

June 22, 1926.

1,590,151

A. DRAPEAU

SELF INFLATING LIFE BELT

Filed April 4, 1925

2 Sheets-Sheet 1

Fig. 1.

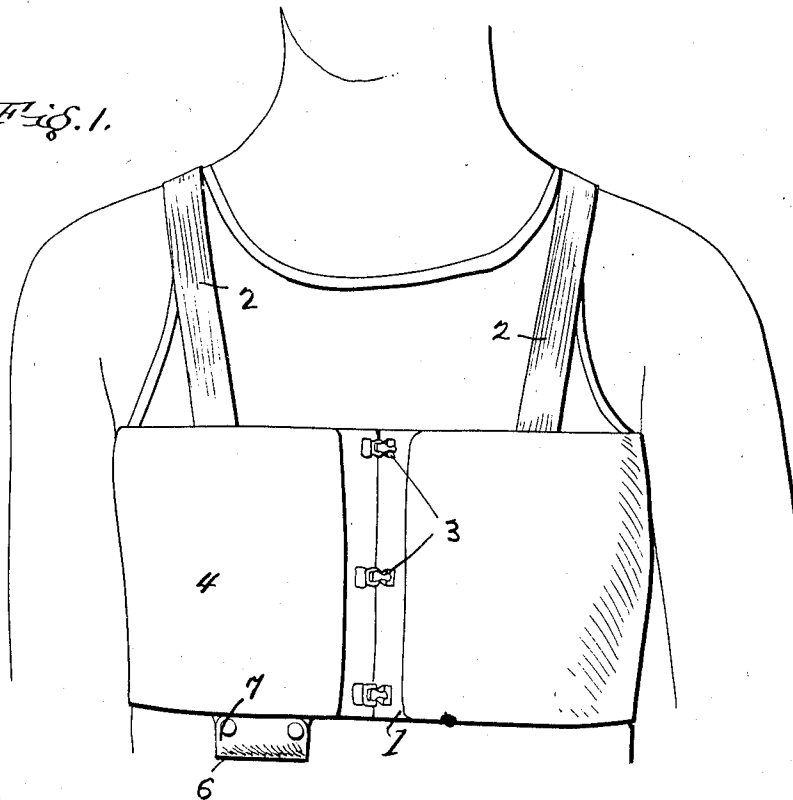
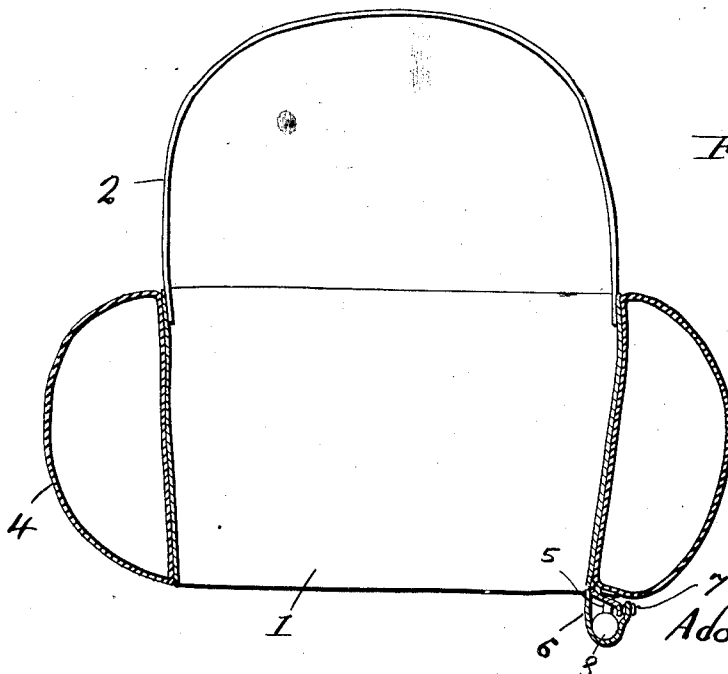


Fig. 2.



Adolphus Drapeau
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS:

Gerald James, Jr.

ATTORNEY

June 22 , 1926.

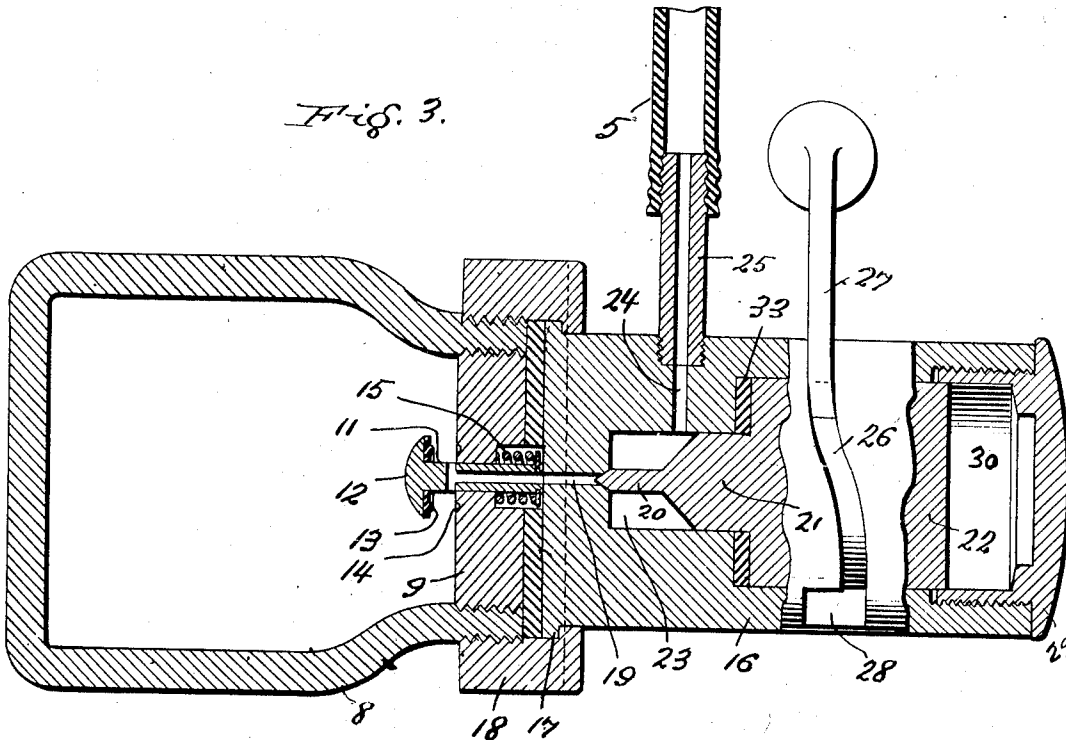
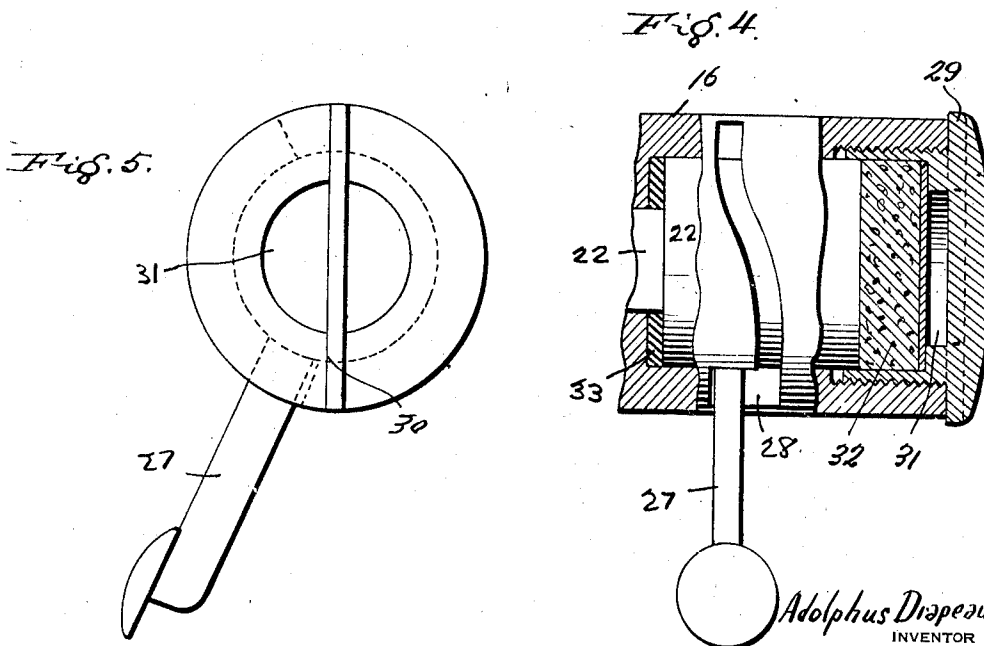
A. DRAPEAU

1,590,151

SELF INFLATING LIFE BELT

Filed April 4, 1925

2 Sheets-Sheet 2



WITNESS:

Gerald Hennessey Jr.

Adolphus Drapeau
INVENTOR

BY Victor J. Evans

ATTORNEY

UNITED STATES PATENT OFFICE.

ADOLPHUS DRAPEAU, OF RIVER ROUGE, MICHIGAN.

SELF-INFLATING LIFE BELT.

Application filed April 4, 1925. Serial No. 20,791.

The object of this invention is a life saving appliance for swimmers or bathers.

Specifically the improvement has reference to a life saving belt provided with an inflatable pocket or pockets and means comprising a fluid under pressure for inflating the pocket or pockets, the said fluid being maintained in a container and released therefrom by a valve which may be either manually operated or automatically operated.

To the attainment of the above broadly stated objects, and many others which will appear as the nature of the invention is better understood, the invention further resides in certain features of construction, combination and operative association of parts, a satisfactory embodiment of which is illustrated by the drawings which accompany and which form part of this application.

In the drawings:—

Figure 1 is a view illustrating my improvement in applied position.

Figure 2 is a sectional view through the belt taken in a line with the pocket that receives therein the fluid container and the control means therefor.

Figure 3 is a substantially central longitudinal sectional view through the fluid container and the controlling means therefor.

Figure 4 is a fragmentary sectional view through the rear portion of the casing for the fluid controlling means showing the operating lever in inactive position and also showing a dissolvable tablet holding the valve plunger in one position.

Figure 5 is a rear elevation of the casing.

As disclosed by the drawings, my improvement contemplates the employment of a belt 1. The belt is constructed of suitable textile material and is provided with shoulder straps 2. The confronting ends of the belt 1 are fastened together by means 3, the said means being preferably of an adjustable nature. Secured on the outer face of the belt 1 there is an inflatable pocket 4 of some suitable water proof material collapsible when not inflated so that the device may be conveniently folded and carried in the pocket of a user.

Of course more than one inflatable pocket 4 may be employed, and the said pocket is provided with an inlet opening surrounded by a flexible tube 5.

Secured on or formed with the lower edge of the belt 1 there is a receptacle 6 that is

normally closed by a flap 7. In this receptacle there is received the container for fluid under pressure and the controlling means for the said fluid, the fluid being employed for inflating the pocket 4.

The numeral 8 designates a container for a fluid, such as a gas under pressure. The container may be, and preferably is, in the nature of a bottle having its neck provided with both exterior and interior threads. Secured in the neck of the bottle there is a stopper 9. The stopper has a central opening that receives therethrough the hollow stem 11 of a valve 12. The inner face of the valve is preferably formed with a continuous rib 13 to be received in a depression 14 on the inner face of the stopper 9 and the valve is influenced to closed position through the medium of a spring 15. The spring, of course, normally holds the valve seated and prevents the escape of gas from the container 8.

The numeral 16 designates a cylindrical casing. This casing has one of its ends formed with an outstanding flange 17. This end of the casing is simply formed with a port 19 that registers with the longitudinal port in the hollow valve stem. The port 19, however, is normally closed by a needle valve 20 on the reduced end 21 of a follower member or block 22. The block 22 is rounded in cross section and is snugly received in the bore of the casing 16, the portion 21 being snugly received in a restricted passage 23 that communicates with the said bore of the casing. The restricted passage 23 has communicating therewith a transverse port 24, and screwed in the casing and having its bore aligning with the port 24 there is a nipple 25 that has its outer end corrugated and received in the hose 5. There is arranged over the flanged end 17 of the casing 16 a flanged nut 18, and preferably between the said end of the casing and the mouth of the container there is a compressible disk. Before the valve 12 is wholly unseated the nut 18 is partly screwed home so that the gas from the container cannot escape to the atmosphere or through the casing 16. When the nut is fully screwed home there is an airtight joint between the container and the casing.

The casing has a curved slot 26 through one side thereof, and the block 22 is provided with a handle member 27 that is received through and is guided by contact

with the walls of the said slot 26. In this manner it will be seen that the turning of the handle 27 in one direction will cause the sliding of the block 22 and the opening of the port 19, thus allowing the gas from the container 8 to flow through the hollow stem of the valve 12, the ports 19 and 24, through the hose 5 to inflate the pocket 4. The casing 16, at one end of the groove or opening 26 is formed with a longitudinal notch 28 which is designed to receive the handle 27 therein and to permit of a longitudinal movement of the block 22 and the opening of the port 19 without necessitating the operation of the handle. When such operation is desired I make use of a dissolvable tablet 32 which is arranged between the rear end of the block 22 and the inner shouldered portion of a flanged cap 29 which is threaded in the outer and open end of the casing 16. The cap 29 is provided with an opening 31 which permits of the entrance of water into the casing 18 when the device is submerged. This water will dissolve the tablet 32, so that the pressure of gas from the container flowing through the hollow stem of the valve 16 will exert a pressure upon the part 20 of the block 22 to move the same longitudinally toward the rear of the casing 16, thus automatically uncovering the ports 19 and 24 and permitting the inflation of the pocket 4. There is a compressible gasket 33 between the block and the shoulder provided between the bore and the passage 23 of the casing 16.

Having described the invention, I claim:—

1. A life belt having inflatable pockets and having a receptacle, a container for a fluid under pressure designed to be received in the receptacle, a spring influenced valve having a hollow stem normally closing the container, a casing designed to be removably secured to the container and by virtue of connection therewith to unseat the valve, said casing having a port communicating with the port of the valve and having a lateral port communicating with the inflatable pocket of the belt, a needle valve for closing the first mentioned port and means for unseating the valve.

2. A swimmer's life belt having an inflatable pocket and also having a receptacle below the pocket, means, comprising fluid under pressure, and control means for said

fluid in the receptacle for inflating the pocket, said means including a container for a fluid under pressure, a spring influenced valve having a hollow stem normally closing the container, a casing, an element movable thereon and contactable therewith for adjustably engaging the container to secure the same to the casing and by virtue of such connection to unseat the valve, said container having a port communicating with the port in the valve stem and having an angle port surrounded by the stem and connected to the inflatable pocket, a block slidably mounted in the container and having a reduced portion formed with a needle valve extension to engage with and normally close the first mentioned port in the casing and means for moving the block longitudinally in the casing for unseating the needle valve.

3. The combination of a belt for swimmers' use having an inflatable pocket, of a means for said inflatable pocket removably associated with the belt, said means comprising a container for a fluid under pressure, a slidable spring controlled valve having a hollow stem, normally closing the container, a casing having a flanged end, a cap nut slidable thereon and threadedly engaging the mouth of the container and by virtue of such connection to cause the hollow valve stem to contact with the casing to unseat the valve, said casing having a port communicating with the hollow valve stem and a second angular port, a block slidable in the casing having a reduced extension formed with a needle valve to engage with the first mentioned port to close the latter, said block having a peripheral curved groove, said casing having a corresponding groove, and a valve having a forked end received in and movable through the grooves for holding the needle valve seated or unseated and a pipe connection between the last mentioned port and the inflatable pocket.

4. The elements recited in claim 3, together with a notch in the casing for holding the lever in inoperative position, a slotted closure for the casing and a dissolvable disc between the closure and the block.

In testimony whereof I affix my signature.

ADOLPHUS DRAPEAU.