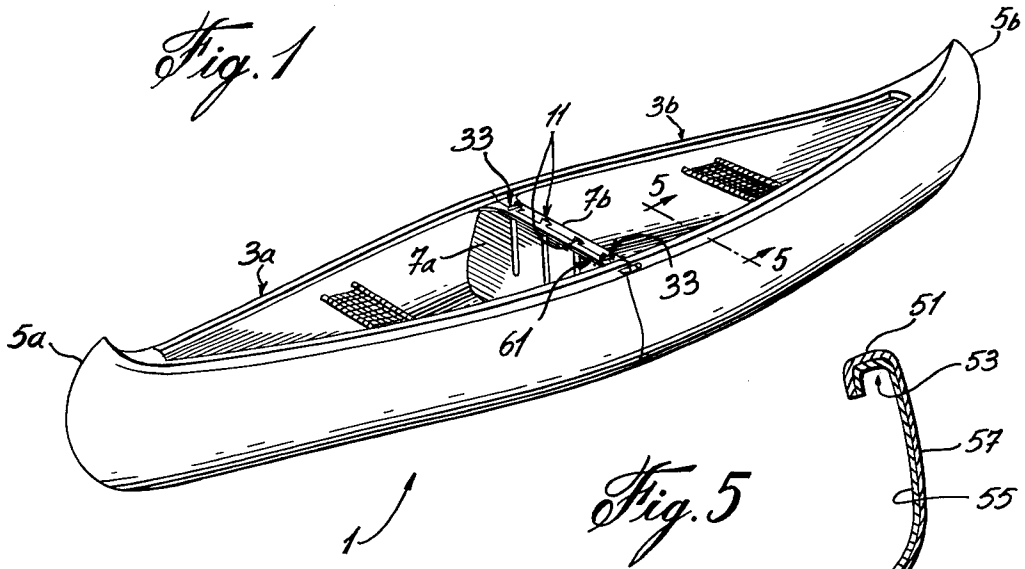
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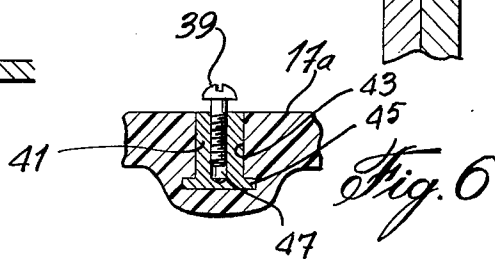
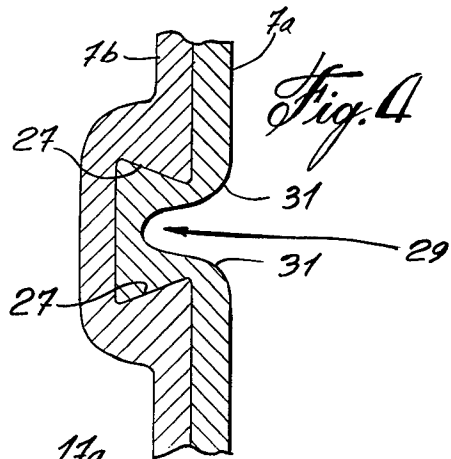
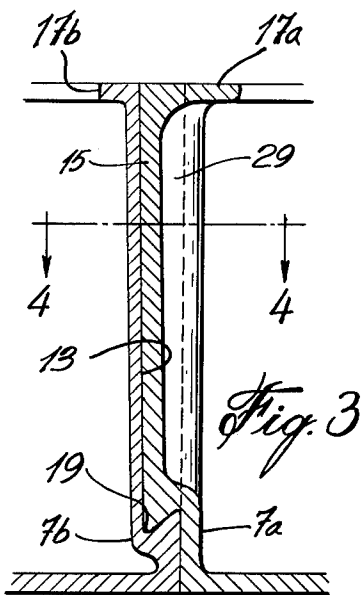
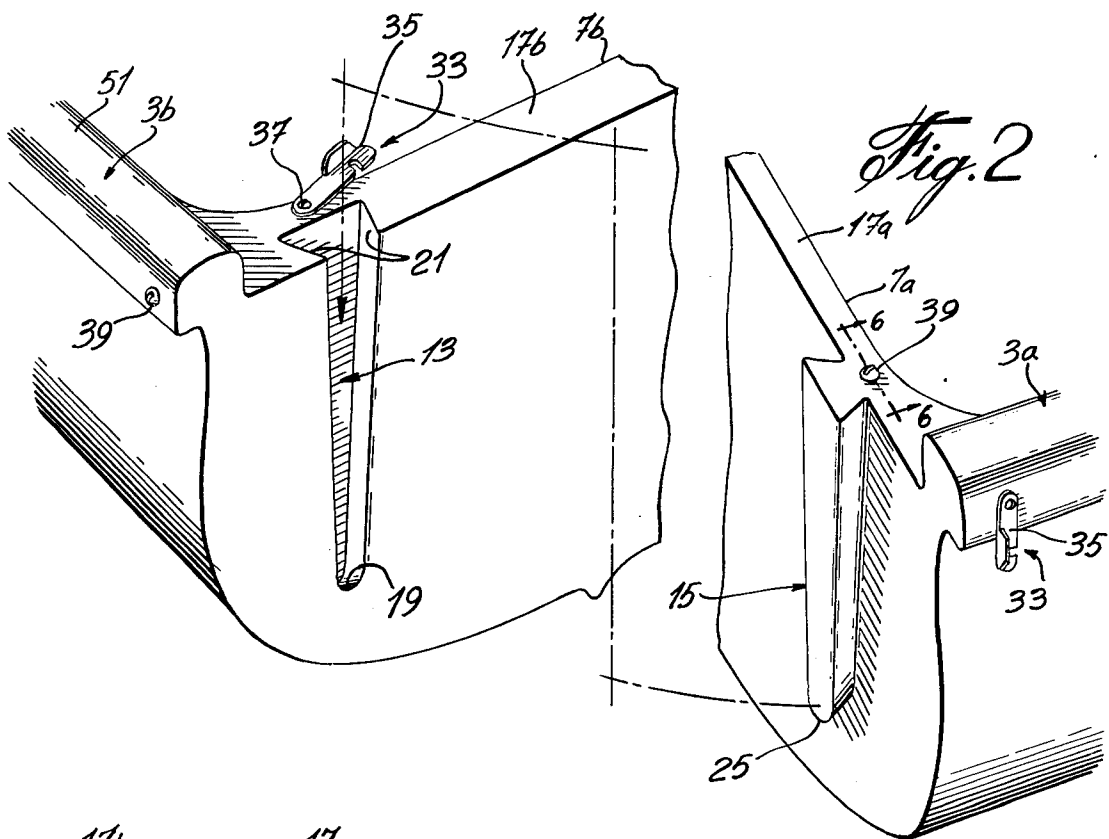
ABSTRACT

A boat having at least two separate, shape-retaining sections, each section including a transversely disposed, vertical wall, each wall including a top edge and a bottom edge, each bottom edge being coterminous with a bottom surface of the boat. One vertical wall includes a plurality of narrow, elongated, vertical, wedge-shaped slots, each slot having sides converging in a downward direction from the top of the vertical wall. Each slot terminates in a bottom end which is spaced from the bottom edge of the vertical wall. The other vertical wall includes a plurality of narrow, elongated, vertical, projecting wedges, each wedge having sides converging in a downward direction from the top of the wall. Each wedge terminates in a bottom tip, the tip being spaced from the bottom edge of the wall. The wedges cooperate with the slots to join the sections together in end-to-end relationship such that the walls are held together contiguously to form a bulkhead in the boat. The tips of the wedges abut the bottom ends of the slots to serve as positive stops for joining the sections together in given relative vertical dispositions.

7 Claims, 7 Drawing Figures







SECTIONAL CANOE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is directed toward a boat.

The invention is more particularly directed toward a boat which can be readily transported to and from the water, and still more particularly to a boat made in sections which can be detachably connected together.

2. Description of the Prior Art

Readily transportable boats are known. An example of such boats are those which can be inflated, or those which have a collapsible frame and flexible cover. Boats of the above general type have the advantage that they can be readily transported to and from the water in a relatively small space, are lightweight, and can be easily stored. These boats have disadvantages however. The inflatable boats cannot be satisfactorily used in making efficient canoe-style boats. In addition, inflatable boats require inflating means. Collapsible frame boats have inherent weakness due to the connection required in the frame structure and can be quite complicated and thus costly. In addition, both types of boats are not very strong.

SUMMARY OF THE INVENTION

It is the purpose of the present invention to provide a boat that minimizes or eliminates the above noted disadvantages, particularly with regard to a canoe-style boat, although not limited thereto.

The boat of the present invention is made of separate, shape-retaining sections, with means provided for detachably joining the sections in end-to-end relation. The boat can be quickly disassembled into its separate sections, and each section can be transported separately. This is particularly useful when the boat is a canoe, and a portage is encountered. The constructed also permits the boat to be transported and stored in its disassembled condition which can save space. The shape-retaining sections, and thus the assembled boat, can be made stronger than inflatable or collapsible frame type boats. In addition, the end-to-end connection of the sections provides bulkheads in the boat which gives additional strength.

Preferably the sections each comprise a normally watertight, buoyant shell and the means for detachably connecting the sections does not affect the normal watertightness of the sections. Thus a normally watertight boat can be quickly assembled without having to worry about seals. In addition, the assembled boat has increased safety since a leak in any one section does not affect the other section or sections.

The invention is broadly directed to a boat comprising at least two separate, shape-retaining sections with cooperating means on the sections for detachably connecting them together with one end of one section adjacent one end of the other section. The adjacent ends of the connected sections form at least one bulkhead in the boat.

Preferably the sections each comprise a normally watertight, buoyant shell.

The invention is also directed toward the specific means for detachably connecting the sections together.

The invention is further directed toward the sections per se from which a boat according to the subject invention can be constructed.

Other minor inventive improvements will be apparent from the following description and claims.

DESCRIPTION OF THE DRAWINGS

5 The invention will now be described in detail having reference to the accompanying drawings in which:

FIG. 1 is a perspective view of a canoe constructed according to the invention;

10 FIG. 2 is a partial schematic view showing the preferred means for connecting two boat sections together;

FIG. 3 is a partial vertical cross-sectional view of the boat showing the connection between adjacent sections;

15 FIG. 4 is a cross-sectional view taken along line 4—4 of FIG. 3;

FIG. 5, appearing on the same sheet as FIG. 1, is a partial cross-sectional view taken along line 5—5 of FIG. 1;

20 FIG. 6 is a partial cross-sectional view taken along line 6—6 of FIG. 2; and

FIG. 7, appearing on the same sheet as FIG. 1, is a partial plan view showing another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIG. 1, the boat 1, a canoe, is made in two sections 3a, 3b. Each section 3a, 3b is shape-retaining, and preferably comprises a buoyant, normally watertight shell. By normally watertight is meant that the both sections are constructed in a watertight manner and normally remain watertight. However, the sections could possibly be stoved in use on hitting rocks or deadheads and thus leak. Each section has two ends, one end comprising a bow 5 and the other end comprising a vertical transverse wall 7. The sections 3a, 3b are located in end-to-end relation, with walls 7a, 7b adjacent one another.

40 Cooperating connecting means 11 are provided on the sections 3a, 3b, and more particularly on the end walls 7, to detachably hold the sections together. The connecting means 11 preferably is a wedge-type dovetail connection. Four such connections are shown in FIG. 1, but more or as few as two may be used. Each such connection 11 comprises a vertical slot 13 in the outer surface of wall 7b of one section 3b and a vertical wedge 15 projecting from the outer surface of wall 7a of the other section 3a as shown in FIG. 2.

50 Slot 13 extends down from the top 17b of wall 7b and narrows toward its bottom end 19. The side walls 21 of the slot diverge or angle away from each other. The cooperating wedge 15 substantially mates with the slot 13 and thus tapers down from top surface face 17a of wall 7a to its bottom tip 25. The side walls 27 of the wedge are angled to mate with the side walls 21 of the slot. The back of the wedge 15 has a vertical groove 29 as shown in FIG. 4. This groove has a depth greater than the thickness of wall 7a so as to extend into the wedge from the inner surface of wall 7a. This provides connections 31 between the wedge 15 and the wall 7a which are slightly flexible thereby providing improved wedging action when wedges 15 are forced down into grooves 13 in joining the sections.

65 Retaining means 33 are provided for maintaining the sections joined together these means 33 can comprise hooks 35 mounted on pins 37 on the top 17b of wall 7b

of section 3b. The hooks 35 pivot horizontally and tightly hook onto pins 39 mounted on the top 17a of the adjacent wall 7a. Two hooks 35 can be provided, one on each side of the top of the boat. Each pin 37, 39 is mounted in a socket member 41 as shown in FIG. 6. Each socket member comprises a body 43, a knurled rim 45 and a threaded bore 47. The sockets are embedded in the walls of the section, and held in place by rims 45. The pins 37, 39 are threaded into bores 47.

Similar retaining means 33 can be provided on the sides of the sections at the joint as shown in FIGS. 1 and 2, if desired.

Such section 3a, 3b is preferably moulded from suitable, mouldable plastic material. The top sides or gunwales portion 51 of each section is preferably formed into a channel shape 53 as shown in FIG. 5 to provide additional strength to the sections. In addition, if desired, each section can have its wall made from two dissimilar layers. The inner layer 55 can be made of a softer, less slippery plastic material while the outer layer 57 is made of harder, tougher plastic material, the two layers however being integrally bonded together.

The sections 3a, 3b are readily assembled to form the canoe 1 by sliding the wedges 15 down into the cooperating slots 13 so as to jam or wedge the sections together. The walls 21 of the slot 13 pull and hold the wedge 15, and thus wall 7a, tightly against wall 7b. When wedged together, the abutting walls 7a, 7b of the two sections together form a bulkhead 61 extending across the canoe. This aids in strengthening the boat. Hooks 35 are then moved on pins 37 to help retain the sections together.

The boat may be made in more than two sections. As shown in FIG. 7, a boat can be made from three sections 3a, 3b and 3c. The middle section 3c has both ends provided with vertical, transverse walls 5c, 7c cooperating with walls 7a, 7b respectively of the end sections 3a, 3b respectively. Cooperating connecting means 11 are provided for connecting the sections together end-to-end as before. A three-sectioned boat as shown has two bulkheads 63, 65 formed from the connections of the sections.

While a canoe has been shown in describing the invention, any type of small boat can be constructed from the sections described with one end section having a stern instead of a bow.

The boat of the present invention is very simple in construction, lightweight, yet strong. The boat is easily taken apart into sections for ease of transportation and storage. It is also easily assembled. With each section being a normally watertight, buoyant entity, the assembled boat has increased safety since if one section develops a leak, for any reason, the other section or sections are not affected and still provide buoyancy. The joined sections also provide improved strength to the boat through the bulkheads formed from adjacent section walls.

We claim:

1. A boat comprising:

- a. at least two separate, shape-retaining sections;
- b. each section including a transversely disposed, vertical wall, each wall including a top edge and a bot-

tom edge, said bottom edge being coterminous with a bottom surface of the boat;

- c. said vertical walls including means for connecting said sections together;
- d. said connecting means including a plurality of narrow, elongated, vertical wedge-shaped slots in one of said vertical walls, each slot having sides converging in a downward direction from the top of said one vertical wall;
- e. each slot terminating in a bottom end, said end being spaced from the bottom edge of said one vertical wall;
- f. said connecting means also including a plurality of narrow, elongated, vertical, projecting wedges in the other of said walls, each wedge having sides converging in a downward direction from the top of said other wall;
- g. each wedge terminating in a bottom tip, said tip being spaced from the bottom edge of said other wall;
- h. said wedges cooperating with said slots to join said sections together in end-to-end relationship such that said walls are held together contiguously to form a bulkhead in said boat;
- i. said tips of said wedges abutting said bottom ends of said slots to serve as positive stops for joining said sections together in given relative vertical dispositions.

2. A boat as defined in claim 1 wherein:

- a. each slot is defined by a pair of adjacent, oppositely disposed internal side walls extending inwardly from said one vertical wall and by a narrow, internal face disposed in a plane parallel to said one vertical wall;
- b. each wedge is defined by a pair of adjacent, oppositely disposed external side walls extending outwardly from said other vertical wall and by an external face disposed in a plane parallel to said other vertical wall;
- c. said side walls and faces of said slots and wedges form dovetail connections;
- d. each vertical wall defines one end of each section and includes a flat surface comprising the major portion of said one end; and
- e. at least one wedge and mating slot being disposed entirely to one side of the centerline of the boat, and at least another wedge and mating slot being disposed entirely to the other side of the centerline of the boat.

3. A boat as claimed in claim 1, wherein each section is a normally watertight buoyant shell.

4. A boat as claimed in claim 1 including a vertical groove on the back of each wedge to provide resiliency thereto.

5. A boat as claimed in claim 1 including retaining means for use in maintaining the sections detachably connected.

6. A boat as claimed in claim 1 wherein each section has gunwales in the shape of inverted channels.

7. A boat as claimed in claim 2 wherein the other end of one of the sections forms a bow of the boat.

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