W. G. RICHARDSON.

LIFE PRESERVER.

APPLICATION FILED AUG. 26, 1916.

1,252,842.

Patented Jan. 8, 1918.

2 SHEETS—SHEET 1.

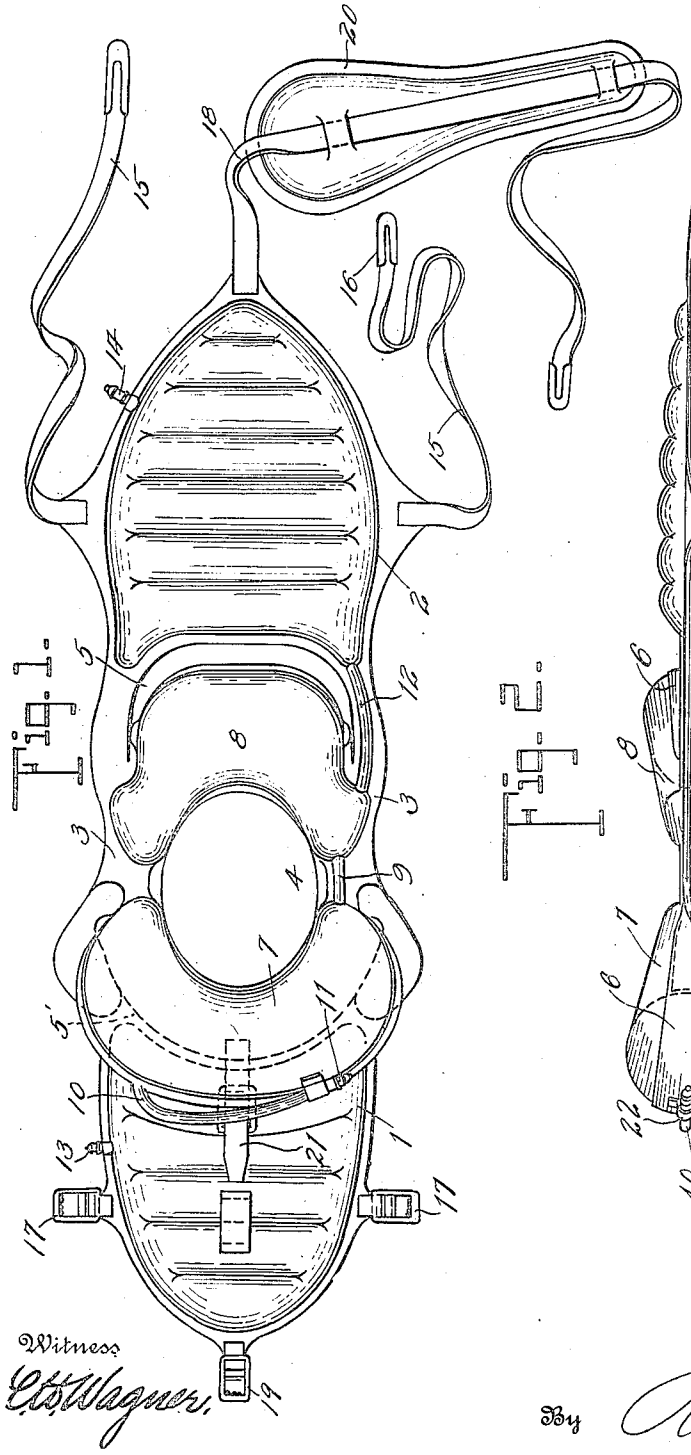


Fig. 1.

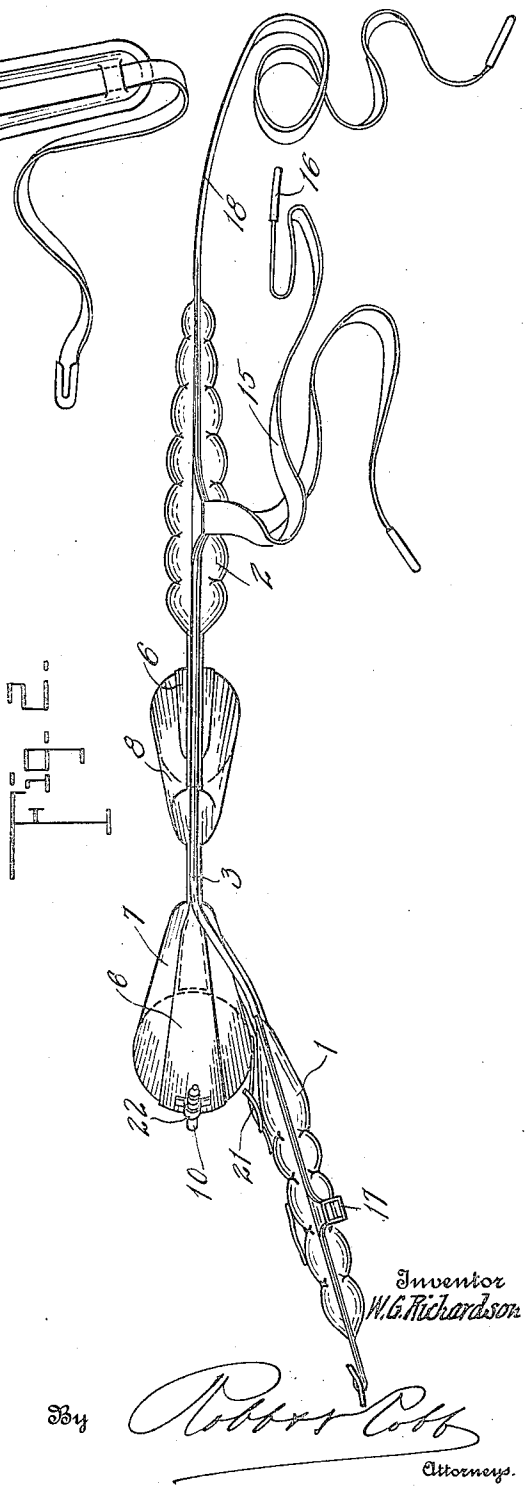


Fig. 2.

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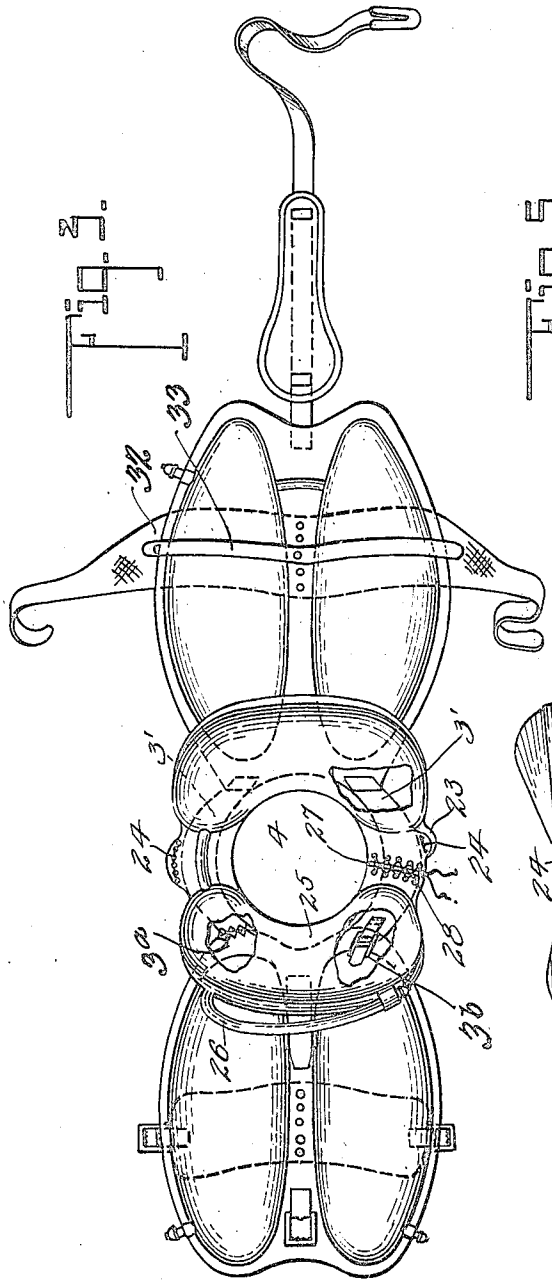
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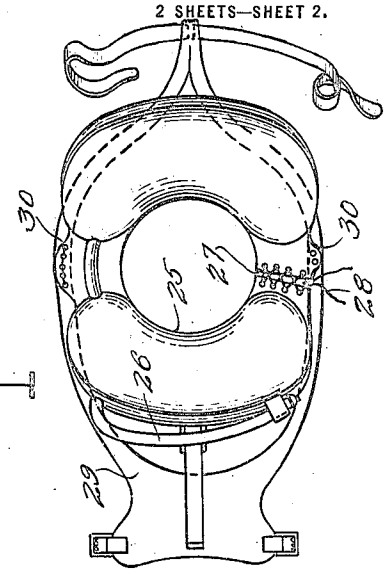
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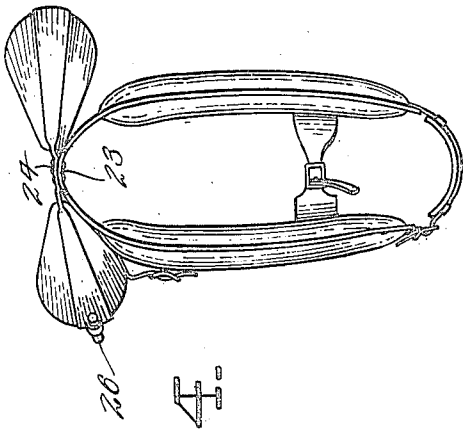
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2 SHEETS—SHEET 2.







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UNITED STATES PATENT OFFICE.

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LIFE-PRESERVER.

1,252,842. Specification of Letters Patent. Patented Jan. 8, 1918.

Application filed August 26, 1916. Serial No. 117,058.

To all whom it may concern:

Be it known that I, WELLINGTON G. RICHARDSON, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Life-Preservers, of which the following is a specification.

This invention has to do with life preservers, the buoyant qualities of which are derived from inflatable elements so subject to the control of the wearer as to enable one to regulate the buoyancy to accord with various positions he desires to assume when in the water.

In essential characteristics the present invention is similar to that disclosed in my previous patent for improvements in life preservers, No. 1,056,693, dated January 14, 1913, the main feature of the present improvements being more particularly directed to the collar element forming a part of the device.

As will be readily inferred, the primary object of using a collar element is to maintain the head of the wearer of the life preserver well out of the water and the connection of said collar to the main body portion of the article is a matter of importance. I have, therefore, so devised this particular feature as to leave the collar element quite independent of the body portion in the performance of its function by forming it from, or connecting it to the body member so that it will readily flex at the shoulder portion of the latter to assume a supporting position with respect to the head of the wearer.

It is further my object to provide a detachable collar so that it may be used alone or conjointly with a buoyant body member or members at the wish of the wearer, the latter also being displaceable at will.

With the above and other objects in view, this invention consists in the construction, combination and arrangement of parts all as hereinafter more fully described, claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of a life preserver constructed in accordance with my invention.

Fig. 2 is a side elevation thereof.

Fig. 3 is a plan view of a modified form of the device embodying a detachable collar.

Fig. 4 is a side elevation of the modified form disclosed in Fig. 3; and

Fig. 5 is a plan view of the detachable collar shown in Fig. 3 applied to a modified form of body attaching means.

Throughout the following detail description and on the several figures of the drawings, similar parts are referred to by like reference characters.

Referring to the drawings, and specifically describing the form of apparatus disclosed in Figs. 1 and 2, 1 denotes the front portion or section, and 2 the back section of a body member, each of which comprises inflatable elements. The material used in the formation of this body member may be of any desired character but is preferably impervious to air. The front and back sections of the body member are connected by non-inflatable portions indicated at 3 in the center of which is a head opening 4. This connection permits the body member to suitably conform to the wearer at the shoulders.

In the form of the device shown in Figs. 1 and 2, the material intermediate the front and back inflatable sections is cut out as indicated at 5 and 5′, and by the insertion of end pieces 6 an inflatable collar element is formed. It will be observed that said collar element comprises the front section 7 and the back section 8, said sections being spaced apart by the non-inflatable portion of the material at 3. These sections, however, communicate interiorly through the tube 9 and means are provided for inflating the collar member such as the tube 10 connected to the front section 7 and having a valve 11 for retaining the air when the collar member is inflated. Preferably the collar member is in communication interiorly with the back section 2 by the tube 12 so that the collar and said back section may be simultaneously inflated.

The front section is provided with a valve 13 to enable it to be inflated and the back section 2 is also preferably provided with an independent valve 14. I desire it to be understood that the means for inflating these several elements is subject to change so that each of the elements may be independently inflated or simultaneously inflated as desired, this not being an essential feature of my present construction. The back section 2 has connected thereto side straps

15 terminating in metallic clips 16 which facilitate the insertion of said straps into the buckles 17 attached to the front section 1. In addition the back section 2 is provided with a crotch strap 18 adapted to be connected to the buckle 19 at the lower extremity of the front section 1 and said strap 18 has preferably slidably mounted thereupon a protective pad 20 designed to prevent the crotch strap from chafing the wearer in the use of the article.

One of the important features of this construction is the provision of restraining means for the collar member and said means consists of an adjustable strap 21 connected to the front section of the body at one end and to the front inflatable collar section 7. The object of this connection is to adjust this front section according to the wish of the wearer of the apparatus so as to limit the movement of the collar section 7 and prevent the same from unnecessarily slapping against the head. The adjustment may be somewhat dependent upon the length of the neck of the wearer but is primarily designed to enable the collar section to assume a proper supporting position with respect to the head.

As a matter of convenience the inflatable collar section 7 has secured thereto a suitable keeper 22 to receive the end of the inflating tube 10 so as to hold this tube in inoperative position.

Referring to Figs. 3 and 4 of the drawing, I have there illustrated a slightly different type of life preserver and this type is particularly suitable for use as a swimming apparatus and may be much more cheaply manufactured than the form disclosed in Fig. 1. The inflatable elements of the body member are elliptical in configuration but in other essential respects the body member is substantially the same excepting that the collar and buoyant body elements in this form are independently separable. The flexible portion 3′ of the body member surrounding the head opening 4 is non-inflatable and preferably provided with lateral flaps 23. These flaps have suitable eyelets therein to accommodate lacing strings 24 used in attaching thereto the separate collar member 25. This collar is in essential respects similar to the collar member shown in Fig. 1 inasmuch as it consists of spaced inflatable elements subject to inflation through the tube 26. The flexible non-inflatable connections between the sections of the collar permit the independent and free movement of these sections with respect to the body member to which the collar is attached. At one side said collar is provided with a separable opening 27 at the deflated portion, and this opening is normally closed by means of lacing 28 or similar fastening means. The object in having the collar member open is to insure the proper fitting of the collar about the neck of the wearer inasmuch as the opening 4 in the body member must be large enough to allow said body member to be slipped over the head of the wearer.

Carrying out further the independent construction, it will be noted in Fig. 3 that the shoulder strap connections 3′ at one side are adapted to be connected to the front pouch section by lacing the same together as indicated at 3^a, or in some other similar manner, while at the other side a buckle connection is provided as indicated at 3^b. It thus follows that if any one of the buoyant elements constituting this combination becomes inoperative for any reason whatever, it may be replaced by simply disconnecting the other elements therefrom. Furthermore this separability enables the attachment of different sized buoyant elements as may be desired for different sized wearers. Again, it permits of the utilization of inflatable elements of different capacities or buoyancies, thereby enabling the position of the wearer in the water to be fully controlled at the whim of the wearer.

In this type of apparatus it will be understood that the collar member may be used in conjunction with the body member or not as desired, such collar member being subject to attachment or detachment in the manner above described. The collar member therefore becomes a separate article which may be used alone by attaching the same to any desired body engaging means, such not necessarily embodying inflatable elements as shown in Fig. 3. Such body means may take the form disclosed in Fig. 5, wherein 29 designates a strap-like device which is subject to attachment about the body of the wearer and to which the collar is preferably connected at the shoulder points as indicated at 30. Each of the body members disclosed in Figs. 3 and 5 is suitably provided with fastening means for holding the device upon the wearer, and as these may be of any desired form they are not specifically referred to other than, as disclosed in the drawings, to indicate that the straps 31 and 32 are attached, centrally only, of the body elements allowing the straps to conform to the body of the wearer, the stay straps 33 being connected to the straps 32 at one side and extending over the pouches to hold them in position.

An apparatus constructed in accordance with the foregoing description will readily sustain the weight of from one to three people depending upon the capacity of the buoyant elements and in the use of the apparatus these elements, when inflatable ones are used, may be inflated in different degrees, especially the front and back sections, so that the life preserver will force

the wearer to take a predetermined position in the water according to whether it is desired to swim upon the back or in the natural position. The collar member may be left deflated until the wearer is in the water but when once inflated the head will be well supported above the surface of the water in an obvious manner.

I desire it to be particularly understood that the buoyant elements of this invention, while illustrated and described generally as being of an inflatable character, may, however, consist of buoyant elements which comprise material giving substantially some buoyancy of action. In other words, it is comprehended that the elements may be of cork, kapoc, or like material, or the elements may comprise wholly rigid materials in which air may be introduced to provide for buoyancy.

Having thus described my invention, what I claim as new is:

1. In a life preserver, the combination of a body member extending over the shoulders of the wearer, and a collar member surrounding the neck in supporting relation to the head of the wearer and having connection with the body member at the shoulder portions only whereby the front and rear portions of the collar member are free to move independently of each other and of the body member.

2. In a life preserver, the combination of a body member extending over the shoulders of the wearer, and a collar member arranged to provide front and rear head supports and having a flexible connection at each side thereof with the shoulder portions of the body member only, said connections dividing the collar member into front and rear sections freely movable independently of each other to hold the head of the wearer in front and rear when in the water.

3. In a life preserver, the combination of a body member extending over the shoulders of the wearer and having front and rear buoyant members, and an inflatable collar member hingedly connected at opposite sides to the shoulder portions of the body member but free intermediate said points, said collar member normally lying on the body member but free to move on its connection to assume a substantially horizontal position on the surface of the water.

4. In a life preserver the combination of a body member comprising front and back buoyant sections, flexible shoulder connections intermediate the sections, and an inflatable collar member flexibly connected to the body portion at the shoulder connections aforesaid.

5. In a life preserver, the combination of a body member comprising front and back inflatable sections, flexible shoulder connections intermediate the sections, an inflatable collar member comprising spaced inflatable sections, flexible connections intermediate said sections for connection with the flexible connections intermediate the body sections, and means for inflating the inflatable sections.

6. In a life preserver, the combination of a body member, fastening means therefor, a buoyant collar member connected at one side to the body member and freely movable on said connection to float into supporting relation to the head of the wearer, and an adjustable restraining member connected to the movable side of the collar member for limiting movement thereof with respect to the body member.

7. In a life preserver, the combination of a body member comprising front and back buoyant sections, flexible shoulder connections intermediate the sections, a buoyant collar member comprising spaced buoyant sections, flexible connections intermediate said sections for connection with the flexible connections intermediate the body sections, and an adjustable connection intermediate the body member and the collar member for limiting movement of the latter.

8. In a life preserver the combination of a body member, a collar member connected thereto and comprising front and back inflatable sections, and adjusting means connecting one of said sections to the body member for controlling the movement of said section with respect to the head of the wearer.

9. In a life preserver the combination of a body member having a head opening therein, a collar member detachably connected to the body member at one side of the opening and comprising spaced buoyant sections, the collar member having a separable opening between the sections, and means for closing the said opening.

In testimony whereof I affix my signature.

WELLINGTON G. RICHARDSON.