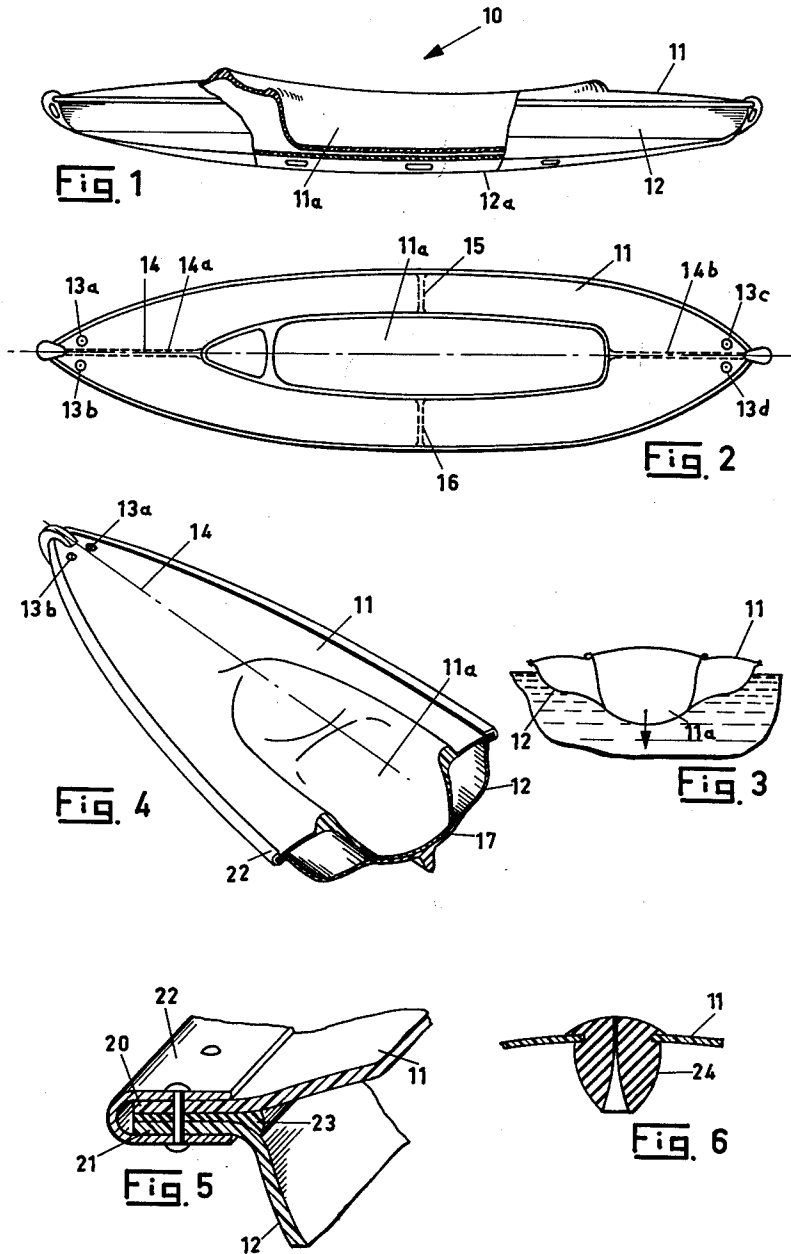


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PLASTIC BOAT

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PLASTIC BOAT

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This invention relates to improvements in boats, as used by hunters, fishermen, and water sports enthusiasts, and more particularly to improvements in manually propelled boats, such as, for instance, kayaks and the like.

It is conventional practice to provide a hull, having planking or sheet metal laid over formed ribs attached thereto and supplied either with or without decking, this method having the disadvantage that excessive weight is incurred, and the hull when filled with water, will sink. Another disadvantage of this conventional practice is that elaborate preforming of both ribs and planking is generally required. Yet another disadvantage of this conventional practice is the resultant weakening of the material during the forming stage, frequently resulting in a high percentage of rejected material.

It is an object of this invention to provide a plastic kayak, suitable for use by hunters, fishermen, water sports enthusiasts, etc., in the following called kayak, which is virtually unsinkable.

It is another object of this invention to provide a kayak that is light in weight, thereby facilitating transportation and storage thereof.

It is a further object of this invention to provide a kayak made substantially of two plastic preformed sections, which, when clamped together will provide a watertight boat for one or more persons, of unusual stability.

It is still another object of this invention to provide a kayak embodying a plurality of substantially watertight sections or air pockets, located between the two plastic preformed sections.

It is still another object of this invention to provide a kayak, in which the air pockets will be equipped with a plurality of substantially watertight air escape valves, of such construction as to substantially eliminate the entry of water, while permitting a source of entry and exit for air into the air pockets during climatic changes thereby eliminating the possibility of damage to the hull of the kayak due to the expansion and contraction of the air within the air pockets.

It is another object of this invention to provide a kayak that will provide unusual longitudinal rigidity.

It is another object of this invention to provide a kayak, whose upper preformed section, will contain substantially centrally therein, a shallow concavity thereby providing space for one or more passengers.

It is another object of this invention to provide a kayak, wherein the concavity in the upper portion, will project downwardly and meet with a similar contour in the lower section of the hull, by providing the watertight compartments, in addition to supplying additional longitudinal strength to the hull.

It is another object of this invention to provide a kayak, the keel being an integral part of the lower section, and containing therein, hand holes to facilitate the handling thereof.

It is another object of this invention to provide a kayak, which, will contain all the foregoing objects, but remain within the limits of relatively low original cost and maintenance.

These and other objects and features of this invention will become apparent when taken in conjunction with the accompanying drawings in which:

FIG. 1 is a front, part sectional view of a kayak, em-

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bodying this invention, and illustrating in particular the location of the cockpit within the hull of the boat.

FIG. 2 is a plan elevation of a kayak, embodying this invention, showing the location of the air valves, air pockets, and reinforcing bulkheads.

FIG. 3 is a vertical, cross-sectional view of a kayak, embodying this invention, illustrating the method by which an extremely low centre of gravity is obtained.

FIG. 4 is a perspective, front sectional view, as seen from above, of a kayak, embodying this invention, illustrating in particular the relationship between the cockpit concavity of the kayak, with the mating portion of the lower section of the hull to form air pockets.

FIG. 5 is a diagrammatic sketch of a kayak, embodying this invention, illustrating the method of assembly of the kayak's upper and lower sections.

FIG. 6 is a diagrammatic sketch of the air valves, as used in the kayak's air pockets, to maintain atmospheric pressure within the air pockets located in the hull of the kayak.

Referring to FIGS. 1 and 2, the illustrated kayak indicated generally by arrow 10, comprises an upper deck 11 of substantially elongated, elliptical configuration, and containing therein a central longitudinal portion of the deck concavely indented to provide room for one or more persons to sit in the shallow concavity thereof, as used normally in kayaks, these persons utilizing conventional paddles to propel the boat. A lower shell or hull section 12, is adapted to peripherally receive top deck section 11, these two sections being connected together by conventional connection means.

A plurality of air relief valves, for instance, valve 13a, 13b, 13c, and 13d, are located substantially on the longitudinal centre line 14 of the top deck 11 to permit a passage of air therethrough, from the atmosphere to the hull of the boat and conversely from the hull of the boat to the atmosphere.

Transverse bulkheads 15 and 16, located substantially centrally of the longitudinal axis, are adapted to provide additional rigidity of the complete structure, and to divide the boat into a plurality of airtight compartments, each compartment with its own valve.

Referring to FIGS. 3, 4 and 5, concavity 11a as illustrated in FIGS. 1 and 2, is shown in greater detail in FIG. 4, the lower portion of the concavity adapted to contact a similar concavity 17 within the lower portions of hull 12, thereby providing two air pockets, one on each side of the concavity, separated longitudinally with coaxial ribs 15 and 16 adapted to serve as bulkheads, and separated laterally, by longitudinal ribs 14a and 14b located along centre line 14, ribs 14a and 14b being similarly adapted to serve as bulkheads. The outwardly inclined edge 20, of top deck 11, is adapted to be aligned axially, with outwardly inclined edge 21 of lower hull section 12, and having a suitable gasket material therebetween, for instance, rubber, are connected together by aluminum frame member 22, of substantially longitudinal channel-like configuration, is adapted to be laid around the edges of the boat and encompass both edge 20 and 21 simultaneously, and rivet means and other connection means being located at suitable intervals along the channel to make a permanent watertight and airtight connection between the decks and permanent connection between the channel and the decks.

Referring to FIG. 6, an air valve 24, is shown in detail located in top deck 11, illustrated cross-sectionally, comprising substantially rubber grommets, having large diameter openings at the internal end thereof and small diameter openings at the external end thereof, thus substantially preventing the entry of water into the air pockets should the decks of the boat become awash, or the boat being overturned, but allowing a flow of air therethrough to

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compensate for a difference of pressure within the hull due to climatic changes.

The general design of the individual parts of the invention as explained above may be varied according to requirements in regards to manufacture and production thereof, while still remaining within the spirit and principle of the invention, without prejudicing the novelty thereof.

The embodiments of this invention in which an exclusive property or privilege is claimed are defined as follows:

1. A boat construction including a lower section and an upper deck, said lower section and upper deck having their confronting edges supplied with outwardly directed substantially horizontal flanges, compressible gasket means located between said confronting flanges, substantially regularly spaced attachment means located along said confronting flanges attaching said lower section and said upper deck firmly and water-tightly to each other, at least one longitudinal well formed concavely into said upper deck, lower end of said longitudinal well reaching down entirely towards and contacting the inner surface of said lower section at substantial central location thereof, said contact between said lower section and said well being sealed together by cement means, a plurality of partitions located between said lower section and said up-

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per deck dividing the space therebetween into a plurality of watertight compartments, and at least one air valve located in said upper deck in each of said compartments, said air valve supplying ingress and egress of air to each of said compartments as required, said air valve has the configuration of a grommet inserted into said upper deck, said air valve having a substantially vertical hole located entirely therethrough, communicating said compartment with atmosphere externally of said boat construction, the internal end of said hole having a substantially larger diameter than the external end of said hole.

2. A boat construction as claimed in claim 1 in which said lower section contains a shallow, outwardly directed well situated directly below said well of said upper deck, said well of said upper deck extending down into said shallow well and sealably contacting the concave surface of said shallow well.

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