Dec. 11, 1928. 1,694,714

P. MARKUS

INFLATABLE LIFE PRESERVER

Filed July 15, 1927

Fig. 1.

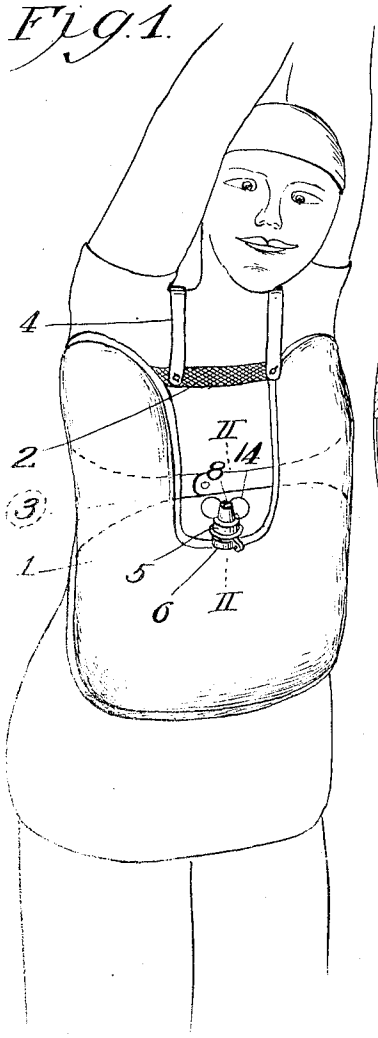
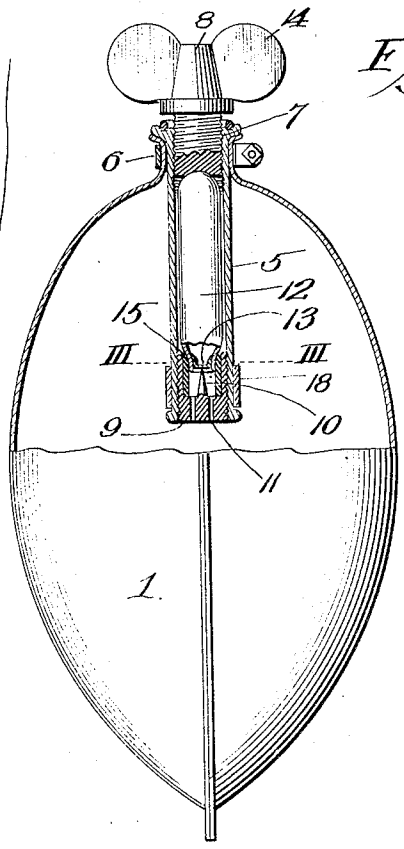


Fig. 2.



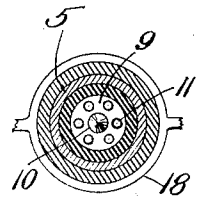


Fig. 3.

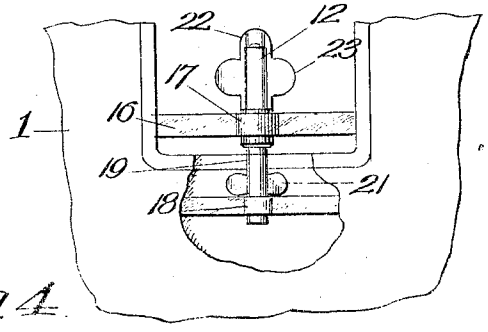


Fig. 4.

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UNITED STATES PATENT OFFICE.

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INFLATABLE LIFE PRESERVER.

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This invention relates to life preservers, and more especially to inflatable life preservers or floats.

There are various devices now on the market, such as the so-called water wings adapted to be inflated by blowing into them or by pumping air into them with a suitable air pump. Such "wings" are practical only for beginners and children and are not safe for use in deep or rough water at material distances from land. If more substantially made they would, of course, be safe for use in places where the ordinary bathing beach type of water wings are not safe, but neither type could be relied upon in certain emergencies, as where practically instantaneous inflation was necessary, and of course, neither are susceptible of inflation in deep water by a person who must depend upon artificial support to remain afloat.

The object of my invention is to provide a life preserver which,—in deflated condition,—is assumed by a person in a row boat or the like, upon the first suspicion of danger, as the device thus deflated can be worn without discomfort, and which the wearer, even if under water, can inflate within a few seconds by simply puncturing a cartridge of compressed air attached to and forming a part of the appliance.

Accordingly, I have provided an inflatable waterproof float member of any suitable or preferable form or type, a short tube permanently attached to and communicating with said member, a puncturing pin or prong, a compressed fluid cartridge, and a means for closing the outer end of the tube and adjustable for effecting the puncture of the cartridge by said prong or point to effect the discharge of the fluid into the member to inflate the same.

An appliance of the type described can, as above stated, be operated under water, if necessity therefore arises, and for that reason should be found of great surface and value, as persons are prone to defer taking proper safety precautions until too late, and this device should prove a means of saving many lives because it is ready to function under any circumstances, and can be operated easily and quickly under water provided the wearer retains sufficient presence of mind to effect the release of the fluid from the cartridge.

With the object mentioned in view, the invention consists in certain novel and useful features of construction and combinations of parts as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawing, in which:

Figure 1 is a view depicting the appliance in operative position.

Figure 2 is an enlarged central section on the line II—II of Figure 1.

Figure 3 is a section on the line III—III of Figure 2.

Figure 4 is a fragmentary front view showing a modified form of the parts for effecting the inflation of the waterproof float member.

In the said drawing, 1 indicates an inflatable float member of waterproof material and of any suitable type which can be readily and quickly secured in operative position. The device as shown, is of substantially U-shape, the arms of the U being kept from undue spreading by a front strap 2. At opposite sides of the arms are straps 3 of any suitable character adapted to be buckled or hooked together across the back of the wearer, and the device may be provided with shoulder straps 4, if desired, to guard against the member slipping downward, and to hold it more comfortably in place, especially when deflated.

Extending into the float member and suitably secured thereto with an air-tight relation, is a tube 5, preferably of metal, a clamp collar 6 being desirable as a reinforcement for the member at the point of union with the tube. The tube is internally threaded at 7 at the end exterior to the member, and a screw-plug 8 closes such end. At or near the opposite end, the tube is provided centrally with the plug 9 having a puncturing pin 10 and one or more air passages 11.

A cartridge 12 containing fluid under pressure sufficient to fully inflate the float member and sealed at one end by a cap or plate 13, is fitted in the tube with its sealing end adjacent the puncturing pin and its opposite end engaged by the plug 8, which plug has lugs or handles 14, whereby it may readily be turned and thereby advanced until it presses the sealing cap or plate against the pin with sufficient force to puncture the former and permit the fluid to inflate the said member, the plug 9 containing a compressible sealing ring or gasket 15 surrounding the pin and receiving the sealed end of the cartridge to guard against escape of fluid before or after entering

the said member, it being understood that when the member is deflated, it can be cramped upon the tube with one hand with sufficient force to prevent turning of the tube as, with the other hand, the screw-plug 8 is operated to effect the cartridge-puncturing operation.

In the modified construction disclosed by Figure 4, the arms of the member 1 are preferably connected by a cross strap 16 having a loop 17 for a purpose which hereinafter appears, and vertically below said loop and within the chamber of the member is provided a similar loop 18, attached to the member. Extending into the member and suitably secured thereto with an air-tight relation, is a tube 19 fitting in the loop 18 so as to be held against wobbling movement. The tube is externally threaded at its exterior end, and provided with a pin or prong 10. It is also provided with laterally-projecting lugs 21 so that it can be easily held against turning movement when the inflation action is to be effected.

A cage 22 of the general type conventional for use with cartridges in charging beverages with gas under pressure, is connected with an air-tight relation with the tube 19 by screwing the former onto the threaded end of the tube, and to cooperate with loop 18 in holding the tube and cage against material wobbling movement, the cage is fitted in the loop 17, said cage being provided with laterally-projecting handle lugs 23, so that when the lugs 21 are gripped with one hand—of course through the at that time deflated member,—the cage containing a cartridge charged with compressed air, like the cartridge 12, can be screwed further onto the tube so as to advance the compressed air cartridge with it, the compressed air cartridge being of the conventional type. The advance of the cage and cartridges, forces the sealing cap 13 against the pin or prong 10 to effect the puncture of the cap. As this occurs the compressed fluid discharged from the cartridge enters and instantly inflates the said member, which will not only sustain the wearer but has the requisite buoyancy to enable him to assist one or more other persons.

By removing plug 8 or the cage 22, an exhausted cartridge can be withdrawn for replacement by a new one so that the life preserver shall be ready for further service when occasion arises for its use.

From the above description it will be apparent that I have produced a device embodying the features of advantage set forth as desirable in the statement of the object of the invention, and which is susceptible of modification in minor particulars without departing from the principle of construction and mode of operation involved.

I claim:

The combination with an inflatable waterproof member having a filling neck, a tube projecting into the member through said filling neck and having a waterproof joint therewith, a piercing point at one end of said tube, a cartridge opposed to said piercing point, and means closing the other end of said tube with an air-tight joint and longitudinally adjustable thereof to force the cartridge against the piercing point.

In testimony whereof I affix my signature.

PETER MARKUS.