

[54] CANOE CONSTRUCTION

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[57] ABSTRACT

An open canoe is adapted for use in white water by means of a removable top deck which is attached to the gunwales of the canoe and generally covers the open top except for cockpit openings for the paddlers. Suspended from the under side of the top deck are one or more buoyant chambers which fill one-third or more of the open space in the canoe hull. The deck member tends to limit the flow of white water into the hull, and the buoyant chamber limits the available space in the hull for the accumulation of water, so that the amount of water taken in by the canoe is limited, which enables more effective use of the boat.

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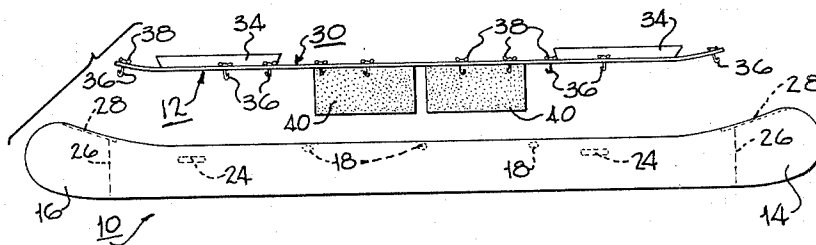
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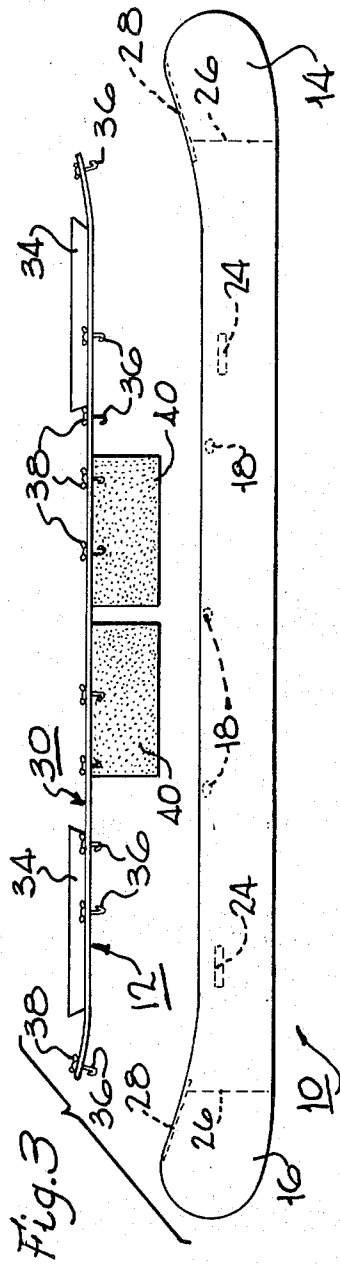
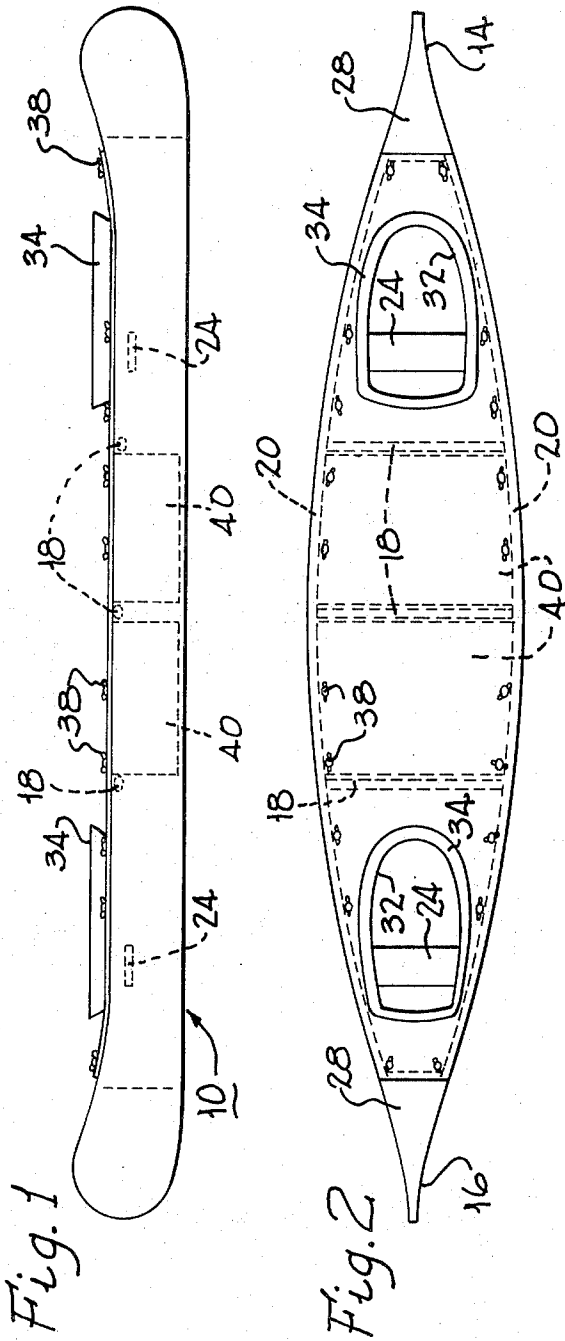
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9 Claims, 3 Drawing Figures





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CANOE CONSTRUCTION

BACKGROUND OF THE INVENTION

This invention relates to the class of small boats known as canoes, and particularly to a canoe construction which especially adapts it for use in rapids or rough water having considerable spray.

The use of canoes in wild rivers with rapids and in other types of rough or "white" water is an exciting sport. However, the open canoe tends to take in large quantities of such water over its bow and gunwales. White water is in the nature of "free" water, momentarily suspended in the air as spray. As such, it does not support the canoe, which rides under the water, and the spray tends to drop into the open canoe. With large quantities of water in the hull, the canoe becomes difficult for the paddler to maneuver and control. Loss of stability can result in overturning of the canoe. Even with a closed top deck, similar to a kayak, the canoe takes in water in the deck opening provided around the paddler.

SUMMARY OF THE INVENTION

Accordingly, it is an object of this invention to provide a canoe construction suitable for use in rough or white water.

Another object is to provide a detachable canoe construction for temporarily converting a standard canoe for use in white water.

In accordance with one embodiment of this invention, a conventional open canoe is provided with a top deck that mates in shape with the gunwales of the canoe and is fastened thereto. The underside of this deck has at least one buoyant chamber suspended therefrom. This chamber fills a substantial portion of the open space (e.g., one-third or more) of the hull. The deck has one or more cockpit openings for paddlers. The free flow of water into the hull tends to be limited by the top deck, and the buoyant chamber limits the available space in the hull for the accumulation of water.

BRIEF DESCRIPTION OF THE DRAWING

The foregoing and other objects of this invention, the various features thereof, as well as the invention itself, may be more fully understood from the following description when read together with the accompanying drawing, in which:

FIG. 1 is a side elevation view of a conventional canoe to which is attached a top deck construction embodying this invention;

FIG. 2 is a top view of the canoe and deck of FIG. 1; and

FIG. 3 is a side elevation view, similar to FIG. 1 but with the canoe and top deck in exploded relation.

In the drawing, corresponding parts are referenced by similar numerals throughout.

DESCRIPTION OF A PREFERRED EMBODIMENT

A conventional open canoe 10 is provided with a top deck 12 to limit the free flow of water into the canoe, as well as the accumulation of water that manages to pass the top deck 12 into the hull. The canoe may take any of a variety of known forms, and the canoe illustrated in the drawing represents a conventional canoe, such as

the common aluminum type that is commercially available. Such a canoe is conventionally shaped to be narrow or pointed at the bow 14 and stern 16, and to be relatively wide amidships. Three thwarts 18 extend between the gunwales 20, and two cross seats 24 are provided forward and aft. Watertight bulkheads 26 and decks 28 are conventionally situated in the narrow bow and stern, and serve as buoyant chambers to prevent sinking of the boat when overturned or filled with water.

The top deck 12, in a preferred form, includes a sheet 30 of flat and relatively stiff material, such as a sheet of plywood, molded fiberglass or aluminum stamping. A pair of openings 32 are formed in the deck member 30 in locations overlying the seats 24, to provide cockpits for the paddlers. The cockpit openings 32 are surrounded by raised rims or coamings 34, which act as splashboards to restrict the flow of water into the cockpits. The deck member 30 is provided with a plurality of J-bolts 36, spaced about the edge of the deck member, and each adapted to engage at its hook end with the adjacent inward overhang of the canoe gunwale 20 or deck 28. Wing nuts 38 of the J-bolts are readily tightened up to secure the bolts and provide a tight attachment of the deck member to the canoe. The thwarts 18 can also be used, and various other projecting surfaces on conventional canoes are available or can be readily added for such fastening means.

Suspended from the underside of the deck member 30, and preferably at the center portions thereof, are a pair of buoyant chambers 40. These chambers are shaped and dimensioned to fit between the thwarts 18 and between the gunwales 20 and extend from the gunwales substantially to the bottom of the hull, to substantially fill the open space within the hull of the canoe. These chambers 40 may take the form of watertight enclosures of the same material as the deck member 30, and may be formed integral therewith; for example, shaped aluminum sheeting secured to an aluminum deck member 30 may be used. Alternatively, the chambers 40 may be formed of solid molded plastic material, such as styrofoam, and suitably bonded to the underside of the member 30. Whether air chambers or formed of solid low-density material, the chambers 40 add little to the gross weight, and provide relative buoyancy when the canoe hull is otherwise filled with water. The chambers 40 are dimensioned to fill a substantial part of the open space within the canoe hull. For example, preferably one-third and more of this open space is filled by the buoyant chambers.

The canoe 10, with the deck member 12 removed, may be used in any conventional fashion. The deck member 12 is readily manipulated by one or two persons, and with most lightweight materials would weigh 25 pounds or less. Thus, the deck 12 can be readily attached to or removed from the canoe. The deck member has the same outer shape as the gunwales of the canoe, and is secured thereto simply by resting it on top of the gunwales. Thereafter, the J-bolts around the edge of the deck are drawn up tight by manipulation of the wing nuts, with the hook of the bolt engaging under the overhang of the gunwales 20 and of the bow and stern decks 28. A gasket may be provided about the rim of the deck sheet 30, between it and the canoe gunwales, if a watertight seal is desired. However, in view

of the open paddler cockpits 32, a watertight seal is not generally important, and a sufficiently close attachment is ordinarily provided without a gasket.

In use, the canoe is handled and paddled in white water in the usual fashion. The white water splashes into the air above the canoe, and tends to drop into the canoe like a shower. The top deck 30 restricts the flow of water into the hull, and the coamings 34 tend to keep out from the cockpits the water that falls on the deck 30. However, by its very nature the white water enters the cockpits 32 around the paddlers. This water accumulates in the hull of the canoe, and would often fill all open space therein. The buoyant chambers 40 restrict the volume of open space in the hull which is available for such water accumulation. Thus, the instability of a canoe resulting from the water accumulation is substantially reduced. Ordinarily, the canoe carries stowage of various amounts, which is inserted in the space under the seats 24 and under the forward and aft portions of the deck 30. Thus, with this invention, the amount of open space in the canoe available for the accumulation of water is quite small, and largely limited to the cockpit space surrounding the paddlers. Where stowage room is not required in the use of the canoe, additional buoyant chambers may be provided under the seats 24 and suspended from the sections of the deck 30 in front of the forward cockpit 32 and abaft the rear cockpit. The deck 12 may also be constructed with only the rear cockpit for a single paddler, and additional buoyant chambers would be attached to the deck 12 on either side of the bow seat 24.

The deck member 30 may also be made of canvas or other suitable materials which are drawn up tight when attached to the gunwales of the canoe. The buoyant chambers 40 in such an embodiment may be formed of molded styrofoam blocks or of canvas air bags suspended from the deck canvas. The fasteners 36 may take various other forms, and may readily vary with the types of materials employed for the deck member 30. Various other modifications of this invention will be apparent from the above description of an illustrative form of the invention.

What is claimed is:

- 1. A device for converting a canoe for use in rough water comprising
 - an elongated waterproof deck member;
 - and means for manually and removably fastening said member to the open top of a canoe as a cover deck;
 - said deck member being shaped with narrow ends and a wide intermediate portion and dimensioned to substantially fit the open canoe top, said deck

member having: at least one cockpit opening therein for a paddler, and a buoyant chamber attached to the underside of said member for mounting within said canoe and for filling a substantial portion of the space within the hull of the canoe, whereby said deck member tends to limit the flow of water into the hull, and said buoyant chamber limits the available space in the hull for the accumulation of water.

- 2. A canoe device as recited in claim 1, wherein said buoyant chamber is an enclosed air chamber.
- 3. A canoe device as recited in claim 1, wherein said buoyant chamber is a solid volume of low density material.
- 4. A canoe device as recited in claim 1, wherein said buoyant chamber is dimensioned to extend from the gunwales substantially to the bottom of the hull.
- 5. A canoe device as recited in claim 1, wherein said deck member includes a coaming about said cockpit opening to restrict the flow of water therein.
- 6. A canoe device as recited in claim 1, in combination with an open canoe.
- 7. A canoe device as recited in claim 6, wherein the volume of said buoyant chamber is at least one-third of the open volume of the canoe hull in which water can accumulate.
- 8. A canoe device as recited in claim 6, wherein said buoyant chamber is located between the thwarts of the canoe.
- 9. In combination with an open canoe,
 - a canoe construction for use of a canoe in rough water comprising an elongated waterproof deck member;
 - and means for removably fastening said member to the open top of a canoe as a cover deck;
 - said deck member being shaped with narrow ends and a wide intermediate portion and dimensioned to substantially fit the open canoe top, said deck member having: at least one cockpit opening therein for a paddler, and a buoyant chamber attached to the underside of said member for mounting within said canoe and for filling a substantial portion of the space within the hull of the canoe, whereby said deck member tends to limit the flow of water into the hull, and said buoyant chamber limits the available space in the hull for the accumulation of water, said deck member being a generally flat sheet, and said member fastening means including a plurality of bolts spaced about the edge of said member for engaging the gunwales of the canoe and attaching thereto.

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