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FLASH LIGHT

Filed March 17, 1930

Fig. 1.

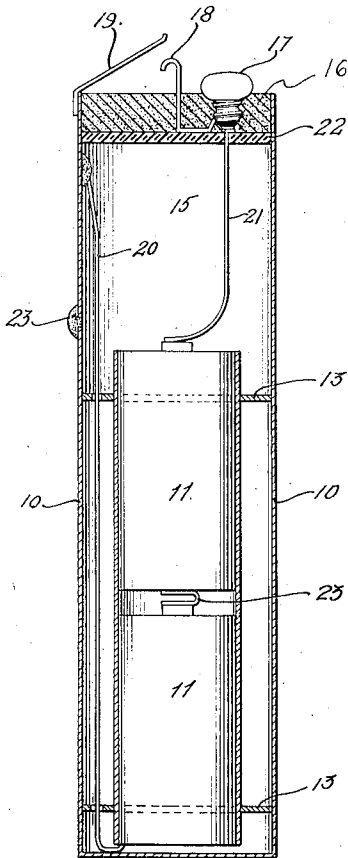
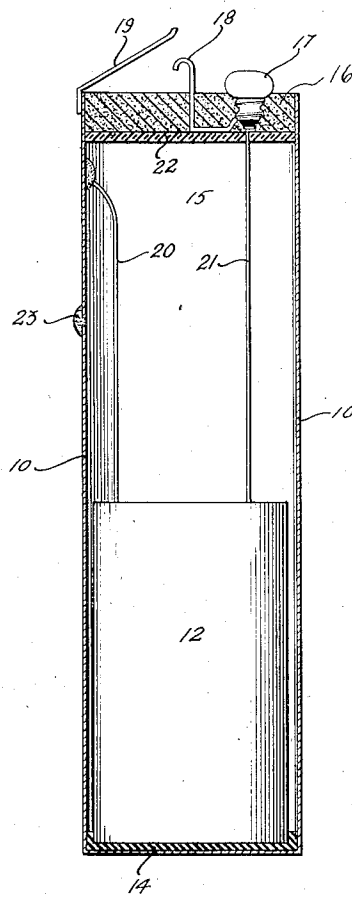


Fig. 2.



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FLASH LIGHT

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This invention pertains to a floating flashlight or seaplane landing lamp adapted for being lighted by the pilot of a seaplane when about to make a night landing and then
 5 dropped to the water over which he is flying where it will float and serve as a beacon to guide him in locating the surface.

One object of the invention is to provide such a flashlight that may be dropped from
 10 a seaplane to the water from a considerable height without extinguishing the light.

Another object is to provide a switch for such a flashlight that latches in closed position so it will not open when dropped into
 15 water from considerable height.

Another object is to provide such a flashlight that will float in water with the lamp bulb above the surface thereof so it may be
 20 seen from above.

As such flashlights are probably used but once, another object is to provide such a lamp that is low in cost and at the same time rugged in construction.

Other aims, objects, and novel features, will be apparent from the following description and the accompanying illustrations, in
 25 which:

Fig. 1 is a vertical section of our floating flashlight having one form of battery therein;
 30 and

Fig. 2 is a similar view of the same having another form of battery therein.

The preferred form of our floating flashlight shown in the accompanying drawings has a metallic outer casing 10 of suitable form
 35 such as an elongated cylinder with a closed bottom. Within the lower end of the casing 10 there is a battery of dry cells such as 11 shown in Fig. 1, or 12 shown in Fig. 2. The
 40 battery 11 is smaller in diameter than the casing 10 and is rigidly held therein by suitable spacing washers or collars 13, and the battery 12 substantially fills the bottom of the casing 10 and is rigidly held thereto by
 45 a filling of asphalt 14 or other thermoplastic material therebetween.

In the top of the casing 10 is an air space
 50 15 large enough to float the flashlight on water, or in other words, large enough so the weight of the flashlight is less than the vol-

ume of water it displaces. The top of the casing 10 is sealed by a closure 16 of thermoplastic material such as asphalt.

Imbedded in the closure 16 is a lamp bulb 17 and the fixed portion 18 of a switch hav-
 55 ing the upper end thereof exposed and turned over to form a recess into which the resilient portion 19 of the switch is adapted to latch. The resilient portion 19 may be attached to the casing 10 by suitable means such as solder
 60 or it may be carried by the closure.

One terminal of the battery is electrically connected to the casing 10 by a conductor 20 having its ends secured by solder or other
 65 suitable means, and the other terminal of the battery is electrically connected to the lamp bulb 17 by a conductor 21 having its ends similarly secured. One end of the fixed portion 18 of the switch is electrically attached or connected to the lamp bulb 17. Therefore,
 70 when the switch is closed by latching the resilient portion 19 in the recess in the exposed end of the fixed portion 18, the electrical circuit is from the battery 11 or 12, through the conductor 21, lamp bulb 17, elements 18 and
 75 19 of the switch, casing 10, and conductor 20, back to the battery.

For convenience in forming the closure 16 the upper end of the casing 10 may first be closed by a diaphragm 22 of pulpboard or
 80 other suitable material to which the lamp bulb 17 and the fixed portion 18 of the switch are secured and held in place while the melted pitch 16 is poured in place. In case the battery 11 consists of more than one cell they
 85 may be electrically connected in any well known manner such as by a wire 23 having one end soldered to each of the cells it joins. When forming the pitch closure 16 it is desirable to have a vent in the casing 10 to
 90 relieve the air pressure therein caused by the hot pitch raising the temperature of the air thereby causing it to expand. To relieve this air pressure a small opening may be left in the side of the can 10 and then closed with
 95 solder 23 after the pitch closure 16 has cooled and hardened.

One of the important features of our floating flashlight is its long slim casing with most
 100 of the weight in the bottom thereof. There-

fore, when it is dropped it tends to remain upright and strike the water endwise thereby lessening the shock. This arrangement of weight also causes it to float in an upright position with the lamp bulb above the surface of the water so it may be seen from any direction.

Another important feature is the construction of the switch whereby it may be latched in closed position in such a secure manner that it will not be opened by the shock of striking the water or by other jars and jolts received in the service for which it is intended.

Another important feature is the method of anchoring or imbedding the lamp bulb in the pitch closure in such a manner that it will not become loosened by the vibration and shocks to which such a lamp is subjected.

When the pilot of a seaplane attempts to make a night landing on water it is difficult for him to determine the distance his plane is above the surface, and the present means of locating the water surface are unsatisfactory. One of the chief uses for our floating flashlight is by seaplane pilots when making night landings, and for this purpose it is especially quick and easy to use as the pilot may snap the switch in closed position with one hand and throw it overboard without even looking at it, and after it strikes the water it will serve as a beacon to guide him in locating the surface and in making a safe landing.

It is also within the scope of our invention to provide a resilient mounting for the lamp bulb to still further reduce the shocks transmitted thereto; to provide a suitable reflector for the lamp bulb; to provide fins on the outside of the casing to help keep it in a vertical position when falling through air; to provide a pointed or projectile shaped bottom to still further lessen the shock when it strikes the water; and to provide retarding fins on the casing to reduce the depth of penetration in the water. The flashlight may also be constructed in various forms other than that shown, and various equivalent materials may be substituted for those specified.

We claim:

1. A floating flashlight having a casing; a battery in said casing; an air space in said casing large enough to float said lamp on water; a closure of thermoplastic material sealing the top of said casing; a lamp bulb imbedded in said closure; and means including a switch for completing the electric circuit through said lamp and battery.

2. A floating flashlight having a casing; a battery in said casing; an air space in said casing above said battery; a closure of thermoplastic material sealing the top of said casing; a lamp bulb imbedded in said closure; a switch having a fixed member electrically connected to said lamp and partially imbedded in said closure, and a flexible member

carried by said casing and adapted for being moved into contact with said fixed member; and means for completing the electric circuit through said lamp and battery.

3. A floating flashlight weighing less than an equal volume of water and having a metallic casing; a battery in said casing; a closure sealing the top of said casing; a lamp bulb carried by said closure; and means for completing the electrical circuit including a switch having a fixed member and a movable member adapted to latch in a cavity in said fixed member.

4. A floating flashlight having a casing; a battery in said casing; an air space in said casing large enough to float said flashlight on water; a closure sealing the top of said casing; a lamp bulb imbedded in said closure; a switch having a fixed member partially imbedded in said closure with a cavity in the exposed portion thereof, and a flexible member adapted for being latched in said cavity when said switch is in closed position; and means including said casing for completing the electric circuit through said lamp, battery, and switch.

In testimony whereof, I affix my signature.

CHARLES A. GILLINGHAM.

In testimony whereof, I affix my signature.

WILLIAM W. PFLUG.