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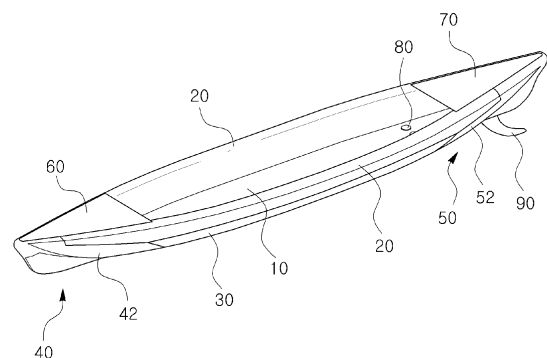
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(54) **INFLATABLE KAYAK**

(57) The present invention relates to an inflatable kayak which can be set up even with only the injection of air within a relatively short time without the need for additional assembly so as to improve convenience of use and can be folded after being deflated to be conveniently kept, stored, and transported and to occupy a relatively small space, and the inflatable kayak comprises: a bottom tube having a hollow air tube shape such that air is injected into the inside thereof, having a plurality of shape maintaining lines of which both ends are coupled between inner surfaces of the bottom tube, and provided to be flat; side tubes respectively attached to both sides of the bottom tube in a slanted manner, having a hollow air tube shape such that air is injected into the inside thereof, having a plurality of shape maintaining lines of which both ends are coupled between inner surfaces of the side tubes, and having sharp front ends and rear ends; an external adhesive sheet attached to the lower surface of the bottom tube and the outer surfaces of the side tubes so as to surround the lower surface of the bottom tube and the outer surfaces of the side tubes; a front end shape maintaining part provided to the front ends of the side tubes and maintaining the sharp shape of the front ends of the side tubes while covering the front ends of the side tubes; and a rear end shape maintaining part provided to the rear ends of the side tubes and maintaining the sharp shape of the rear ends of the side tubes while covering the rear ends of the side tubes.

【Fig. 1】



Description

[Technical Field]

5 **[0001]** The present invention relates to an inflatable kayak, and more particularly, to an inflatable kayak, which is capable of being set up merely by inflating with air in a relatively short time without the need for additional assembly so as to improve convenience in use, and which is also capable of being folded after being deflated so as to be conveniently stored, held or transported and to occupy a relatively small space.

10 [Background Art]

[0002] In general, a kayak is a lightweight and small water craft that has a pointed bow and stem and is propelled using one or more paddles. Recently, with the improved standard of living, public interest in kayaking as a leisure sport has increased.

15 **[0003]** One-seater or two-seater kayaks are usually used for fishing at sea in summer, and are traditionally made in such a manner that a frame of a hull is made of wood to a length of 7 meters and a width of 50 centimeters and a sealskin from which the hair has been removed is bonded to the frame.

[0004] A kayak paddler wearing a lifejacket sits in a round hole formed in the middle of the kayak with his/her legs extended and the lower half of his/her body inside the kayak, and propels the kayak using a paddle. The hull of the kayak is light enough for a user to carry it alone, and is designed to move at a high speed and have a low center of gravity so as to withstand high waves and to enable the user of a capsized kayak to right the kayak using a paddle.

[0005] Recently, inflatable kayaks have been proposed and used, and an exemplary inflatable kayak is illustrated in FIGS. 9 and 10, and the constitution and operational relationship thereof will now be explained.

25 **[0006]** As shown in FIGS. 9 and 10, a conventional inflatable kayak 100 comprises a tube-type hull 110, frames 120, a bow frame fixing part 130, a stem frame fixing part 140, frame brackets 150, and plates 160.

[0007] When air is injected into the tube-type hull 110, a plurality of separate air chambers 111 is expanded, and an occupant space 101 is formed in the hull.

[0008] Between the adjacent air chambers 111 of the tube-type hull 110 are provided frames 120 for supporting the tube-type hull 110 in the anterior-posterior direction. In order to further improve the rigidity of the hull, the frames 120 may be disposed on the outer surfaces of the uppermost air chambers 111 in the anterior-posterior direction.

[0009] The frames 120 mitigate vertical deformation of the tube-type hull 110 by waves, prevent the two opposite ends of the tube-type hull 110 from drooping so as to keep the front and rear portions of the tube-type hull 110 in a state in which they do not contact the water, and maintain the cross-section of the tube-type hull 110 in a V shape so as to reduce resistance to the water.

35 **[0010]** The plates 160 serve to prevent deformation of the kayak 100 in the left-right direction and enhance the rigidity in the anterior-posterior/up-down directions. The plates 160 are positioned in the spaces between the plurality of frame brackets 150, and are arranged in the anterior-posterior direction of the tube-type hull 110 while extending vertically.

[0011] When it is intended to store the kayak 100, the stem frame fixing part 140 is opened, the frames 120 are pulled out of the bow frame fixing part 130, the plates 160 are removed, and the tube-type hull 110 is deflated.

40 **[0012]** However, the above prior art has the following problems.

[0013] The conventional kayak has a structure such that a plurality of frames constitutes the skeleton of the hull, which leads to complicated and time-consuming assembly and disassembly of the kayak and inconvenience in use.

[0014] Further, because the frames, the bow frame fixing part, the stem frame fixing part and the plates are formed of a hard material, such as metal, synthetic resin or the like, the conventional kayak occupies a large space when stored, held or transported.

[Disclosure]

[Technical Problem]

50 **[0015]** Therefore, the present invention has been made to solve the above problems with the prior art.

[0016] It is an object of the present invention to provide an inflatable kayak, which is capable of being set up merely by inflating with air in a relatively short time without the need for additional assembly so as to improve convenience in use, and which is also capable of being folded after being deflated so as to be conveniently stored, held or transported and to occupy a relatively small space.

[0017] It is another object of the present invention to provide an inflatable kayak, which is capable of minimizing resistance to water flowing around the front and rear ends of the kayak using a front end shape-maintaining part and a rear end shape-maintaining part.

[0018] It is a further object of the present invention to provide an inflatable kayak, which is capable of further simplifying the discharge of water from the kayak using a drain hole.

[Technical Solution]

[0019] In order to achieve the above objects, an "inflatable kayak" according to the present invention includes a bottom tube configured as an air tube having an empty space formed therein to receive injected air, and having a plurality of shape-maintaining lines, two opposite ends of each of the shape-maintaining lines being coupled to an inner surface of the bottom tube so as to make the bottom tube flat; side tubes attached to two opposite side surfaces of the bottom tube at an incline, each being configured as an air tube having an empty space formed therein to receive injected air, having a plurality of shape-maintaining lines, two opposite ends of each of the shape-maintaining lines being coupled to an inner surface of each of the side tubes, and having pointed front and rear ends; an exterior adhesive sheet attached to a bottom surface of the bottom tube and outer side surfaces of the side tubes so as to cover the bottom surface of the bottom tube and the outer side surfaces of the side tubes; a front end shape-maintaining part disposed at the front ends of the side tubes in order to cover the front ends of the side tubes and to maintain the front ends of the side tubes in a pointed shape; and a rear end shape-maintaining part disposed at the rear ends of the side tubes in order to cover the rear ends of the side tubes and to maintain the rear ends of the side tubes in a pointed shape.

[0020] The front end shape-maintaining part of the "inflatable kayak" according to the present invention may include a front protruding member, having an upper end positioned in close contact with bottom surfaces of the front ends of the side tubes and being pointed forward, and a front end fixing cover, surrounding the front protruding member and attached to the front ends of the side tubes and a bottom surface of the exterior adhesive sheet.

[0021] The front protruding member of the "inflatable kayak" according to the present invention may include a front round extension portion, formed to be round along the upper end of the front protruding member so as to be in close contact with the bottom surfaces of the front ends of the side tubes.

[0022] The bottom tube of the "inflatable kayak" according to the present invention may include a front end protruding portion protruding from a front end thereof so that the front end of the bottom tube is tightly inserted into the front protruding member.

[0023] The rear end shape-maintaining part of the "inflatable kayak" according to the present invention may include a rear protruding member, having an upper end positioned in close contact with bottom surfaces of the rear ends of the side tubes and being pointed rearward, and a rear end fixing cover, surrounding the rear protruding member and attached to the rear ends of the side tubes and a bottom surface of the exterior adhesive sheet.

[0024] The rear protruding member of the "inflatable kayak" according to the present invention may include a rear round extension portion, formed to be round along the upper end of the rear protruding member so as to be in close contact with the bottom surfaces of the rear ends of the side tubes.

[0025] The bottom tube of the "inflatable kayak" according to the present invention may include a rear end protruding portion protruding from a rear end thereof so that the rear end of the bottom tube is tightly inserted into the rear protruding member.

[0026] The "inflatable kayak" according to the present invention may further include a front end upper cover attached to top surfaces of the front ends of the side tubes.

[0027] The "inflatable kayak" according to the present invention may further include a rear end upper cover attached to top surfaces of the rear ends of the side tubes.

[0028] The "inflatable kayak" according to the present invention may further include a drain hole formed in the bottom tube in order to discharge water from the bottom tube to an outside of the kayak.

[0029] The "inflatable kayak" according to the present invention may further include a skeg provided at a bottom surface of a rear portion of the bottom tube.

[Effects of the Invention]

[0030] The above-described present invention has an effect of being set up merely by inflating with air in a relatively short time without the need for additional assembly so as to improve convenience in use and of being folded after being deflated so as to be conveniently stored, held or transported and to occupy a relatively small space.

[0031] Further, the present invention has an effect of minimizing resistance to water flowing around the front and rear ends of the kayak using the front end shape-maintaining part and the rear end shape-maintaining part, thereby enabling a paddler to move the kayak forward or backward with smaller force and improving convenience in use.

[0032] Furthermore, the present invention has an effect of further simplifying the discharge of water from the kayak using the drain hole.

[Description of Drawings]

[0033]

- 5 FIG. 1 is a schematic perspective view of a kayak according to the present invention;
 FIG. 2 is a schematic partially exploded perspective view showing a front end portion of the kayak according to the present invention;
 FIG. 3 is a schematic partially exploded perspective view showing a rear end portion of the kayak according to the present invention;
 10 FIG. 4 is a schematic plan view of the kayak according to the present invention;
 FIG. 5 is a schematic plan view showing a bottom tube of the kayak according to the present invention;
 FIG. 6 is a schematic enlarged sectional view of essential parts taken along line A-A in FIG. 4;
 FIG. 7 is a schematic enlarged sectional view of essential parts taken along line B-B in FIG. 4;
 FIG. 8 is a schematic enlarged sectional view of essential parts taken along line C-C in FIG. 4;
 15 FIG. 9 is a perspective view showing an exemplary conventional kayak; and
 FIG. 10 is a schematic longitudinal sectional view of the conventional kayak.

[Best Mode]

- 20 **[0034]** Hereinafter, a preferred embodiment of the present invention will be described in detail with reference to the accompanying drawings. However, the present invention may, however, be embodied in different forms and should not be construed as being limited to the embodiment set forth herein.

- [0035]** FIG. 1 is a schematic perspective view of a kayak according to the present invention, FIG. 2 is a schematic partially exploded perspective view showing a front end portion of the kayak according to the present invention, FIG. 3 is a schematic partially exploded perspective view showing a rear end portion of the kayak according to the present invention, FIG. 4 is a schematic plan view of the kayak according to the present invention, FIG. 5 is a schematic plan view showing a bottom tube of the kayak according to the present invention, FIG. 6 is a schematic enlarged sectional view of essential parts taken along line A-A in FIG. 4, FIG. 7 is a schematic enlarged sectional view of essential parts taken along line B-B in FIG. 4, and FIG. 8 is a schematic enlarged sectional view of essential parts taken along line C-C in FIG. 4.

- [0036]** As shown in the drawings, an inflatable kayak according to the present invention comprises a bottom tube 10, side tubes 20 attached to two opposite sides of the bottom tube 10, an exterior adhesive sheet 30 attached to the outer surfaces of the bottom tube 10 and the side tubes 20, a front end shape-maintaining part 40 mounted to the front ends of the side tubes 20, a rear end shape-maintaining part 50 mounted to the rear ends of the side tubes 20, a front end upper cover 60 attached to the top surfaces of the front ends of the side tubes 20, a rear end upper cover 70 attached to the top surfaces of the rear ends of the side tubes 20, and a drain hole 80 formed in the exterior adhesive sheet 30.

- [0037]** The bottom tube 10 is configured as an air tube having an empty space formed therein, into which air is injected, and has a plurality of shape-maintaining lines S, two opposite ends of each of which are coupled to the inner surface of the bottom tube 10 so as to make the bottom tube 10 flat, thereby serving as a bottom of the hull of the kayak. Such a bottom tube 10 is configured as an air tube having an air injection hole formed therein, through which a user injects or discharges air into/from the bottom tube 10.

- [0038]** The plurality of shape-maintaining lines S are elements that are known in this art, and connect an inner flat surface and the opposite inner flat surface of the bottom tube 10 so that the bottom tube 10 maintains a predetermined flat shape. A sheet, to which the shape-maintaining lines S are attached in order to maintain the bottom tube 10 in a flat state, is generally referred to as a "drop stitch material" in this art.

- [0039]** The bottom tube 10 includes a front end protruding portion 11 protruding from the front end thereof. The front end protruding portion 11 assists in the tight insertion of the front end of the bottom tube 10 into a front protruding member 41 of the front end shape-maintaining part 40, which will be described later, thereby further enhancing the coupling force and supporting force between the front end protruding portion 11 and the front protruding member 41.

- [0040]** The bottom tube 10 includes a rear end protruding portion 12 protruding from the rear end thereof. The rear end protruding portion 12 assists in the tight insertion of the rear end of the bottom tube 10 into a rear protruding member 51 of the rear end shape-maintaining part 50, which will be described later, thereby further enhancing the coupling force and supporting force between the rear end protruding portion 12 and the rear protruding member 51.

- [0041]** The side tubes 20 are attached to two opposite side surfaces of the bottom tube 10 at an incline, each being configured as an air tube having an empty space formed therein, into which air is injected, having a plurality of shape-maintaining lines S, two opposite ends of each of which are coupled to the inner surface of each of the side tubes 20, and having pointed front and rear ends, thereby serving as two sides of the hull of the kayak while forming the hull in a U shape with the bottom tube 10 and forming the bow and stem of the kayak in a substantially pointed shape. Each

such side tube 20 is configured as an air tube having an air injection hole formed therein, through which a user injects or discharges air into/from the side tube 20, and is made of a drop stitch material having the shape-maintaining lines S formed therein, like the bottom tube 10.

[0042] As described above, the bottom tube 10 and the side tubes 20, which constitute the hull, are made of a drop stitch material having the shape-maintaining lines S formed therein, and the ends of the tubes are joined together at the bow and stem of the hull in a substantial V shape and in a pointed shape. That is, since the hull is formed in a substantial V shape and is formed to have a pointed bow and stem by the bottom tube 10 and the side tubes 20, resistance to water is minimized, and accordingly, the kayak has a speed at least two times higher than the speed of a conventional kayak.

[0043] The exterior adhesive sheet 30 is attached to the bottom surface of the bottom tube 10 and the outer side surfaces of the side tubes 20 so as to cover the bottom surface of the bottom tube 10 and the outer side surfaces of the side tubes 20, and serves to connect and fix the bottom tube 10 and the side tubes 20 to each other.

[0044] The front end shape-maintaining part 40 is disposed at the front ends of the side tubes 20 in order to cover the front ends of the side tubes 20, and serves to maintain the front ends of the side tubes 20 in a pointed shape.

[0045] The front end shape-maintaining part 40, which performs the above function, includes a front protruding member 41, the upper end of which is in close contact with the bottom surfaces of the front ends of the side tubes 20 and which is pointed forward, and a front end fixing cover 42, which surrounds the front protruding member 41 and is attached to the front ends of the side tubes 20 and the bottom surface of the exterior adhesive sheet 30.

[0046] The front protruding member 41 protrudes forward of the side tubes 20 and the bottom tube 10, and serves to part the water flowing around the front ends of the side tubes 20 and the bottom tube 10 when the kayak moves forward, thereby minimizing resistance to water. Such a front protruding member 41 is preferably made of a light and hard material, which may, for example, be an injection-molded synthetic resin article, and is fixed such that the front end protruding portion 11 is fitted into the front protruding member 41.

[0047] The pointed joined portion of the front ends of the side tubes 20 and the bottom tube 10 is fitted into the front end fixing cover 42 so that the front end fixing cover 42 covers the front ends of the side tubes 20 and the bottom tube 10 and serves to secure the front protruding member 41 to the front ends of the side tubes 20 and the bottom tube 10.

[0048] When the front protruding member 41 is fixed by the front end fixing cover 42, as described above, the front end fixing cover 42 extends beyond the lower end of the front protruding member 41 such that an empty space P is formed behind the lower end of the front protruding member 41 by the front end fixing cover 42, and is attached to the bottom surface of the exterior adhesive sheet 30.

[0049] The front protruding member 41 includes a front round extension portion 41 a, which is formed to be round along the upper end of the front protruding member 41. The front round extension portion 41 a assists in bringing the upper end of the front protruding member 41 into close contact with the bottom surfaces of the front ends of the side tubes 20, thereby more firmly securing the front protruding member 41 to the bottom surfaces of the front ends of the side tubes 20.

[0050] The rear end shape-maintaining part 50 is disposed at the rear ends of the side tubes 20 in order to cover the rear ends of the side tubes 20, and serves to maintain the rear ends of the side tubes 20 in a pointed shape.

[0051] The rear end shape-maintaining part 50, which performs the above function, includes a rear protruding member 51, the upper end of which is in close contact with the bottom surfaces of the rear ends of the side tubes 20 and which is pointed rearward, and a rear end fixing cover 52, which surrounds the rear protruding member 51 and is attached to the rear ends of the side tubes 20 and the bottom surface of the exterior adhesive sheet 30.

[0052] The rear protruding member 51 protrudes rearward of the side tubes 20 and the bottom tube 10, and serves to part the water flowing around the rear ends of the side tubes 20 and the bottom tube 10 when the kayak moves backward, thereby minimizing resistance to water. Such a rear protruding member 51 is preferably made of a light and hard material, which may, for example, be an injection-molded synthetic resin article and may have the same shape as the front protruding member 41, and is fixed such that the rear end protruding portion 12 is fitted into the rear protruding member 51.

[0053] The pointed joined portion of the rear ends of the side tubes 20 and the bottom tube 10 is fitted into the rear end fixing cover 52 so that the rear end fixing cover 52 covers the rear ends of the side tubes 20 and the bottom tube 10 and serves to secure the rear protruding member 51 to the rear ends of the side tubes 20 and the bottom tube 10.

[0054] When the rear protruding member 51 is fixed by the rear end fixing cover 52, as described above, the rear end fixing cover 52 extends beyond the lower end of the rear protruding member 51 such that an empty space P is formed behind the lower end of the rear protruding member 51 by the rear end fixing cover 52, and is attached to the bottom surface of the exterior adhesive sheet 30.

[0055] The rear protruding member 51 includes a rear round extension portion 51 a, which is formed to be round along the upper end of the rear protruding member 51. The rear round extension portion 51 a assists in bringing the upper end of the rear protruding member 51 into close contact with the bottom surfaces of the rear ends of the side tubes 20, thereby more firmly securing the rear protruding member 51 to the bottom surfaces of the rear ends of the side tubes 20.

[0056] The front end upper cover 60 is attached to the top surfaces of the front ends of the side tubes 20, and serves

to cover the top surfaces of the front ends of the side tubes 20.

[0057] The rear end upper cover 70 is attached to the top surfaces of the rear ends of the side tubes 20, and serves to cover the top surfaces of the rear ends of the side tubes 20, like the front end upper cover 60.

[0058] The drain hole 80 is formed in the bottom tube 30 in order to smoothly discharge water present on the bottom tube 10 in the kayak to the outside therethrough. The drain hole 80, which performs this function, may be provided with a well-known opening/closing means for normally maintaining the drain hole 80 in a closed state or opening the drain hole 80 for drainage when necessary.

[0059] The kayak further includes a skeg 90, which is provided at the bottom surface of the rear portion of the bottom tube 10. The skeg 90 is a direction-stabilizing plate, which has a tail wing shape and extends vertically from the bottom surface of the rear portion of the bottom tube 10, and serves to prevent the hull, which is formed by the bottom tube 10 and the side tubes 20, from straying from a desired course and to help the hull move straight.

[0060] Although a preferred embodiment of the present invention has been disclosed, it will be apparent that various changes, modifications, and equivalents may be made thereto, and the embodiment may be adequately modified and applied in the same manner. Therefore, the above description is not intended to limit the scope of the present invention, which is defined by the appended claims.

[0061] Although the detailed description of the present invention has been made with reference to a particular embodiment, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the spirit or scope of the present invention.

[Mode for Invention]

10: Bottom Tube
 11: Front End Protruding Portion 12: Rear End Protruding Portion
 20: Side Tube
 30: Exterior Adhesive Sheet
 40: Front End Shape-Maintaining Part
 41: Front Protruding Member 41a: Front Round Extension Portion
 42: Front End Fixing Cover
 50: Rear End Shape-Maintaining Part
 51: Rear Protruding Member 51a: Rear Round Extension Portion
 52: Rear End Fixing Cover
 60: Front End Upper Cover
 70: Rear End Upper Cover
 80: Drain Hole
 90: Skeg

Claims

1. An inflatable kayak comprising:

a bottom tube 10 configured as an air tube having an empty space formed therein to receive injected air, and having a plurality of shape-maintaining lines, two opposite ends of each of the shape-maintaining lines being coupled to an inner surface of the bottom tube so as to make the bottom tube flat;

side tubes 20 attached to two opposite side surfaces of the bottom tube 10 at an incline, each being configured as an air tube having an empty space formed therein to receive injected air, having a plurality of shape-maintaining lines, two opposite ends of each of the shape-maintaining lines being coupled to an inner surface of each of the side tubes, and having pointed front and rear ends;

an exterior adhesive sheet 30 attached to a bottom surface of the bottom tube 10 and outer side surfaces of the side tubes 20 so as to cover the bottom surface of the bottom tube 10 and the outer side surfaces of the side tubes 20;

a front end shape-maintaining part 40 disposed at the front ends of the side tubes 20 in order to cover the front ends of the side tubes 20 and to maintain the front ends of the side tubes 20 in a pointed shape; and

a rear end shape-maintaining part 50 disposed at the rear ends of the side tubes 20 in order to cover the rear ends of the side tubes 20 and to maintain the rear ends of the side tubes 20 in a pointed shape.

2. The inflatable kayak according to claim 1, wherein the front end shape-maintaining part 40 includes a front protruding

member 41, having an upper end positioned in close contact with bottom surfaces of the front ends of the side tubes 20 and being pointed forward, and a front end fixing cover 42, surrounding the front protruding member 41 and attached to the front ends of the side tubes 20 and a bottom surface of the exterior adhesive sheet 30.

5 **3.** The inflatable kayak according to claim 2, wherein the front protruding member 41 includes a front round extension portion 41 a, formed to be round along the upper end of the front protruding member 41 so as to be in close contact with the bottom surfaces of the front ends of the side tubes 20.

10 **4.** The inflatable kayak according to claim 2, wherein the bottom tube 10 includes a front end protruding portion 11 protruding from a front end thereof so that the front end of the bottom tube 10 is tightly inserted into the front protruding member 41.

15 **5.** The inflatable kayak according to claim 1, wherein the rear end shape-maintaining part 50 includes a rear protruding member 51, having an upper end positioned in close contact with bottom surfaces of the rear ends of the side tubes 20 and being pointed rearward, and a rear end fixing cover 52, surrounding the rear protruding member 51 and attached to the rear ends of the side tubes 20 and a bottom surface of the exterior adhesive sheet 30.

20 **6.** The inflatable kayak according to claim 5, wherein the rear protruding member 51 includes a rear round extension portion 51a, formed to be round along the upper end of the rear protruding member 51 so as to be in close contact with the bottom surfaces of the rear ends of the side tubes 20.

25 **7.** The inflatable kayak according to claim 5, wherein the bottom tube 10 includes a rear end protruding portion 12 protruding from a rear end thereof so that the rear end of the bottom tube 10 is tightly inserted into the rear protruding member 51.

30 **8.** The inflatable kayak according to claim 1, further comprising:

 a front end upper cover 60 attached to top surfaces of the front ends of the side tubes 20.

35 **9.** The inflatable kayak according to claim 1, further comprising:

 a rear end upper cover 70 attached to top surfaces of the rear ends of the side tubes 20.

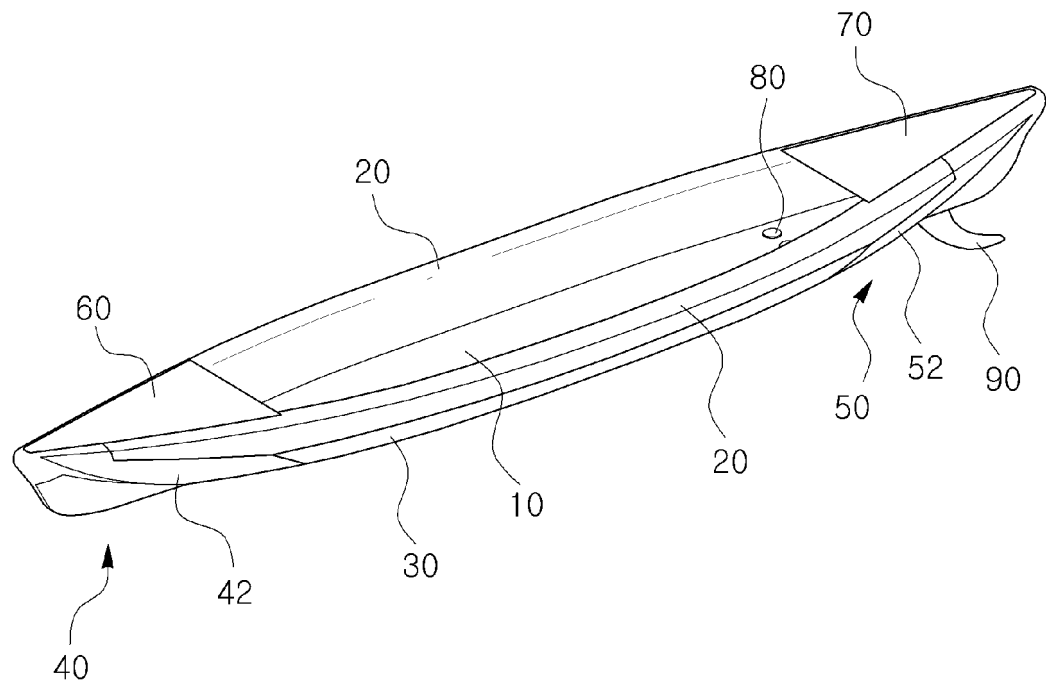
40 **10.** The inflatable kayak according to claim 1, further comprising:

 a drain hole 80 formed in the bottom tube 30 in order to discharge water from the bottom tube 30 to an outside of the kayak.

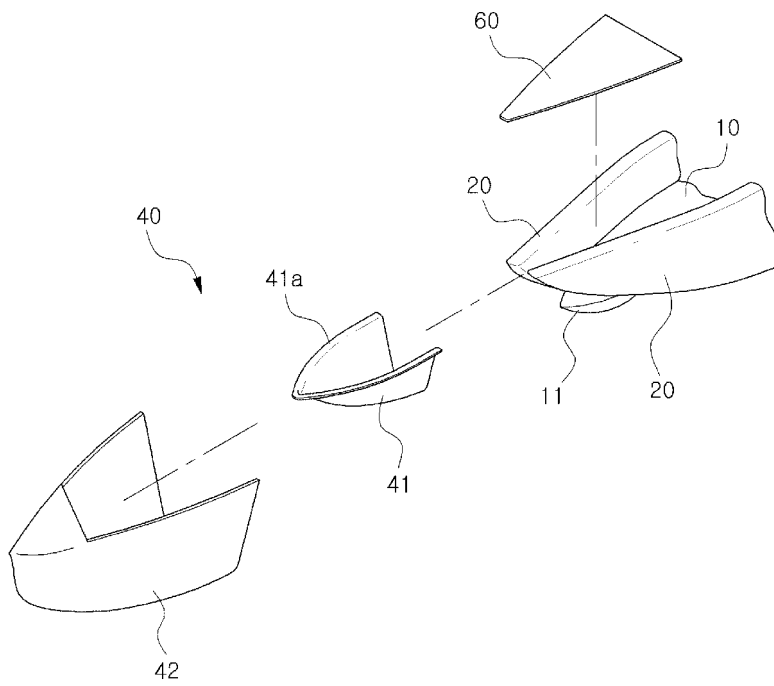
45 **11.** The inflatable kayak according to claim 1, further comprising:

 a skeg 90 provided at a bottom surface of a rear portion of the bottom tube 10.

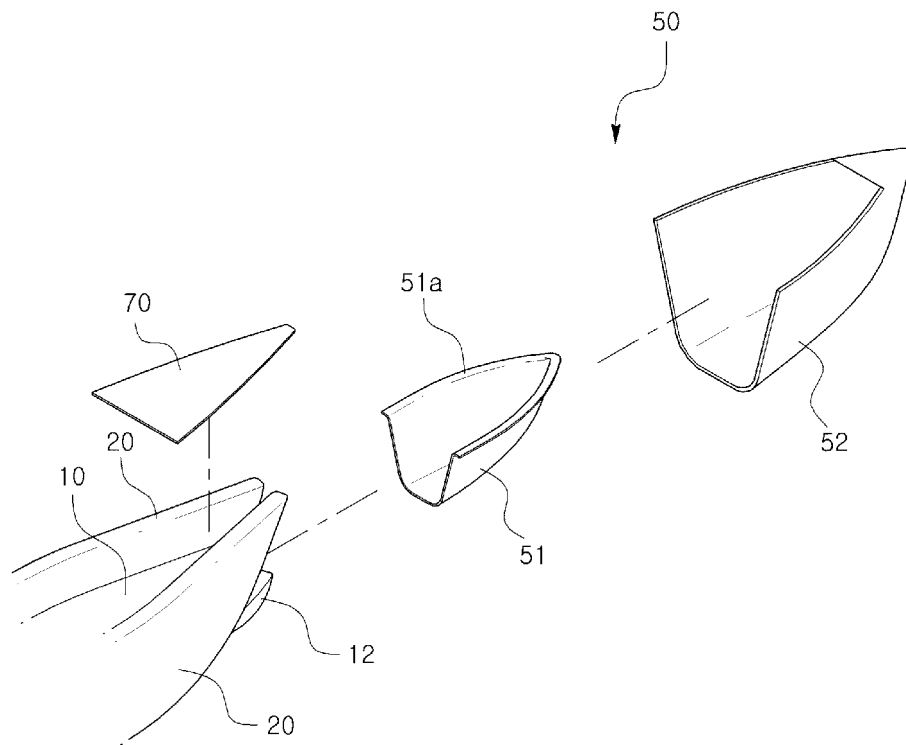
【Fig. 1】



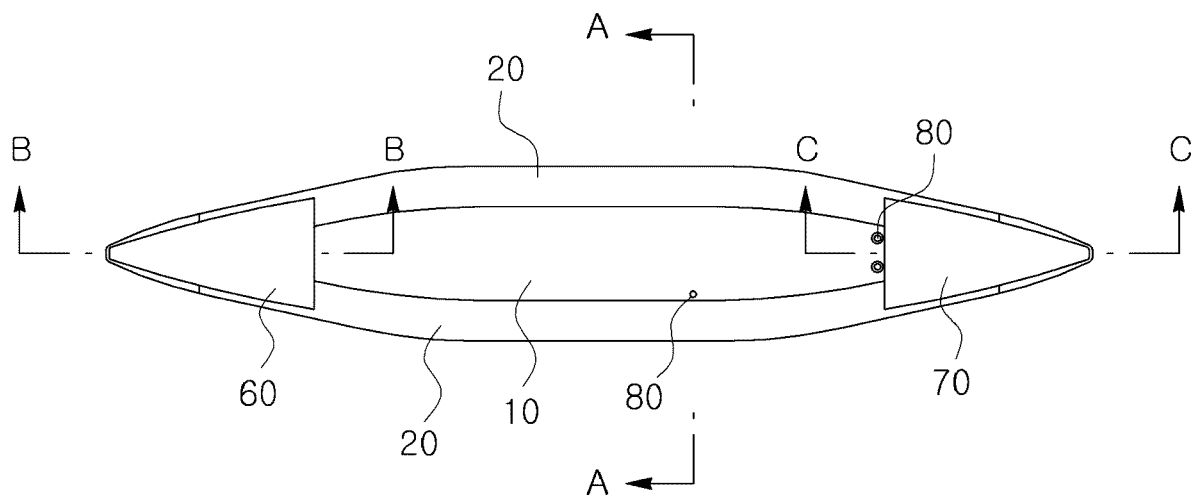
【Fig. 2】



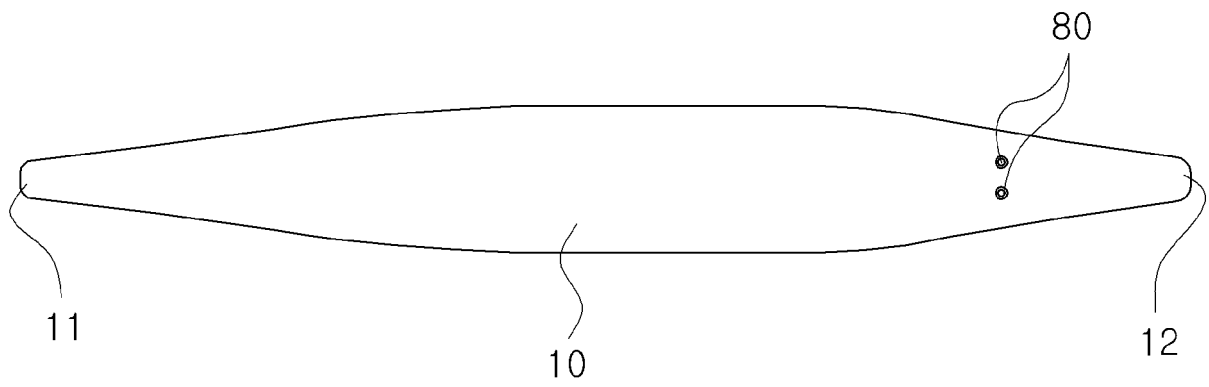
【Fig. 3】



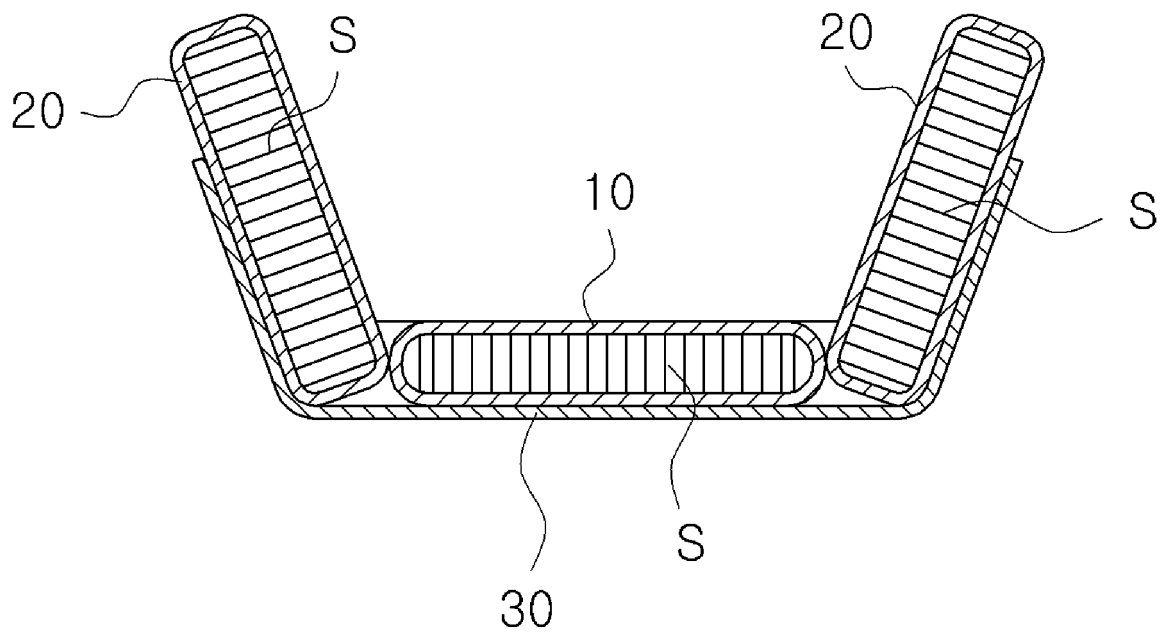
【Fig. 4】



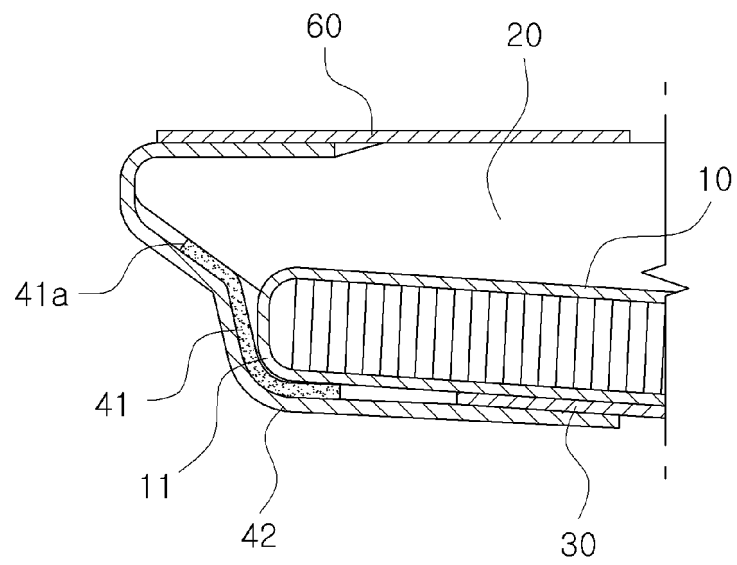
【Fig. 5】



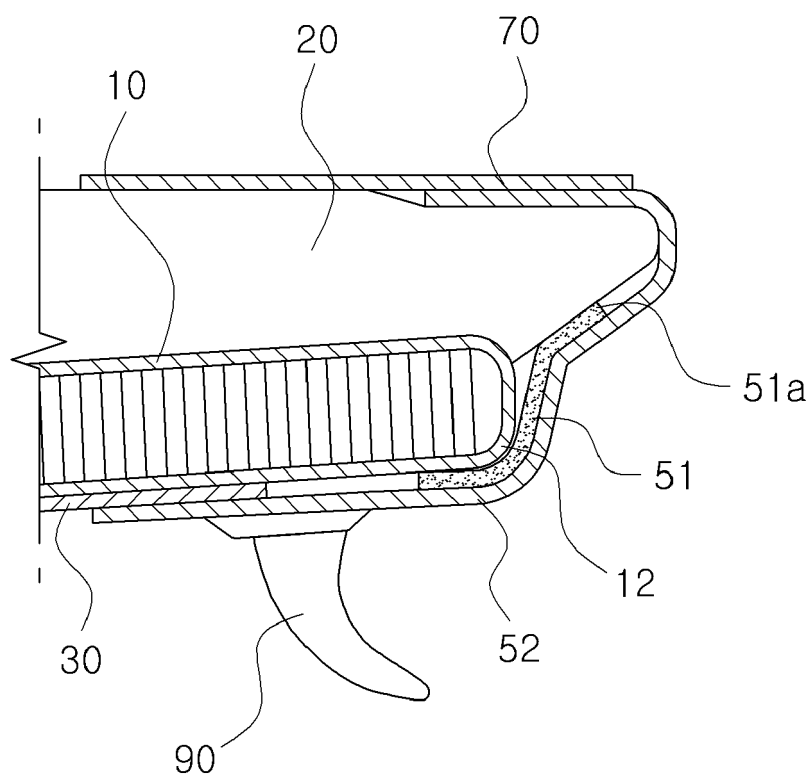
【Fig. 6】



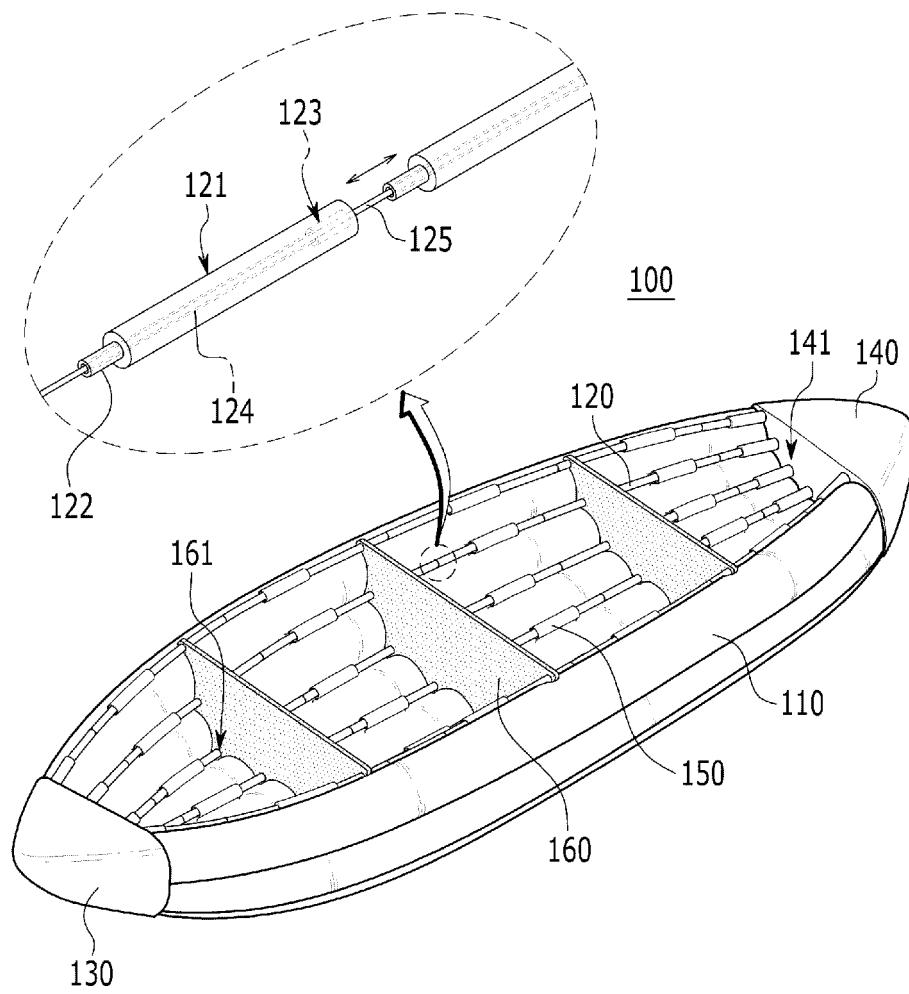
【Fig. 7】



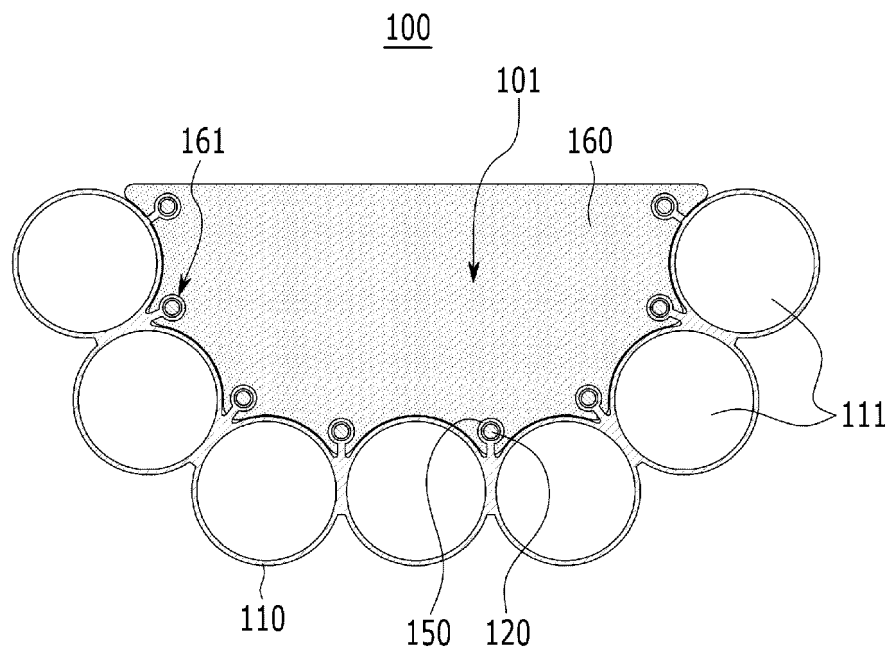
【Fig. 8】



【Fig. 9】



【Fig. 10】



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2014/011228

A. CLASSIFICATION OF SUBJECT MATTER

B63B 35/71(2006.01)i, B63B 7/08(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B63B 35/71; B63B 35/73; B63B 7/08; B63B 7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models: IPC as above

Japanese Utility models and applications for Utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & Keywords: bottom tube, lateral tube, shape maintaining line, external adhesive sheet, shape maintaining part, inflatable kayak

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009-0031941 A1 (CZARNOWSKI et al.) 05 February 2009 See paragraphs [0047]-[0049], [0064], [0071], [0075], [0079]; and figures 2, 6, 12-13, 19, 21, 29, 31.	1,10-11
Y		2-9
Y	KR 10-2012-0098950 A (ALEX R. KAYE AND FRANCES KAYE TRUST) 05 September 2012 See paragraphs [0037], [0040]; and figures 2-3.	2-9
A	US 2007-0068442 A1 (LI, Yu-Yi) 29 March 2007 See paragraphs [0005]-[0006]; and figure 4.	1-11
A	US 2008-0098945 A1 (WEBER, David) 01 May 2008 See paragraphs [0028], [0044], [0056]; and figures 3, 6.	1-11
A	KR 10-2011-0096909 A (LEE, Sang Gweon) 31 August 2011 See paragraphs [0012]-[0015]; and figure 1.	1-11

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:

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"&" document member of the same patent family

Date of the actual completion of the international search

12 FEBRUARY 2015 (12.02.2015)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2014/011228

Patent document cited in search report	Publication date	Patent family member	Publication date
US 2009-0031941 A1	05/02/2009	US 8082871 B2 WO 2009-017626 A1	27/12/2011 05/02/2009
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