June 30, 1931. O. HELLRICH 1,811,847

VALVE CONTROLLED LIFE PRESERVER

Filed Feb. 28, 1931

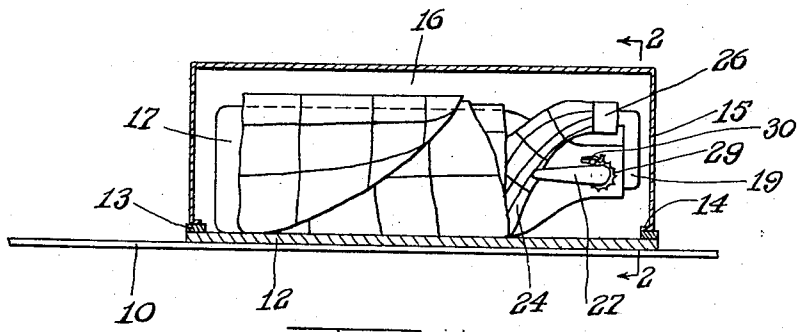


FIG. 1

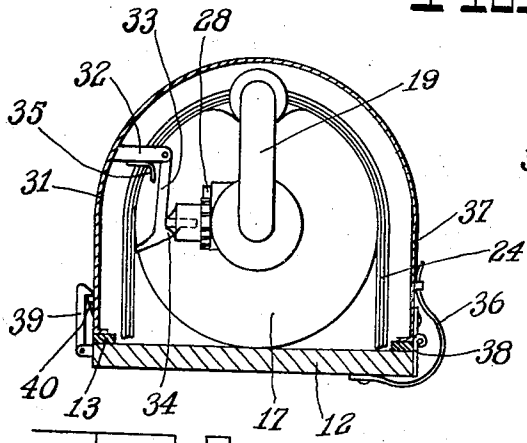


FIG. 2

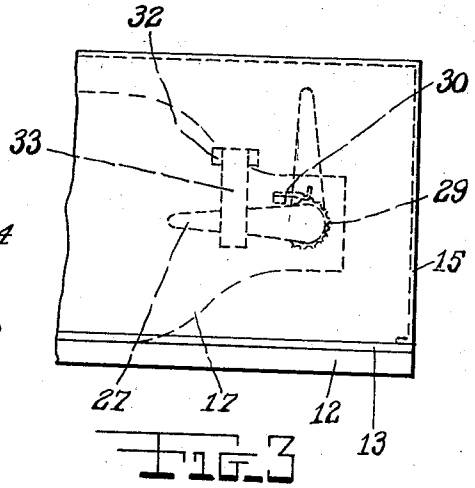


FIG. 3

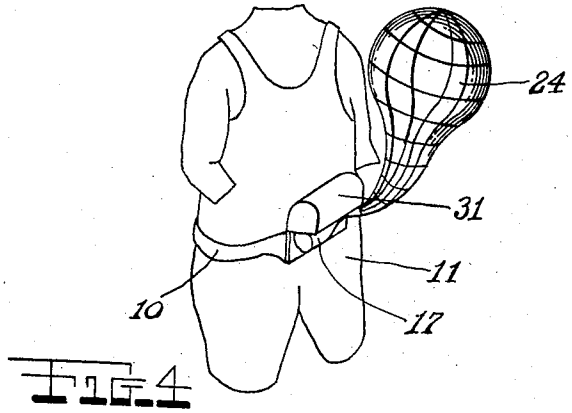


FIG. 4

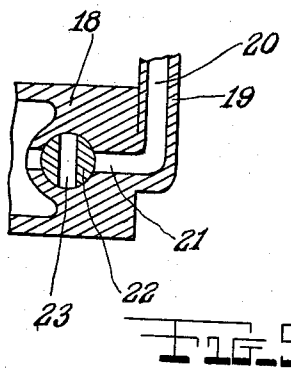


FIG. 5

INVENTOR
O. Hellrich

BY His ATTORNEY J. Lederman

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OSCAR HELLRICH, OF NEW YORK, N. Y.

VALVE CONTROLLED LIFE PRESERVER

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The main object of this invention is to provide a device which serves as a life preserver and utilizes an air or gas container mounted upon a belt which is provided with a valve, said valve being swung to open position upon the opening of a cover.

Another object of the invention is to provide a life preserver in the form of a balloon which is coupled to a gas or air tank, the latter having a valve thereon operated by the opening of a cover when it is desired to use the device.

The above and other objects will become apparent in the description below in which characters of reference refer to like-named parts in the drawings. Referring briefly to the drawings Figure 1 is a longitudinal, sectional, elevational view through the body of the life preserver unit showing the balloon folded upon the gas cartridge and the cover in sealed position over the device.

Figure 2 is an enlarged cross-sectional view taken on line 2—2 of Figure 1.

Figure 3 is a front elevational view of Figure 2 showing the valve latch and the means for lifting the valve handle when the cover is open.

Figure 4 is a perspective view showing the application of the life preserver.

Figure 5 is a cross-sectional view through the neck of the cartridge showing the closure valve in place in closed position.

Referring in detail to the drawings the numeral 10 indicates a conventional type of belt which is preferably strapped about the waist of the user 11. Upon this belt a plate or platform 12 is mounted. This platform is preferably rectangular in shape and around its bounding edge has a rubber cushion 13. Upon this cushion the lower open flanged edges 14 of a housing cover 15 seats. Within the chamber 16 formed by the cover and the plate 12 a cartridge 17 is housed and secured in any desirable manner. This cartridge is adapted to have its chamber filled with either air or some buoyant gas. The neck 18 of the cartridge is closed and has a delivery tube 19 connected thereto. A passageway 20 in the delivery tube communicates with a canal 21 in the neck 18 of the cartridge. This canal is opened and closed by a circular valve member 22 which is provided with a diametral port 23, the latter being adapted at one position of rotation to align with the canal 21 when it is desired to exhaust the cartridge of its gas content. When not in use a balloon 24 provided with a cord guard 25 is draped upon the cartridge in the manner shown in Figure 1. When the valve 22 has been opened the gas exhausts into a balloon through a nozzle 26 mounted at the end of the delivery tube 19. The valve 22 is provided with a manipulating lever 27. Adjacent the rotation end of the lever 27 and integral therewith is a ratchet wheel 28 whose teeth 29 are engaged by a resilient finger 30 which latter is mounted upon a lug integral with the neck 18 of the cartridge. The front wall 31 of the cover 15 has a boss 32 mounted thereon which extends into the chamber 16 and suspended from this boss is a pawl 33 whose shoulder 34 comes to rest beneath the lower surface of the lever 27 when the cover is closed down over the device. A flat spring 35 is secured to the boss 32 and lies adjacent the pawl 33 to prevent the pawl from disengaging from the lever when the cover is in closed position over the device as indicated in Figure 2. A normally flat resilient tongue 36 is secured to the plate 12 and to the rear wall 37 of the cover member and its function is to swing the cover about the hinge member 38 when the latching pawl 39 is released from the tapering block 40 of the cover latching device.

The device is adapted to serve as a life preserver upon ships or other maritime vessels. In a moment of danger the user of the device straps the same to the waist by means of a belt such as indicated by the numeral 10. When desiring to use the device the balloon 24 normally draped on the cartridge 17 is automatically inflated by opening of the door. By releasing the latching pawl 39 from member 40 the normally flat spring 36 which is curved when the cover is down upon the plate 12 will assume a straight position and in passing from this curve to straight condition will rotate the cover to open position. Simultaneously with the rotation of the cover the shoulder 34 of the pawl 33 will lift the lever

27 and rotate the same in a clockwise direction so that the valve member 22 will be rotated from the position shown in Figure 5 to a position in which the opening 23 aligns with the canal 21. As this valve member 22 begins to open the compressed gas or air contained in the cartridge 17 exhausts into the delivery tube 19 thence through the nozzle 26 directly into the balloon 24 inflating this balloon and causing the same to become a buoyant life preserving member.

It is to be noted that certain changes in form and construction may be made without departing from the spirit and scope of the invention.

I claim:

1. In a device of the class described, a support plate, a cushion on said support plate, a hinged cover secured to said plate and adapted to rest on said cushion in leak-proof condition, a balloon adapted to be folded beneath said cover, a flask connected to said balloon mounted on said support plate, a valve in said flask and means on said cover for opening said valve in said flask upon opening of said cover.

2. In a device of the class described, a support plate, a cushion on said support plate, a hinged cover secured to said plate and adapted to rest on said cushion in leak-proof condition, a balloon adapted to be folded beneath said cover, a flask connected to said balloon mounted on said support plate, a valve in said flask and a lever on said valve and pivoted means mounted on said cover engaging said lever for rotating the latter to open said valve upon rotation to open position of said cover and means for latching said lever in any rotated position.

3. In a device of the class described, a support plate, a cushion on said support plate, a hinged cover secured to said plate and adapted to rest on said cushion in leak-proof condition, a balloon adapted to be folded beneath said cover, a flask connected to said balloon mounted on said support plate, a valve in said flask and a lever on said valve and a pawl depending in said cover and attached to said cover, said pawl engaging said lever, means for retaining said pawl in engagement with said lever and means for opening said cover, and means for latching said lever in any rotated position.

4. In a device of the class described, a support plate, a cushion on said support plate, a hinged cover secured to said plate and adapted to rest on said cushion in leak-proof condition, a balloon adapted to be folded beneath said cover, a flask connected to said balloon mounted on said support plate, a valve in said flask and a lever on said valve and pivoted means mounted on said cover engaging said lever for rotating the latter to open said valve upon rotation to open position of said cover, a finger ratchet mounted integral with said lever and rotatable therewith and means engaging said ratchet for retaining said lever releasably in any position.

5. In a device of the class described, a support plate, a cushion on said support plate, a hinged cover secured to said plate and adapted to rest on said cushion in leak-proof condition, a balloon adapted to be folded beneath said cover, a flask connected to said balloon mounted on said support plate, a valve in said flask and a lever on said valve and pivoted means mounted on said cover engaging said lever for rotating the latter to open said valve upon rotation to open position of said cover, a finger ratchet mounted integral with said lever and rotatable therewith, a resilient finger mounted on said flask engaging said ratchet for retaining said lever in any desired positon.

In testimony whereof I affix my signature.

OSCAR HELLRICH.