

March 25, 1924.

1,487,923

J. A. DE VILBISS

BUOYANT DEVICE FOR SWIMMERS

Filed July 7, 1923

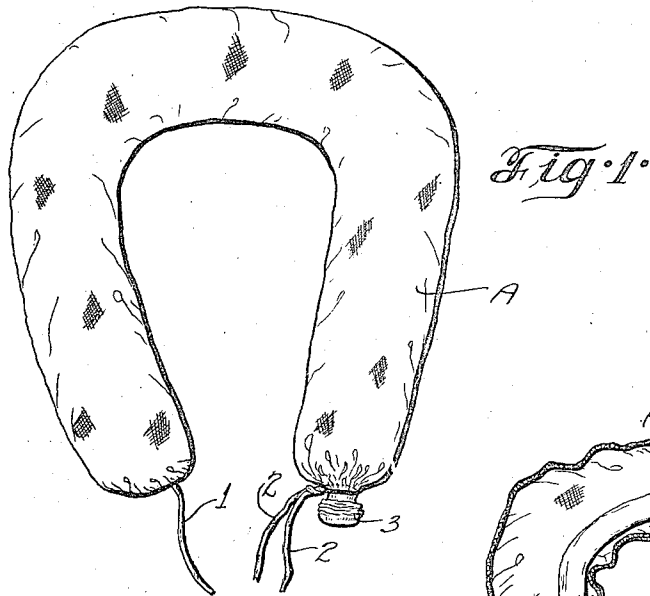


Fig. 1.

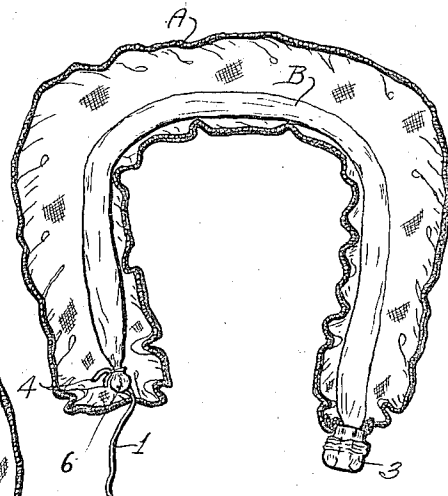


Fig. 3.

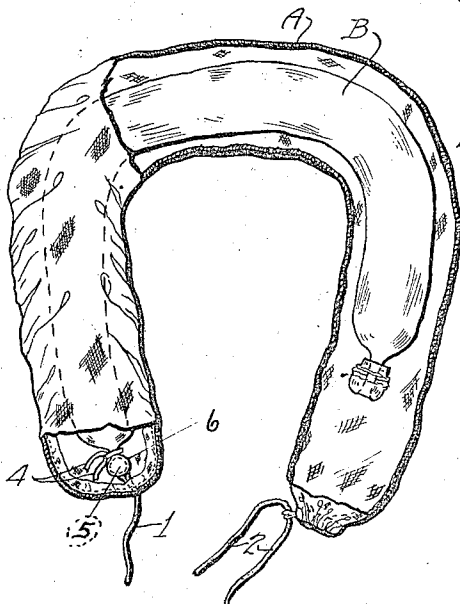


Fig. 2.

INVENTOR

John A. DeVilbiss.

BY *Bakewell & Chace*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN A. DE VILBISS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO GEORGE KAPP, OF ST. LOUIS, MISSOURI.

BUOYANT DEVICE FOR SWIMMERS.

Application filed July 7, 1923. Serial No. 649,980.

To all whom it may concern:

Be it known that I, JOHN A. DE VILBISS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Buoyant Devices for Swimmers, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to buoyant devices of the type that are adapted to be worn around the neck of a swimmer or a person who is learning to swim, for the purpose of assisting the user to hold his head above the surface of the water.

The object of my invention is to provide a device of the character referred to that is inexpensive to manufacture, easy to inflate and deflate and is compact when deflated.

To this end I have devised a buoyant device that is composed of a shaped outer casing made of fabric and constructed in the form of a split ring or yoke-shaped member, and a flexible pneumatic member arranged inside of said casing and combined with same in such a way that when it is inflated it will conform to the shape of said outer casing and hold it distended. In order to reduce the cost of the device and produce a device that is compact when deflated, I use a straight rubber tube constructed of thin rubber or other suitable elastic material to form the pneumatic member of the device, and in order to produce a device that is easy to inflate, I make said tube of slightly less length than the linear length of the outer casing and connect the opposite end portions of said tube to the opposite end portions of the casing, thereby securing the tube inside of the casing in such a way that when air is introduced into said tube it will expand without liability of wrinkling or without liability of the casing sticking to the tube due to frictional pressure.

Figure 1 of the drawings is a top plan view of my improved buoyant device showing it inflated.

Figure 2 is a top plan view of said device,

partly broken away, showing the tube deflated and connected at one end to one end portion of the casing; and

Figure 3 is a sectional view showing the tube deflated but arranged in operative position in the casing with its opposite end portions connected to the opposite end portions of the casing.

Referring to the drawings which illustrate the preferred form of my invention, A designates the outer casing of my improved buoyant device, which is preferably formed of muslin or other light weight fabric and constructed in the form of a split ring or yoke-shaped member, and B designates a pneumatic member in the casing A that holds it distended, thus producing a buoyant device that can be slipped over a person's neck and retained in operative position by tie-strings 1 and 2 located at the ends of the outer casing A. In the form of my invention herein illustrated, the outer casing A is constructed of two substantially U-shaped pieces of fabric joined together at their edge portions by stitches so as to form a shaped bag or casing of substantially U-shape in general outline, one end of the casing being closed and the other end being open and equipped with a draw string that can also be used to form the tie-string 2 on one end of the casing. The pneumatic member B of the device preferably consists of a straight rubber tube closed at one end and provided at its other end with an inflating device or valve 3 of any suitable type that can be adjusted in one position so as to permit the tube B to be inflated by blowing air into same and adjusted in a different position so as to retain the air in said tube. The tube B is adapted to be inserted in the casing A through the open end of said casing that is equipped with a draw-string previously referred to, and the closed end of said tube is then secured to the closed end of the casing A in any suitable way. In the device herein shown, the tie-string 1 on the closed end of the casing A is formed from a piece of tape that is split longitudinally at one end so as to form two strands 4 that are arranged inside of the casing A and which are adapted to be

used for securing one end of the tube B. In order to facilitate the attachment of the tube to the casing, I prefer to arrange a marble, or other small object 5, inside of the closed end of the tube B, as shown in broken lines in Figure 2, so that when the strands 4 are brought around the tube and tied at a point in proximity to the marble or other object in the tube, the tube will be securely anchored to the closed end of the casing A. Preferably, the closed end of the tube is provided with a reduced portion or pocket 6 of approximately the size of the marble or other object 5 that is used to anchor the tube to the casing, so that when said object is dropped into the tube, it will seat itself in the closed end of the tube. After one end of the tube has been secured to the casing in the manner above described, the free end of the tube is drawn longitudinally through the casing A so as to arrange the inflating device or valve 3 on the opposite end of the tube at a point outside of the casing. The draw-string 2 in the casing is then tightened so as to close the open end of the casing and cause the opposite end portion of the tube, namely, the portion that carries the inflating device 3, to be securely connected or anchored to the end of the casing in which the draw-string is arranged. I prefer to make the tube B of slightly less length than the linear length of the casing A, as it is a distinct advantage to use a relatively short tube on account of the fact that this reduces the cost of the device and insures the tube B being stretched slightly or held under sufficient longitudinal tension to prevent wrinkles from forming in same when it is in its deflated condition.

When air is blown into the tube B it will expand throughout its entire length without liability of wrinkles forming in same and without liability of the casing puckering or sticking to the tube due to frictional pressure. Consequently, the device can be inflated easily and without liability of bursting the pneumatic member B of the device, even when said pneumatic member is formed by a tube of thin rubber similar to the rubber used to make toy balloons of the kind that are equipped with an inflating device by which air can be blown into the balloon and then retained therein by turning the inflating device so as to twist the portion of the balloon to which the inflating device is connected.

While I have stated that the pneumatic member B of the device is preferably constructed of relatively thin rubber, I do not wish to imply that my invention is limited to a buoyant device equipped with a pneumatic member constructed of thin rubber, as it is immaterial what the inner tube B of the device is constructed of so long as it has

sufficient elasticity to conform to the approximate shape or outline of the outer casing A when it is inflated and will take up little space when it is deflated. It is essential, however, that the pneumatic member of the device be constructed of a straight elastic tube, as this enables the device to be manufactured at a materially lower cost than a buoyant device equipped with a moulded pneumatic member.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A buoyant device of the kind described, consisting of a shaped casing constructed of substantially yoke-shaped pieces of lightweight fabric, a straight elastic tube in said casing of less length than the linear length of the casing when deflated and adapted to be inflated so as to conform to the shape of the casing and hold same distended, means for connecting one end of the casing to one end of said tube which terminates inside of the casing, and means at the opposite end of said tube for enabling said tube to be inflated and deflated.

2. A buoyant device of the kind described, consisting of a shaped fabric casing constructed in the form of a split ring or substantially yoke-shaped member, said member being closed at one end and having its opposite end open, a draw string in the open end of said casing, a straight elastic tube in said casing detachably connected to the closed end of the casing and having its free end projecting through the open end of the casing, and an inflating device on the free end of said tube that co-operates with the draw-string in the casing to maintain the tube in operative relationship with the casing when the tube is deflated.

3. A buoyant device of the kind described, consisting of a shaped fabric casing constructed in the form of a split ring or substantially yoke-shaped member, a straight elastic tube in said casing having one end terminating inside of the casing and secured to same and its opposite end terminating outside of the casing and equipped with an inflating device, and tie-strings on the end portions of said casing that are used to secure the ends of the tube to the casing and to maintain the casing in operative position on the neck of the user.

4. A buoyant device of the kind described, consisting of a shaped fabric casing constructed in the form of a split ring or substantially yoke-shaped member, a pneumatic member inside of said casing formed by a straight elastic tube, an object in said tube arranged at one end of same, and means for connecting one end of the tube to the casing consisting of a device that surrounds the tube in proximity to said object.

5. A buoyant device of the kind described, consisting of a shaped fabric casing constructed in the form of a split ring or substantially yoke-shaped member, a pneumatic member inside of said casing formed by a straight elastic tube having a closed end that is provided with a reduced portion or pocket, an object arranged inside of the tube in said pocket, and means for connecting one end of the tube to the casing consisting of a device that surrounds the tube in proximity to said object. 10

JOHN A. DE VILBISS.