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MEANS FOR SAVING LIFE

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Fig. 1.

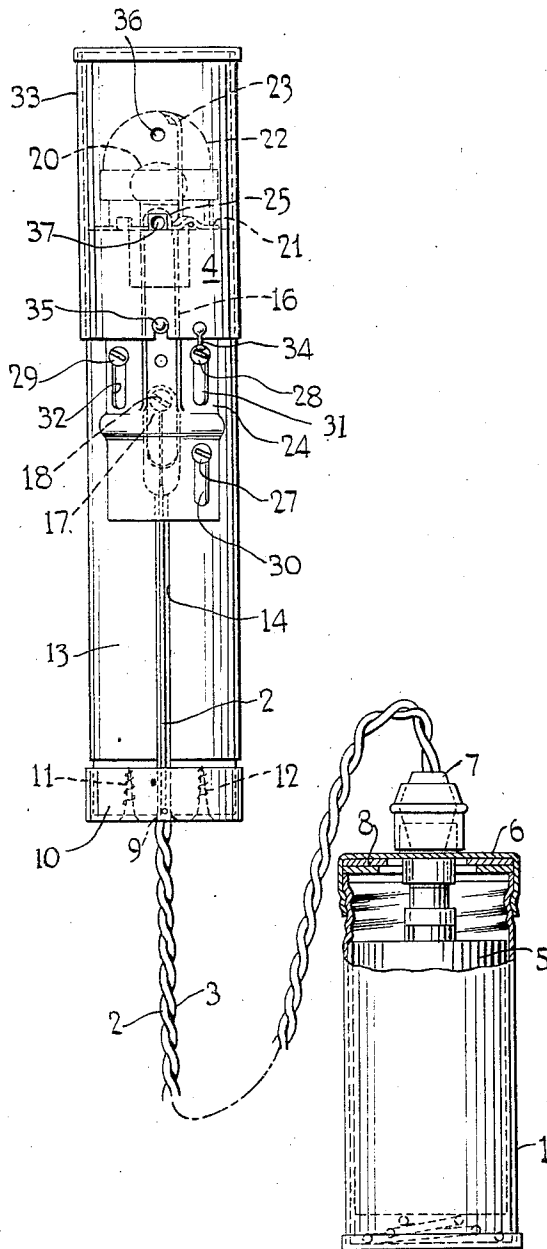
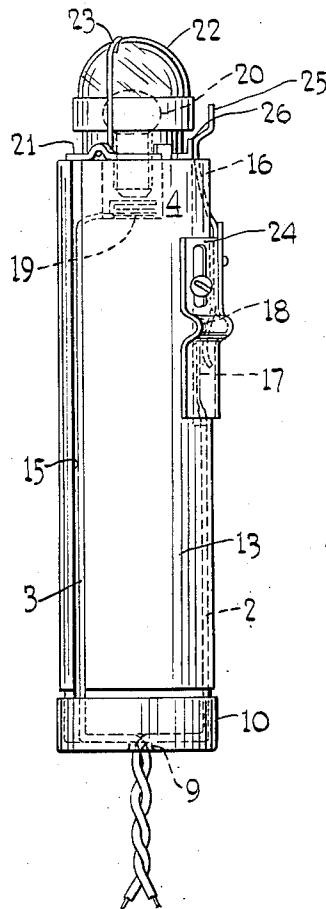


Fig. 2.



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MEANS FOR SAVING LIFE

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5 Claims. (Cl. 177—329)

This invention relates to means for saving life at sea. As is well known, it frequently occurs that the passengers and crews of ships or airmen have to leave their ships or aeroplanes and take to the water with say life-belts, life-jackets or with just wreckage to keep them afloat and the difficulty occurs that during the hours of darkness, it is sometimes impossible for rescuers to trace persons in the water unless those persons have means for indicating their whereabouts. An object of the present invention is the provision of electric lighting or signalling apparatus which may be used by such persons for indicating their whereabouts when it is dark.

According to a feature of the present invention, electric lighting or signalling apparatus for use by persons afloat in water comprises a water-tight container for an electric battery, which container is arranged to be carried by a person afloat, electric lighting or signalling means arranged to float independently of the said person and to be supplied with current by the said battery, and a lanyard or the like linking together the container and the said means and including or being constituted by electric conductors for connecting the battery to the electric lamp of said lighting or signalling means.

Preferably, switching means arranged to control the supply of current to the lamp are mounted on the buoyant part of the apparatus and the switching means may be so arranged that breaking of a seal is adapted to light the electric lamp. Thus, a metal cap may normally cover the electric lamp and be sealed to the body of the buoyant part of the apparatus, removal of the cap with consequent breakage of the seal being arranged to light the lamp. The switching means may be capable of operation to extinguish the lamp when the cap is removed and be so arranged that when the cap is in position, the lamp and battery may be tested.

One construction of electric lighting or signalling apparatus in accordance with the present invention will now be described by way of example with reference to the two figures of the accompanying drawing in which Figure 1 shows the complete apparatus in its inoperative state, i. e., that state in which it could be carried say by an airman or a sailor, and Figure 2 shows a part of the apparatus when in its operative state, the view in Figure 2 being at right angles to that in Figure 1.

Referring now to the drawing, the apparatus comprises a battery container 1 linked by flex-

ible conductors 2 and 3 to lighting means 4. The battery container 1 houses a single cell or two cell electric dry battery 5 and has a removable cap 6 through which the conductors 2 and 3 pass in a watertight manner by way of a cord-grip 7; the cap 6 screws down onto the main body of the container 1 and, by the use of packing 8, renders the container 1 watertight. The container 1 may be carried in any suitable manner by a person in the water; for example, it may be carried in a pocket or even attached to a life-jacket.

The conductors 2 and 3 are about a yard long so that the lighting means 4 is attached to the container by a lanyard about a yard in length and the conductors pass through a central hole 9 in a leaden member 10 secured by screws 11 and 12 to the bottom of a cedar wood float 13. The conductors 2 and 3 pass up the sides of the cedar wood float 13 in grooves 14 and 15, the groove 15 running right to the top and the groove 14 extending into a broader and deeper groove 16 which starts about half way up the float. At the lower end of this groove 16, the conductor 2 terminates in a bared portion 17 and a screw 18 whilst the conductor 3 passes from its groove 15 to a central spring contact 19 (see Figure 2) for an electric lamp 20. This lamp 20 screws into a metal plate 21 secured on top of the float 13, being normally covered by a small transparent red cap 22 of moulded material held in place by a clip 23, and connection of the conductor 2 to the plate 21 is controlled by switching means including a plate 24 having a spring contact strip 25 riveted thereto. This strip 25 has its lower end always in engagement with the bared portion 17 or the screw 18 and its upper end is arranged to engage an upstanding lug 26 on the plate 21 only when the plate 24 is moved upwardly from the position shown in Figure 1 to that shown in Figure 2.

The plate 24 is held to the cedar wood float 13 by three screws 27, 28 and 29 passing through slots 30, 31 and 32 on the plate, these screws, however, permitting the plate 24 to be moved upwardly if sufficient force is applied, and the plate 24 co-operates with a seal cap 33 of metal which normally covers the top of the float 13 and the lamp 20. The cap 33 frictionally engages the top of the float 13 and is attached at one point by a wire 34 to the screw 28, one end of the wire 34 being soldered to the cap 33 and the other end to the screw 28, whilst a lug 35 on the plate 24 is also soldered to the cap 33. The cap 33 and plate 24 are, therefore, normally

held in the position shown in Figure 1 by the fact that the two are sealed together and the cap 33 is held to the screw 28. The cap 33 is provided with an aperture 36 and a further testing aperture 37, these being for the purpose of testing the apparatus without breaking the seal; thus, if a pencil or match be pushed through the aperture 37, it pushes the end of the strip 25 against the plate 21, completes the circuit to the lamp 20 and the lamp, if lit, can be seen through the aperture 36.

In the operation of the device, if a sailor or airman is in the sea at night and wishes to indicate to rescuers his whereabouts, he has only to grasp the cap 33 firmly and pull it away from the cedar wood float 13. As he does this, first the seal including the wire 34 breaks, then the plate 24 rises with the cap 33 to light the lamp 20 and finally the seal including the lug 35 breaks because the plate 24 is held by the screws 27, 28 and 29, and the cap 33 is free. The lamp 20 is then clearly visible and floats well above the surface of the water leaving both hands free. If necessary, the lamp 20 may be extinguished by sliding the plate 24 downwardly again and, as will be appreciated, the apparatus may be used for signalling.

The apparatus described above has, of course, many advantages. The lamp cannot be accidentally switched on say to reveal a ship's position at night or when in the pocket so that the battery is run down unnecessarily. Further, the apparatus can be easily tested and it is always ready for immediate use. The provision of a switch which may be manually operated to extinguish the lamp after the seal cap has been removed is advantageous in that if for some reason, say the approach of enemy aircraft, the person in the water prefers to remain unseen, he may do so. Further, the switch is relatively simple to operate either by numbed or gloved hands.

Naturally, the arrangement described above may be modified in a number of ways. For example, instead of a cedar wood float, any other suitable form of float may be used. Further, the switching means associated with the buoyant part of the apparatus may be so arranged that the lamp is lit only when the lamp is uppermost.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. In an electric lighting apparatus for use by persons afloat, a float adapted to be buoyantly supported in water, an electric lamp carried by said float and adapted when the float is in water to be disposed above water level, electrical switch means carried on said float and adapted upon closing to complete a circuit supplying current to said electric lamp, an operating member for opening and closing said switch means, a

removable cap carried by said float and covering said lamp, the direction of movement of said cap upon removal thereof being parallel to the direction of motion of said switch operating member when the latter is moved to close the switch means, an easily breakable element connecting said cap and said switch operating member for joint movement, and means to detachably secure said cap to said float in such position that the switch operating member is in a position in which the switch means is open so that upon removal of said cap first the detachable means securing the cap to the float will be opened, then the switch operating means will be moved to a position in which the switch is closed and the lamp energized, then the easily breakable element will be broken and finally the energized lamp will be exposed.

2. In an electric lighting apparatus for use by persons afloat, a float adapted to be buoyantly supported in water, an electric lamp carried by said float and adapted when the float is in water to be disposed above water level, electrical switch means carried on said float and adapted upon closing to complete a circuit supplying current to said electric lamp, a removable cap carried by said float and covering said lamp, the direction of movement of said cap upon removal thereof being parallel to the direction of motion of said switch means upon closing the latter, a breakable seal connecting said cap to a fixed point on said float, a second breakable seal connecting said cap to said switch means, said seals being so constructed and arranged that removal of said cap will first break said first mentioned seal, then close said switch means to energize said lamp, then break said second seal, and then expose said lamp.

3. An electric lighting apparatus as set forth in claim 2 wherein means is provided for permitting testing of said apparatus without removal of the cap.

4. An electric lighting apparatus as set forth in claim 2 wherein means is provided for permitting testing of said apparatus without removal of the cap, said testing means comprising an auxiliary switch means adapted to shunt the first mentioned switch means and energize said lamp, said auxiliary means including a pair of normally spaced switch contacts adapted to be brought into abutment by insertion of objects through a hole in the removable cap.

5. An electric lighting apparatus as set forth in claim 2 wherein a red transparent cap is secured to said float and encloses the lamp, said transparent cap being disposed beneath the removable cap and maintaining its position around the lamp when the removable cap is taken off.

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