Aug. 14, 1962 A. J. RICHARDSON 3,048,860

LIFE PRESERVER

Filed Sept. 25, 1959 2 Sheets-Sheet 1

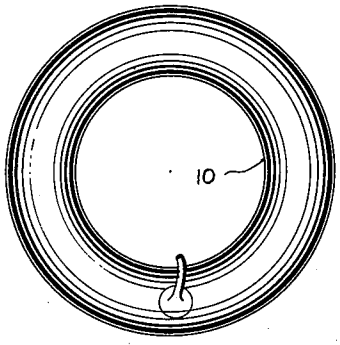


Fig-1-

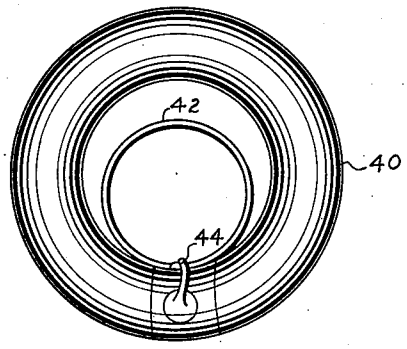


Fig-4-

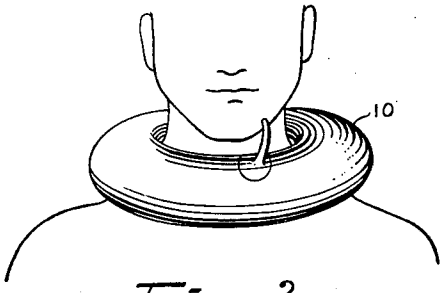


Fig-2-

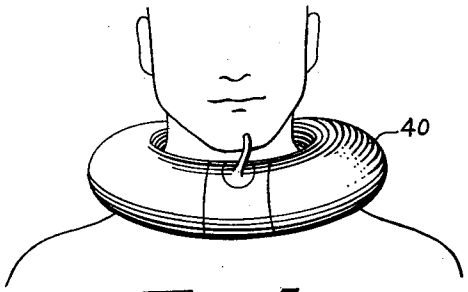


Fig-5-

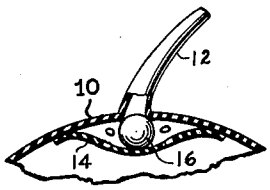


Fig-3-

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LIFE PRESERVER

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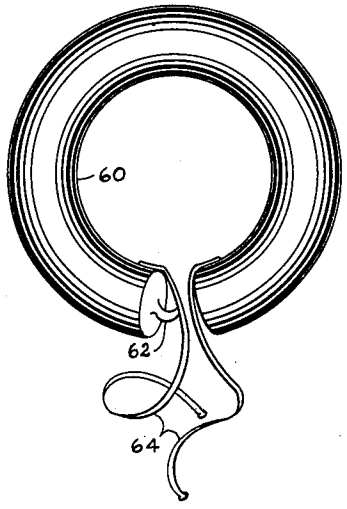


Fig-6-

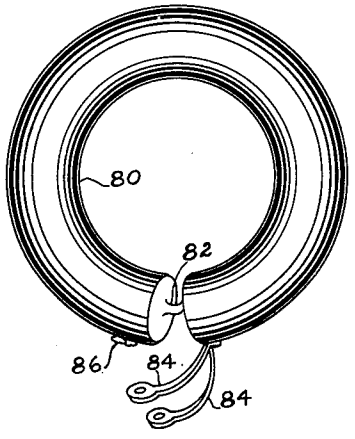


Fig-8-

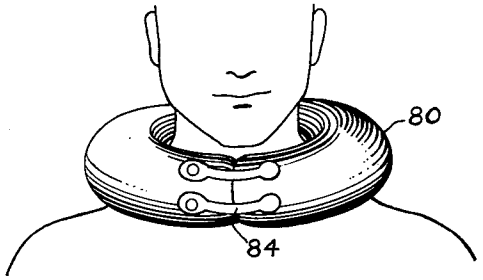


Fig-9-

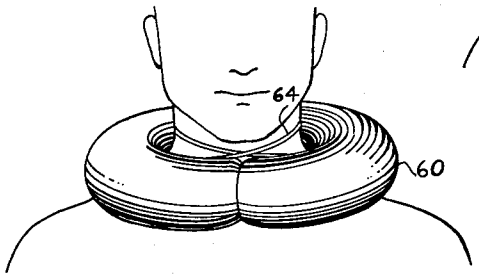


Fig-7-

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United States Patent Office 3,048,860 Patented Aug. 14, 1962

3,048,860

LIFE PRESERVER

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Filed Sept. 25, 1959, Ser. No. 842,319
3 Claims. (Cl. 9—314)

This invention pertains to life preservers for keeping people from drowning.

An object of this invention is to provide a life preserver adapted to be worn around the neck of a person so as to keep his face out of the water at all times.

Another object of this invention is to provide a life preserver that will be effective to keep the wearer's face out of the water even if he is unconscious.

Another object of this invention is to provide a life preserver that is comfortable to wear and does not interfere with physical activities.

A further object of this invention is to provide a life preserver which may be readily reinflated if it becomes low on air.

Still further objects are to achieve the above with a device that is sturdy, compact, durable, simple, and reliable, yet inexepnsive and easy to manufacture.

The specific nature of the invention as well as other objects, uses, and advantages thereof will clearly appear from the following description and from the accompanying drawing, in which:

FIG. 1 is an elevational view of one form of this life preserver.

FIG. 2 is an illustration of the preserver of FIG. 1 shown as would be worn.

FIG. 3 is a view partially broken away to show the means for inflating the preserver.

FIG. 4 is an elevational view of another modification of the life preserver according to this invention.

FIG. 5 is an illustration of the preserver according to FIG. 4 as would be worn.

FIG. 6 is a view of another modified form of this invention.

FIG. 7 is an illustration of the preserver according to FIG. 6 as would be worn.

FIG. 8 is an illustration of another modification according to this invention.

FIG. 9 is an illustration of the preserver according to FIG. 8 as it would be worn.

The preserver, as may be seen in FIGS. 1 and 2 of the drawing, in its simplest form, consists of a rubber tore **10** which, because of its size, is adapted to fit closely around the neck of the wearer. The preserver may be fitted over the head of the wearer when uninflated. Then when it is inflated it will tend to expand slightly and be even more snug around the neck and under the chin.

The particular advantage of the preserver of this size and shape is that it will fit under the chin of the wearer and keep his chin elevated out of the water even if the wearer is unconscious and limp.

As may be seen, the valve is built into the tore in connection with a short tube or mouthpiece **12**. The mouthpiece is mounted along one side of the tore. By side is meant a portion which lies in a plane or which might be referred to a face of the tore. Attached by cementing or otherwise to the inner surface of the life preserver is a perforated rubber patch **14** (FIG. 3). This patch is of a size and shape so that it holds rubber ball valve **16** against the circular opening wherein the tube **12** enters the tore. Thus it may be seen that if a person blows into the tube **12**, that the pressure of the air will push the ball **14** away from its seat and the air will enter through the perforations of the patch **14**. However, when a person ceases blowing, the valve will be pushed against its seat. The valve will be pushed against its seat by the combination of the elasticity of the rubber of the tore and the patch **14** as well as the pressure within the tore which is greater than the atmospheric pressure.

Although the patch has been illustrated as inside the tore, equally well the surface of the tore itself could be an area of perforations and a hermetically sealed patch placed over this with the tube extending out of the patch. The principal concept is that there is an area on the tore which has a double wall, the inside wall of which is perforated, the outside wall having a filling tube extending therefrom. There being ball valve between the two walls which is normally pressed by the elasticity of the material against the inside opening of the filling tube thus forming a valve seat.

Also it may be seen that the thickness of the inside wall is about the same as the thickness of the outside wall; both of which are about the same thickness as the wall of the rest of the tore. Likewise it may be seen that the tore, as far as the valve is concerned, is a hollow container.

It will be understood that although the preserver is spoken of as being made of rubber, it could be made of any of a number of rubber-like material such as plastic. It is necessary that the preserver is made air-tight and elastic.

As may be seen in normal construction, the mouthpiece will extend upward from one of the faces of the tore and inward toward the axis about which the tore was generated. In this manner the mouthpiece will be directly in front of the mouth of the wearer when so indexed. It is placed so that it is adaptable for additional inflation of the wearer should need arise. It will be understood that the preserver will be as small as possible to reasonably and comfortably be pulled over the head of the wearer. It would be put on in the uninflated condition and then inflated after it was on.

Although a specific mouthpiece and valve mechanism has been specifically described, that the preserver could also be inflated by a needle pierced through a self-sealing area, in a method which is well known to the art for inflating balls in sporting events such as basketballs.

FIG. 4 illustrates a modified form of the invention. This primarily uses the tore **40** which is adapted to be placed over the head of the wearer. However, there is attached to the inner part of the tore an elastic annular neck band **42**. The elastic neck band is attached to the tore **40** adjacent to the mouthpiece **44**. The neck band serves two purposes. First it keeps the mouthpiece **44** indexed in front of the mouth of the wearer at all times. Second, it keeps the preserver firmly under the chin of the wearer. It is important with my invention that the tore fit under the chin of the wearer so that the chin and face and mouth are held above water at all times.

In the modification illustrated in FIGS. 4 and 5 the elastic band is attached to the tore by any of a number of conventional means well known to the art. It is attached to the inside surface of the tore adjacent to the mouthpiece **44**.

FIGS. 6 and 7 illustrate another modification. In this modification the tore is split so that it somewhat resembles a sausage. Considering that the definition of a tore is a conic section, usually a circle, rotated about an axis contained within the plane of the generating figure; it will be seen that the mouthpiece **62** extends from the center of this generating figure. Also there are two straps which are adapted to extend around the wearer and tied around the neck. As illustrated, one strap is attached to each of the terminal of the sausage-like preserver. They are attached to the inner surface of the tore. They each are of sufficient length to reach over

half way around the neck of the wearer. As may be seen in FIG. 7, these straps are crossed immediately below the chin of the wearer so that they may be tied together behind the head of the wearer. Therefore they are somewhat similar to the modification of FIG. 4 in that the preserver is held firmly under the chin of the wearer. Also in this case the filling tube **62** is folded back upon itself and abuts into the opposite terminal of the tore so that as worn, the preserver has a smooth exterior surface without the projecting filling tube.

FIG. 8 illustrates another modification. It is similar to FIG. 6 in that the tore **80** is split somewhat sausage-like. Also the filling tube **82** is in the center of the generating figure and recesses into the other terminal when worn. However, the preserver is held together and attached about the neck of the wearer by two straps **84**. These straps are attached by cementing or vulcanizing to the outer surface of one terminal of the tore. The straps are relatively short and have apertures at the free end thereof. These apertures are adapted to fit over buttons **86** which are located upon the outer surface of the other terminal. In wear, the terminal ends are connected together by straps which extend from one terminal to means for fastening or buttons located on the other terminal.

It will be understood that the modification illustrated in FIGS. 6, 7, 8 and 9 have a similar valve arrangement to that illustrated in FIG. 3.

It will be apparent that the embodiments shown are only exemplary and that various modifications can be made in construction, materials, and arrangement within the scope of the invention as defined in the appended claims.

I claim as my invention:

1. A valve for a hollow container comprising:
(*a*) said container having an area with a double wall designated as an outside wall and inside wall,

(*b*) a tube extending from the outside wall and entering into the space between the outside wall and inside wall,
(*c*) the inside wall having a plurality of perforations therethrough, and
(*d*) a ball valve between the two walls,
(*e*) the inside wall being attached to the outside wall around the ball,
(*f*) the elasticity of the material of one of the walls normally pressing the ball valve against the inside opening of the tube, thus forming a valve seal for the ball valve, and
(*g*) the outside wall being attached to the normal wall of the remainder of the container.

2. The invention as defined in claim 1 wherein:
(*h*) the outside wall is about the same thickness as the inside wall.

3. The invention as defined in claim 1 wheerin:
(*h*) the outside wall is about the same thickness as the inside wall which
(*i*) is about the same thickness as the normal wall of the remainder of the container.

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