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E. TOMPKINS

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FLASH LIGHT SWITCH

Filed Sept. 20, 1929

Fig. 1

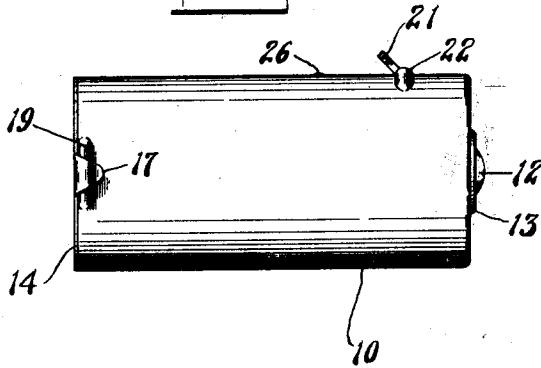


Fig. 2

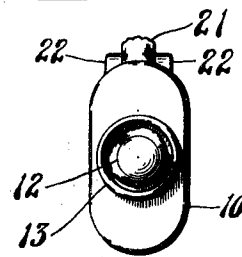


Fig. 3

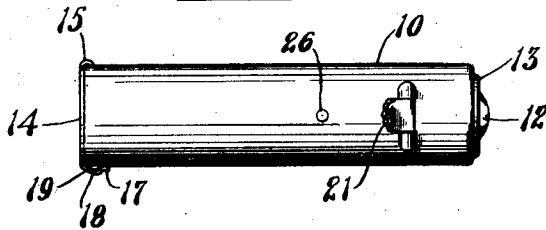


Fig. 4

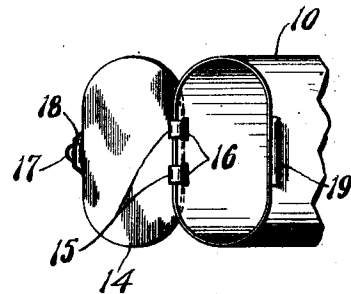


Fig. 5

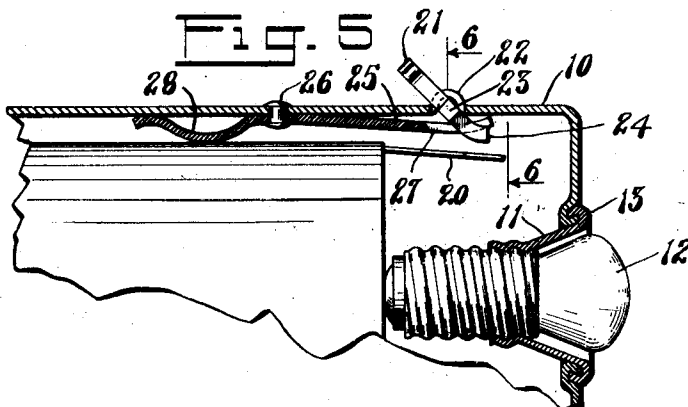


Fig. 6

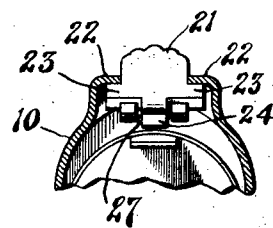
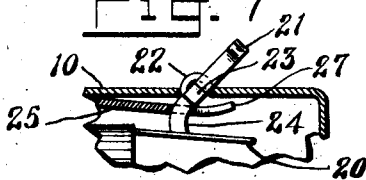


Fig. 7



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FLASH LIGHT SWITCH

Application filed September 20, 1929. Serial No. 393,873.

This invention relates to a flashlight switch.

It is an object of the invention to provide a flashlight switch of few parts, of simple and rugged construction, reliable and dependable in operation.

It is a further object to provide a flashlight switch having a pivoted operating member, an improved pivot construction and assembly, and resilient means for biasing the operating member in the position to which set.

With these general objects in view, the invention consists in the arrangements, combinations, and details which will first be described in connection with the accompanying drawings and then more particularly pointed out in the appended claims.

In the drawings,—

Figure 1 is a side elevational view of a flashlight embodying the present invention;
Figure 2 is a front elevation of the flashlight;

Figure 3 is a plan view thereof;

Figure 4 is a perspective view of the rear end of the flashlight;

Figure 5 is a longitudinal section through the flashlight showing the switch in open position;

Figure 6 is a transverse section on line 6—6 of Figure 5, and

Figure 7 is a fragmental view similar to Figure 5 with the switch in closed position.

The flashlight chosen to illustrate the invention comprises a hollow conducting casing 10 of sheet metal which is advantageously shaped to fit conveniently in the hand. At the front of the casing is a conducting metallic socket shell 11, which is threaded for the reception and retention of an electric bulb 12. The shell is rigidly fixed in the casing and, to this end, the metal of the shell and casing may be crimped together and jointed, as at 13. The rear end of the casing is provided with a hinged door 14 to allow removal and renewal of the battery or batteries within the casing. As here shown, the door is of sheet metal and has at one edge integral lugs 15 which pass through openings 16 in the casing and are bent back to form the hinge. The opposite edge of the door has an integral tongue 17 bent to run along the outer side of

the casing and having a detent 18, which makes a resilient locking engagement behind a struck-out ridge 19 of the casing when the door is closed.

The invention in its entirety includes a switch for controlling the circuit from the battery through the light. As here shown, the casing forms a part of the circuit and the switch establishes electrical communication between the casing and one terminal 20 of the battery. The circuit is from the battery terminal 20, the switch, the casing, the socket shell, the shell contact to the light, the light filament, the plug contact of the light to the other terminal of the battery which is engaged by the plug contact. While capable of various constructions, the switch shown here as an example comprises an operating switch member or arm pivoted in the casing wall and having a portion 21 projecting exteriorly of the casing through an opening thereof for manipulation. The casing may be held conveniently in the hand and the projecting portion operated by the thumb. To facilitate such operation, the projecting portion may be roughened or knurled. In this practical exemplification, the metal of the casing is struck out in ridges 22 to provide internal open-faced bearings, which accommodate pivot spindles 23 formed integrally with the switch arm and extending from each side thereof. The switch arm is further equipped with an internal curved extension 24 which serves to engage or disengage battery terminal 20 in accordance with the position of the switch arm, and to make or break the circuit. The switch arm with its projecting portion, spindles and extension are advantageously constructed in a single metallic piece which may be stamped or otherwise formed.

Means are provided for retaining the spindles in the bearings and for holding resiliently the switch arm at the position to which set. In this embodiment, said means comprise a leaf-spring 25 positioned on the inside of the casing wall and secured to the wall in a suitable manner, as by a rivet 26. The spring is slotted at 27 to accommodate extension 24 and bears against the spindles to urge and hold them in their bearings. As

here shown, the spindles are flat-sided, preferably square, and the spring biases the switch arm in the position to which set, either the circuit breaking position, Figure 5, or the circuit closing position, Figure 6. The switch arm may be pivotally swung from one position to the other by manipulation from the outside of the casing, as already described. The leaf-spring is advantageously bowed at its rear, 23, and presses against the battery to hold it resiliently and prevent shaking or moving thereof in the casing.

The switch is assembled by inserting the switch arm inside the casing and placing the spindles in their bearings, then by positioning and fastening the leaf-spring.

What is claimed is:

1. A switch construction comprising means providing open-faced bearings, an operating switch member having spindles fitting in the bearings, and a leaf-spring coacting with the spindles to retain them in the bearings.

2. A flashlight comprising a hollow casing, means providing internal open-faced bearings in the casing wall, an operating switch member having spindles fitting in the bearings, and resilient means for retaining the spindles in the bearings and for biasing the operating member in the position to which set.

3. A flashlight comprising a hollow metallic casing having struck-out ridges providing internal bearings, an operating switch member having spindles fitting in the bearings, and a leaf-spring coacting with the spindles to retain them in the bearings, said spring being positioned along the inside casing wall and secured thereto.

4. A flashlight comprising a hollow metallic casing having struck-out ridges providing internal open-faced bearings, an operating switch member embodying a portion projecting through an opening in the casing and manipulative exteriorly thereof, spindles seating in said bearings, and an interior extension, said projecting portion, spindles and extension being formed of a single piece of metal, and resilient means to retain the spindles in the bearings.

5. A flashlight comprising a hollow metallic casing having struck-out ridges providing internal open-faced bearings, an operating switch member embodying a portion projecting through an opening in the casing and manipulative exteriorly thereof, flat-sided spindles seating in said bearings, an interior extension, and a leaf-spring coacting with the spindles to retain them in the bearings, said spring being positioned along the inside wall of the casing and secured thereto and having a slot for the accommodation of the extension.

6. A flashlight comprising a hollow casing for receiving a battery, a switch pivoted in the wall of the casing, and a leaf-spring posi-

tioned along the inside of the casing wall and secured thereto, said spring holding the switch in pivoted position, the rear end of the spring being bowed to press and hold the battery in position.

7. A flashlight switch mechanism comprising open bearing portions, a switch lever provided with pivot spindles each having adjoining relatively flat surfaces, and a leaf spring holding said spindles in said bearing portions and by cooperating with said spindles biasing said switch lever in set position.

8. Switch mechanism including a casing provided open bearings, a switch lever provided with spindles each having adjoining surfaces at an angle to each other, a leaf spring, means securing said spring intermediate its ends to the casing, said spring on one side of said means having a battery-engaging portion extending away from said casing, and, on the other side of said means having a pair of spindle-engaging arms holding said spindles in said open bearings and biasing said switch lever in set position.

In testimony whereof, I have hereunto set my hand.

EMERSON TOMPKINS.