Aug. 5, 1930. P. R. PUCKETT 1,772,266

FLASH LIGHT CONTAINER

Original Filed Jan. 8, 1924

Fig. 3.

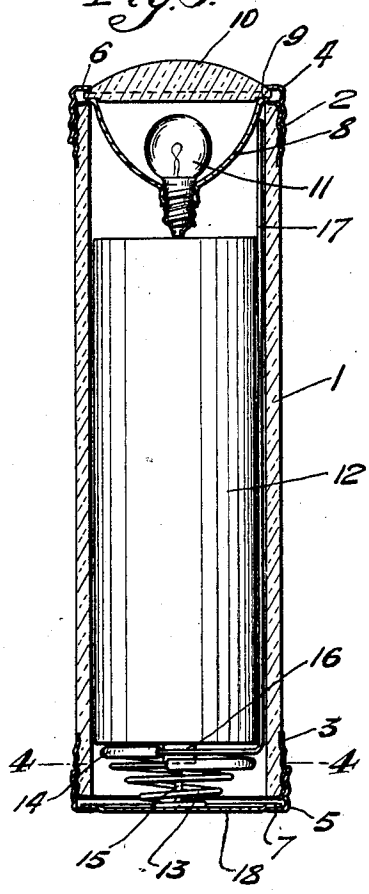


Fig. 5.

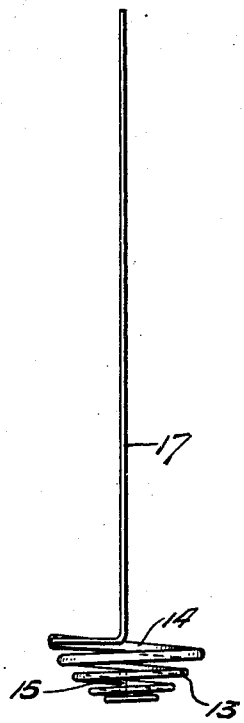


Fig. 1.

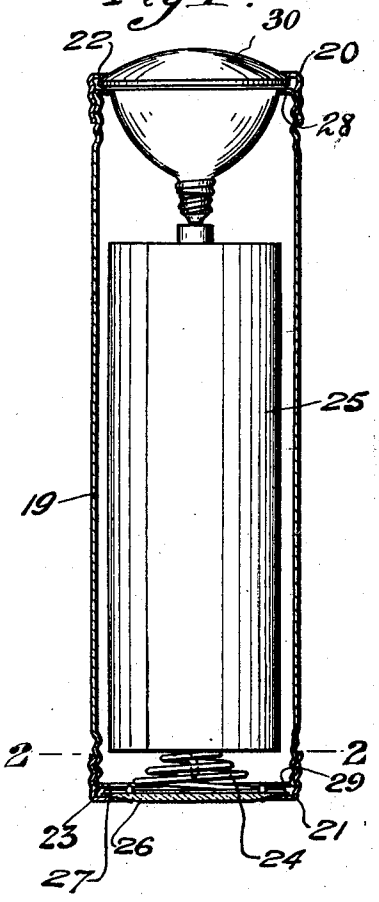


Fig. 4

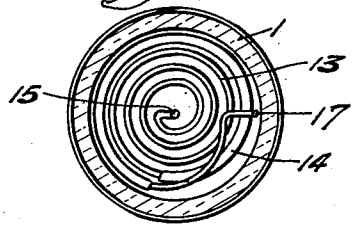
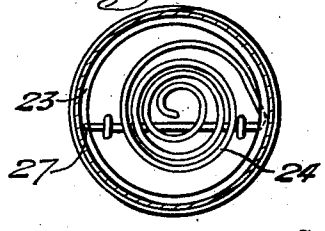


Fig. 2.



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1,772,266

UNITED STATES PATENT OFFICE

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FLASH-LIGHT CONTAINER

Application filed January 8, 1924, Serial No. 685,026. Renewed October 23, 1925.

This invention relates to electric flashlights and has for its principal object the provision of co-related features for simplifying the construction, enhancing the efficiency, and cheapening the cost of manufacture of flashlights generally, as well as rendering them more convenient to operate.

Another object of the invention is to construct a flashlight having parts so arranged that it may selectively be set to give a continuous light or to remain illuminated only while pressed by the operator, automatically extinguishing itself when the pressure is removed.

Still another object of the invention is the provision of a flashlight operating mechanism the inherent principle of which adapts it to both metallic and non-conductive battery containers.

For the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts generally shown in the accompanying drawings and described in the specification, but more particularly pointed out in the appended claims.

In the drawings:—

Figure 1 is a longitudinal section through a metallic battery container showing my invention arranged therein.

Figure 2 is a transverse section taken along the line 2—2 of Figure 1.

Figure 3 is a longitudinal section showing my invention used in connection with a non-conductive battery container.

Figure 4 is a transverse section taken along the line 4—4 of Figure 3.

Figure 5 is a longitudinal view of the spring shown in Figure 4 with the conductive extension necessary when used in a non-conductive container.

Referring now in detail to the several figures, and first adverting to Figures 1 and 2, I have shown a metallic battery casing 19 having the opposite ends preferably turned over in transverse planes to form flanges 28 and 29. The upper flange, serves as a seat for the reflector 8 and the lower flange functions as a conductive abutment for a conductive part of the movable element of the switch operating mechanism which will presently be described. The upper and lower ends of the casing 19 are threaded for the reception of caps 20 and 21.

The cap 20 is open at the top, being formed with an annular flange 22 beneath which the peripheral portion of the lens 30 extends. Said lens and reflector are clampably held in place by the threaded cap.

The cap 21 is included in the switch operating means which also comprehends the fiber disk or push button 26 which carries a metallic member in circuit with one pole of the battery. In the present instance said metallic member constitutes an extension of a spring 24, the latter pressing at one end against the battery 25 or its equivalent, and at the other against the push button 26, the extended end 27 of said spring projecting beyond the flange 29 so as to make contact therewith when the switch means is actuated, thereby closing a circuit through the battery casing and reflector, lamp and other pole of the battery. The cap 21 is preferably open at the end to give access to the push button and is formed with an annular flange 23 which flange overlies the edge of the push button so as to press the push button and with it the extended portion of the spring 12 into contact with the flange 29 when the cap 21 is screwed upon the casing. The push button is normally biased outwardly by means of the spring, forming a closure for the cap.

It will be noted that the extended portion 27 of the spring falls short of reaching the periphery of the fiber push button so that it cannot under any circumstances come into contact with the cap 21. When said extended end is brought into contact with the lower end of the casing 19, by screwing the cap 21 tightly upon the casing, the several parts are in a position in which the flashlight produces continuous illumination. When the cap 21 is unscrewed sufficiently to permit the reciprocation of the extension of the spring to a position out of contact with the lower end of said casing, the flash becomes solely under control of the push button, the circuit being

closed when the push button is depressed independently of the cap in opposition to the resistance of the spring.

Figures 3, 4 and 5 illustrate a slightly modified form of the invention in which a non-conductive battery container 1 is shown, the same being preferably of fiber and having at its opposite ends metallic bushings 2 and 3, pressed with threads for the engagement of threaded caps 4 and 5 which are cut out circularly at the ends leaving merely the narrow annular flanges 6 and 7. Both caps may be identical and therefore interchangeable. A reflector 8 is positioned in one end of the fiber container having a peripheral flange 9 which rests upon the top edge of said container. The lens 10 rests with its circumferential portion in superposed relation to the flange 9 and the cap 4 screws down until the flange 6 engages the lens 10, the lens and reflector being thus immovably held in position. The electric lamp 11 screws, in a manner well known, into the threaded socket at the lower end of the reflector. The lens 10 may be dispensed with, if desired, in which case the cap 4 is screwed down until the flange 6 engages the flange 9 of the deflector.

The dry battery 12 may be slipped in by way of either end of the fiber container 1 before the other parts of the battery are in position and is preferably, but not necessarily an approximately close fit with the side wall of said container. As shown in the drawing the battery has its outside or negative pole in contact with the central terminal of the electric lamp but the position of the battery may be reversed and the flashlight will work equally well with the central or carbon pole of the battery uppermost.

The switch mechanism consists of a spring, preferably a spiral as shown at 13. This spring may be formed in any desirable manner so as to normally maintain a gap in the circuit including the lamp 11, said gap being closed by compression of the spring. In the present instance, that is to say, in the arrangement of parts shown in Figure 1, the spring is insulated at its base as shown at 14, where it normally rests against the battery and is provided with a terminal 15, normally spaced from the battery. The end of the spring opposite the terminal 15 is extended upwardly in the form of a wire or rod 17 which makes contact with the metallic reflector 8 or with any other metallic part in conductive relation to the outer terminal of the electric lamp. When the spring 13 is compressed the terminal 15 makes contact with the pole 16, closing a circuit which extends from the pole 16 through the spring 13, rod 17, reflector 8, outer terminal of the electric lamp, through the filament, to the central terminal of the lamp to the opposite pole of the battery.

The push button 18 preferably comprises a flat disk of slightly larger diameter than the circular opening in the cap 5 and placed beneath said cap between the flange 7 and the lower edge of the container 1. When the push button 18 is pressed inwardly the light continues to glow as long as pressure is applied, and is extinguished when the pressure upon the push button 18 is released. By screwing the cap 5 upon the lower end of the container 1 the push button 18 is depressed to a position in which the terminal 15 makes contact with the pole 16, and this position of the parts is maintained all the while the cap 5 remains in its inwardly screwed position. In this manner continuous illumination of the lamp 11 is accomplished without the necessity of continuous manual pressure upon the push button 18.

It is obvious that the rod 17 could, if desired to be made discontinuous from the spring 13 but in conductive relation therewith.

I consider that my invention, resides primarily in the broad aspects hereinbefore set forth, and only secondarily in the details of construction and arrangement, wherefore I do not restrict myself to the particular construction here disclosed, but only by the terms of the claims and the state of the prior art.

Having described my invention what I claim as new and desire to secure by Letters Patent, is:—

1. A portable electric light having a casing adapted to receive a battery, a reflector and a lamp secured in one end of the casing, a closure in the opposite end of the casing, said closure comprising a threaded member and a push button associated therewith, a spring maintaining the lamp in contact with the battery and being adapted to break the circuit, said closure being adapted to close the circuit permanently upon screwing the closure on the casing, or close the circuit intermittently by pressing the push button to compress the spring.

2. A portable electric light having a cylindrical casing adapted to receive a battery, a lamp secured in one end of the casing, a closure in the opposite end of said casing, said closure comprising a threaded cap portion and disk-like portion associated therewith, a spring in contact with the battery and maintaining the lamp in contact with the battery, said spring being adapted to break the circuit, said closure being adapted to close the circuit permanently upon screwing the cap on the casing, or to close the circuit intermittently by pressing the disc portion to compress the spring.

3. In a cylindrical metallic flashlight a metal casing adapted to contain a battery, an end closure for said casing comprising a threaded ring portion and a freely movable

disc portion associated therewith, the casing and end closure forming a part of the circuit of said flashlight, a spring maintaining the lamp in contact with the battery and adapted to press against the battery and the disc portion to break the circuit, the circuit being closed through the end closure either by screwing the end closure on to the casing or by depressing the central disc portion.

4. In a cylindrical metal flashlight a metal casing adapted to contain a battery, an end closure for said casing comprising a threaded flanged ring portion and a movable disc portion adapted to fill up the opening in the ring, the casing and end closure forming a part of the circuit of said flashlight, a spring adapted normally to press against the battery and the disc portion to break the circuit, the circuit being closed through the end closure either by screwing the end closure further on to the casing or by depressing the central disc portion.

5. In a flashlight a casing having a conductive end, an end closure therefor comprising a portion advanceable upon said casing, and a resiliently depressible portion associated therewith, said depressible portion including a metallic piece in circuit with the battery of the flashlight and arranged to make contact with the end of the casing to close the circuit when the end closure is advanced upon said casing or when the depressible portion is depressed.

6. In a flashlight a casing having a conductive end, a cap portion screwable upon said casing and a resiliently depressible portion confined within said cap portion between the latter and the end of said casing, said depressible portion including a metallic piece in circuit with the battery of the flashlight and arranged to make contact with the end of the casing to close the circuit when the cap portion is screwed upon said casing or when the depressible portion is depressed.

In testimony whereof I have hereunto set my hand.

PAUL R. PUCKETT.