Nov. 23, 1971 J. B. JORDAN 3,621,501

LIFE PRESERVER WITH FLASHING DISTRESS SIGNAL

Filed Oct. 21, 1969

Fig. 1

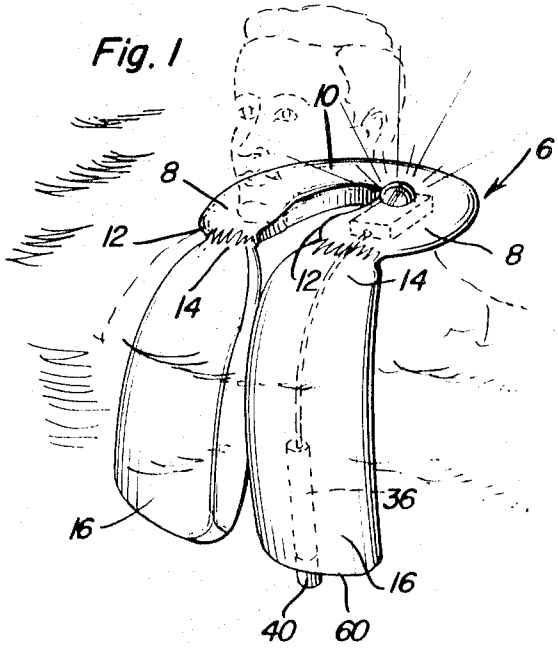


Fig. 2

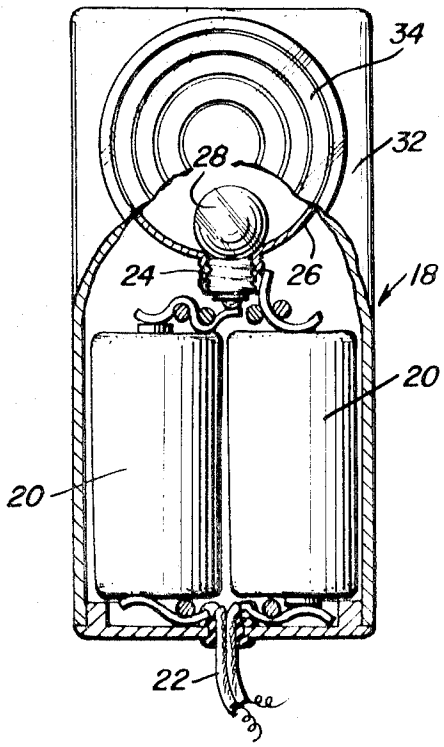
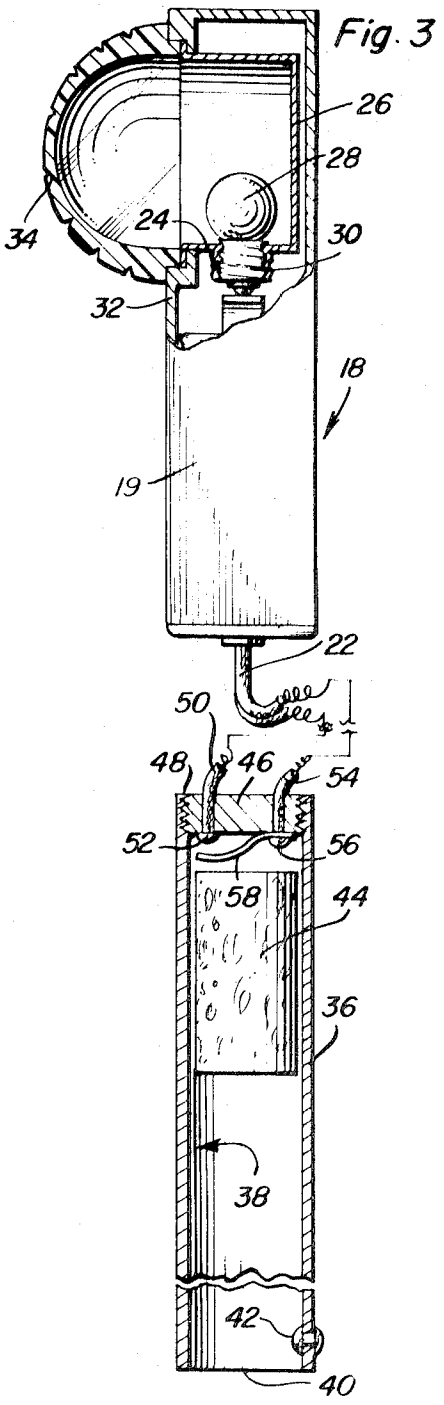


Fig. 3



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United States Patent Office 3,621,501 Patented Nov. 23, 1971

3,621,501

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Filed Oct. 21, 1969, Ser. No. 868,037
Int. Cl. B63c 9/20
U.S. Cl. 9—313 4 Claims

ABSTRACT OF THE DISCLOSURE

A U-shaped neck embracing shoulder-supported collar-type life preserver has the forward ends of its legs equipped with a pair of depending ballast-like adapters. A median top surface portion of one leg of the life preserver has a built-in flashlight with an exposed amber colored distress signalling lens. The flashlight bulb is automatically flashed on by a float operated switch when the overboard wearer is imperiled in the water.

This invention relates to certain new and useful improvements in a life preserver, more particularly, one wherein a U-shaped or an equivalent buoyant collar is equipped with a self-contained easy-to-spot distress signalling light which comes into play when the wearer enters the water, and wherein a float operated switch turns the light on automatically.

Persons conversant with the field of invention under consideration are aware that float-operated switch devices which are responsive to immersion in a body of liquid and wherein a float ascends to close an electric circuit are, generally stated, old and well known.

An object of the present invention, broadly stated, is to improve upon prior art signalling life preservers by providing a simplified and acceptably practical life preserver having novel flashlight means and accompanying switch means which is expressly designed and adapted to enable members of a rescue group to spot and facilitate an overboard person, particularly at night.

Briefly the concept pertains to a suitably buoyant life preserver, more precisely, a substantially U-shaped life preserving collar which embodies a pair of legs united at their rearward ends by a bight portion, said bight portion being adapted to bridge the nape and back of the wearer's neck and said legs being adapted to embrace and encompass diametrically opposite sides of the neck and, in so doing, to reside for retentive support atop the wearer's shoulders. In carrying out a preferred embodiment of the invention the forward end portions of the legs of the collar are provided with individual elongated depending ballast-like members. These members are vertically elongated and are such in construction and performance that they position and, being side by side, are capable of hanging down in a vertical position over the wearer's chest. They provide balancing adapters for the over-all life preserver. A distress signalling flashlight is built into one of the legs and has an easy-to-see flashing lens which protrudes beyond a viewable top surface of the leg with which it is associated. A float operated switch means for the flashlight is operatively associated with one of the adapters and is automatically operated when the distressed imperiled wearer is overboard in the water.

To the ends desired the flashlight comprises a case containing coordinated companion flashlight batteries, and an enclosed cup-like well which provides a light beam reflector and also a partial enclosure for the cooperably enclosed lamp bulb. The lens is lined up with the open side of the cup-like well or reflector and is so located that it protrudes beyond the surface of the coacting leg where it can be readily seen for reliable rescuing needs.

In carrying out a preferred embodiment of the invention the switch means comprises a cylinder which is closed at an upper end and is open at its lower end. A stationary contact is fixed in the closed end portion. A spring contact finger is provided and has an end anchored in the closed end of the cylinder and a free flexible end portion is arranged so that it can be sprung toward and from the fixed contact. This end portion is normally disengaged from the stationary contact. A water pressure responsive float is freely reciprocable within the confines of the cylinder, that is the chamber thereof, and is adapted when operating to press and hold the free end of the finger in a circuit closing position against the stationary contact.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a view in perspective of a life preserver with a flashing distress signal and float operated switch constructed in accordance with the invention and shown in readiness for use.

FIG. 2 is an enlarged view of the battery operated specially constructed built-in type flashlight, parts being shown in elevation and section.

And FIG. 3 is also a suitably enlarged view which shows the flashlight in section and elevation and observing one lengthwise edge thereof and which also shows the float operated switch means, with the float disengaged and the switch open.

Referring now to the views of the drawing and particularly with reference to FIG. 1 the life preserver is characterized by the aforementioned U-shaped (also horseshoe shaped) life preserver which is here designated, specifically stated, as a collar **6**. This collar is of appropriate buoyant construction, that is, comprises an outside jacket or casing with interior buoyant filler media (not detailed). The opposed coplanar legs of the collar are noted at **8** and the rearward ends are joined by a rounded bight portion **10**. The bight portion is adapted to bridge the nape and back of the neck of the wearer and the arms or legs **8** are adapted to embrace diametrically opposite sides of the neck and to rest for support on the shoulders of the wearer as brought out in phantom lines in FIG. 1. The forward end portions **12** are provided with the vertically elongated bag-like members which are of appropriate relatively heavier but buoyant material. These members are designated, more specifically stated, as ballast-like adapters whose upper ends **14** are connected with the forward ends **12** of the legs of the collar as shown in FIG. 1. The respective adapters which are alike in construction are denoted, generally stated, by the numeral **16**.

These adapters are suspended when in use over the chest of the wearer or adjacent thereto in the manner suggested in FIG. 1.

The distress signalling means is embodied in the median top portion of one of the two legs as also shown in FIG. 1. This means, generally stated, is denoted by the numeral **18** and comprises a battery containing flashlight. The elongated box-like case is denoted at **19** and is provided at the lower portion (FIG. 2) with spaced coordinating dry cell batteries **20**. These batteries are arranged and confined to receive current from an appropriate conductor denoted generally at **22**. The batteries are electrically coordinated with a screw-threaded neck **24** (FIGS. 2 and 3) provided on one peripheral wall of a cup-like well **26** which is suitably mounted and provides a receiver and reflector for the enclosed lamp bulb **28** whose neck **30** is screwed into the socket-like neck **24**. This well receiver is lined up with an

opening provided therefor in the top wall **32** which is constructed to accommodate and supportively locate concavo-convex suitably protruding laterally disposed amber colored lens **34**. These components within the case are electrically united in the manner detailed in FIG. 2.

The aforementioned float operated switch means is operatively connected with the flashlight in the manner detailed in FIG. 3. Specifically, this means comprises a cylinder **36** the hollow or internal portion of which provides an appropriate cylindrical chamber **38**. The lower open end **40** is provided on the interior with a suitably attached rivet or the like **42** which constitutes a limit stop for the reciprocable float **44**. The float is shown in a position in readiness to trip the switch means in FIG. 3. To the ends desired the upper closed end of the cylinder is denoted at **46** and comprises a plug or the like which is screw-threaded and screwed into the internal screw threads **48** at the "upper" end of the cylinder. One current conducting wire **50** is connected with an internal head or the like which provides a relatively stationary contact element **52**. The other wire **54** is connected to a similar rivet **56** which carries a resilient circuit make-and-break finger **58**.

It will be noted in FIG. 1 that the flashlight is incorporated in the right hand leg of the collar **6** in such a manner that the lens **34** protrudes and assumes an easy-to-see position. On the other hand the aforementioned cylinder is embedded in the right hand ballast-like adapter **16** as also shown in FIG. 1. This is to say the major portion of the cylinder as embedded in the wiring is also suitably embedded. The lower open end of the cylinder protrudes below the coacting lower end portion **60** of the adapter in a manner to permit the column of water (not shown) to enter.

In actual practice the collar is worn around the neck and above the shoulders in the manner illustrated in FIG. 1. When in this position the depending ballast-like adapters assume a side-by-side position. If follows that when the wearer enters the water, a column of water ascends into the float chamber and acts on the float **44**. The float is thus forced up and engages the switch finger **58**. The switch finger is forced against the stationary contact **52** and when the circuit is thus closed the bulb or light **28** comes into play and functions in the manner illustrated in FIG. 1.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. An imperiled person spotting and distress indicating device which is readily applicable to and removable from the body of a user comprising, in combination, a buoyant life preserving collar embodying a pair of like legs adapted to rest atop the wearer's shoulders and, in so doing, to embrace diametrically opposite sides of the wearer's neck, said legs having free forward ends, individual elongated depending ballast-like collar positioning and balancing adapters, said adapters being disposed in spaced side-by-side relationship and being adapted to assume and cooperate with the wearer's chest, said adapters being substantially alike in construction and comparable in cross-sectional width with the cross-sectional width of said legs and having free lower ends and narrowed upper ends connectively joined with the free forward ends of the respective legs, a single self-contained signalling flash light built into one of said legs, said flashlight comprising a case enclosing batteries at an end portion thereof, a cup-like light beam reflecting well enclosed in an opposite end portion of said case and containing and confining an accessibly renewable lamp bulb which is electrically connected with said batteries, an easy-to-see light flashing lens carried by the last named end portion of a top wall of said case, said lens being in alignment with said cup-like reflecting well and being coordinated in clamping and retaining association with said well, and switch means for said flashlight operatively embedded in one of said adapters and embodying an automatic float, said float being actuatable to operate a circuit make and break means which comes into play when the imperiled wearer is overboard in the water.

2. The combination defined in and according to claim **1**, and wherein said switch means comprises a cylinder, said cylinder being embedded in said one adapter, said cylinder being open at a lower end, the upper end of said cylinder being provided with an applicable and removable plug, the aforementioned circuit make and break means being carried by said plug and embodying a stationary contact fixed on said plug, a spring finger having one end anchored on said plug and a free end portion springable toward and from said fixed contact but normally disengaged therefrom, and a water pressure responsive float freely reciprocable within the confines of said cylinder and adapted when in an operable position to press and hold the free end of said finger in a circuit closing position against the stationary contact.

3. The combination defined in and according to claim **2**, and wherein said float is of a length appreciably less than the length of said cylinder, the lower end of said cylinder being open and projecting beyond an adjacent end of said one adapter, the lower end portion of said cylinder being provided interiorly with a limit stop which functions to prevent displacement of the float from the enclosing confines of said cylinder.

4. The combination defined in and according to claim **3**, and wherein said collar is substantially U-shaped in plan and fits in a yoke-like manner not only in association with the shoulders of the wearer but over and around the nape of the neck, said lens being concave-convex, being colored and projecting beyond a cooperating wall of said case and also beyond a top surface of the cooperable leg of said collar.

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