Nov. 7, 1950 A. MITCHELL 2,528,701

VEST POCKET FLASHLIGHT

Filed Sept. 11, 1945

Fig. 1.

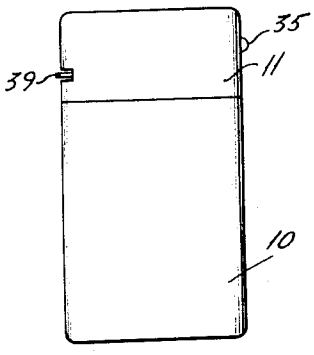


Fig. 2.

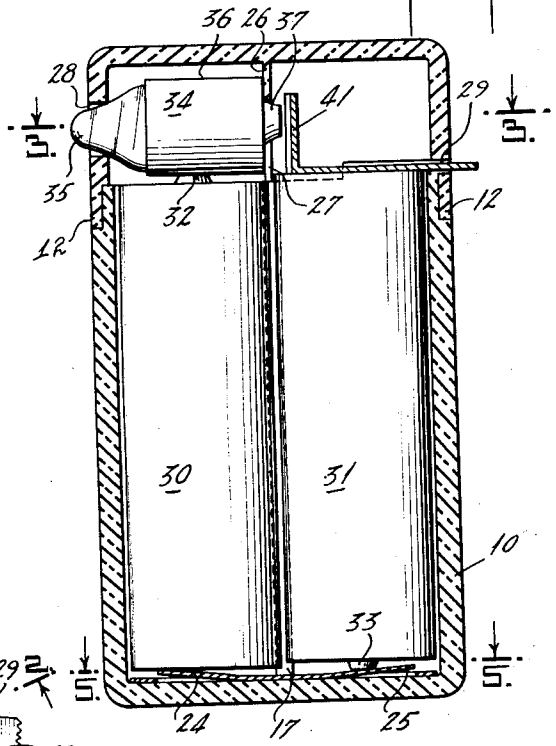


Fig. 3.

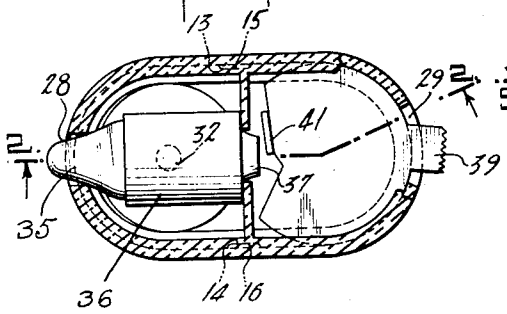


Fig. 6.

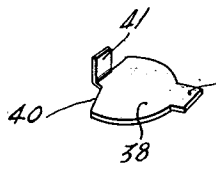


Fig. 4.

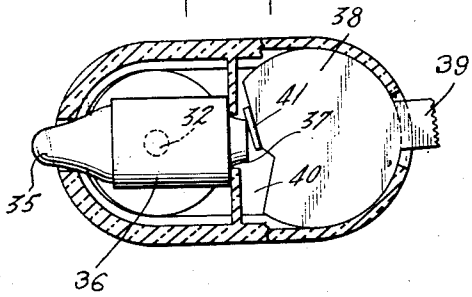
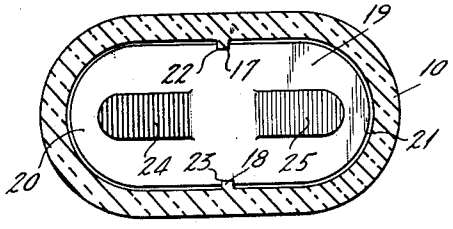


Fig. 5.



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VEST POCKET FLASHLIGHT

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Application September 11, 1945, Serial No. 615,610

5 Claims. (Cl. 240—10.65)

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This invention relates to portable lamps, and more particularly to a vest pocket electric flashlight adapted to be held in the hand during use.

One object of the present invention is to provide a vest pocket flashlight of the above nature having a casing and cap constructed of insulating material, and in which there are only two metal parts besides the lamp bulb and dry cells.

A further object is to provide a flashlight of the above nature having a pair of longitudinally arranged batteries which are joined together by a base connector having a pair of resilient fingers for engaging the bottom terminals of said batteries.

A further object is to provide a flashlight of the above nature having an upper transverse switch plate engaging the upper terminal of one of said batteries and having an upstanding lug adapted to be shifted into and out of contact with the inner center contact of a horizontal lamp bulb, the shell contact of which engages the upper terminal of the other battery.

A further object is to provide a flashlight of the above nature which will be simple in construction, inexpensive to manufacture, having the minimum quantity of metal, easy to install and manipulate, compact, ornamental in appearance, in which all the parts will be detachable and conveniently accessible for replacement and inspection, quickly and easily taken apart, and very efficient and durable in use.

With these and other objects in view, there has been illustrated on the accompanying drawing one form in which the invention may conveniently be embodied in practice.

In the drawing,

Fig. 1 represents a full-sized side view in elevation of the improved flashlight.

Fig. 2 is a longitudinal sectional view of the same, on a larger scale.

Fig. 3 is a transverse sectional view of the same, taken along the line 3—3 of Fig. 2, looking downwardly, and with the switch shown in open-circuit position.

Fig. 4 is a transverse sectional view, similar to Fig. 3, in which the switch is shown in closed-circuit position.

Fig. 5 is a transverse sectional view of the bottom of the casing, taken along the line 5—5 of Fig. 2, looking downwardly, and showing the construction of the resilient bottom connector strip.

Fig. 6 is a perspective view of the switch plate.

Referring now to the drawing, in which like reference numerals denote corresponding parts

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throughout the several views, the numeral 10 indicates a casing of insulating material, such as plastic, substantially elliptical in shape, with flat sides, and having a top cap 11 also of insulating material detachably mounted upon the upper end thereof. The top cap 11 is provided on both sides with reduced-thickness lower rims 12, 12 having a pair of inwardly-extending lugs 13, 14 adapted for snap-lock engagement in a pair of opposed curved recesses 15, 16 located on the top of the casing 10. By means of this construction, the cap will be retained in detachable engagement with the top of the casing, as long as desired.

The interior of the casing is provided with a pair of elongated vertical side ribs 17, 18, extending the full length of said casing and serving to position a bottom elliptical connector strip 19 having semi-circular ends 20, 21 loosely fitted within the casing 10. The connector strip 19 is provided with a pair of opposed side notches 22, 23 which are adapted to fit slidably over the ribs 17, 18, and said strip 19 has a pair of opposed upwardly-inclined spring fingers 24, 25 which are adapted to have resilient contact with the bottom terminals of a pair of parallel dry cell batteries 30, 31.

The top cap 11 is provided with a central vertical partition 26 which extends part way toward the bottom of said cap and has a slot 27 opening into the lower end thereof, for a purpose to be described later. The opposite ends of the cap 11 are provided with a circular aperture 28 and a horizontal slot 29, respectively.

The dry cell batteries 30, 31 are provided at one end with the usual center contacts 32, 33, and are arranged in reversed relationship with the center contact 32 of the battery 30 at the top, and the center contact 33 of the other battery 31 at the bottom, as clearly shown in Fig. 2.

A lamp bulb indicated by the numeral 34 is located in a horizontal position with an outer light-emitting glass tip 35 seated in the aperture 28 of the cap 11 and with its shell contact 36 engaging the upper terminal 32 of the battery 30. The center base contact 37 of the bulb 34 is seated in the slot 27 of the partition 26.

Provision is also made of a horizontal one-piece metallic switch plate 38, substantially semi-circular in shape, and provided with an integral knurled handle 39, projecting outwardly through the slot 29 in the cap 11. The central portion of the plate 38 abuts against the upper terminal of the battery 31.

The switch contact is provided with a sector-

shaped recess 40, upstanding from the edge of which is a contact lug 41 adapted to be swung into engagement with the end terminal 37 of the lamp bulb 34, as shown in Fig. 4.

Operation

In operation, the base connector member 19 will first be slid into the bottom of the casing 10 with the notches 22, 23 embracing the side ribs 17, 18 of said casing. The batteries 30, 31 will then be inserted and the assembled cap 11 placed in position. When the cap 11 is closed, the spring fingers 24, 25 will exert an upward pressure against the reversed batteries 30, 31, as shown, and will connect said batteries and the lamp bulb in a "series" circuit.

When the handle 39 of the switch is actuated in its slot 29, to swing the switch plate 38 from the position shown in Fig. 3 to that shown in Fig. 4, the upstanding contact 41 will move into engagement with the end contact 37 of the bulb 34 and will close the electric circuit, and cause the lamp bulb 34 to light up.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a flashlight comprising a lamp bulb having an end contact, an electric cell having an end terminal, and a container having means for supporting said bulb and cell in offset relation to each other, a switch plate having concentric arcuate edge portions, a handle, and an eccentric lug, said container including an internal arcuate shoulder in engagement with said arcuate edge portions to hold a central portion of said switch plate rotatably against said cell terminal, and said bulb contact being disposed in the path of said eccentric lug as said switch plate is rotated.

2. In a flashlight, an open-topped casing holding a pair of electric cells with their upper ends at the top of the casing, a lamp bulb, a switch plate including means adapted to contact the bulb, and a hollow end cap removably secured on the open top of the casing, said cap comprising means to hold said bulb against the upper end of one cell, and means to hold said switch plate rotatably against the upper edge of said casing and against the upper end of the other cell, said lamp bulb being disposed in the path of said contact means as said switch plate is rotated whereby said bulb and plate, and said cells, respectively, retain each other snugly in place in said cap and said casing, respectively, and said contact means may be moved to contact said bulb.

3. In a flashlight, a battery casing having a semi-circular edge portion lying in a single plane, an end cap telescopically fitted upon said casing and having therein an arcuate internal shoulder in a plane parallel to the plane of said edge portion, a switch plate having arcuate edge portions rotatably confined between said edge portion of the casing and the internal shoulder of the cap, said switch plate being provided with an eccentric contact lug and a peripheral handle projecting through a slot in the cap adjacent said internal shoulder, and means releasably retaining the end cap upon the casing.

4. In a vest pocket flashlight, an elongated casing having an open top and semi-circular ends and flat sides disposed parallel to and symmetrically about the longitudinal axis of the casing, a pair of reversed dry batteries located in said casing in vertical side-by-side relation, a hollow cap secured to the open top of said casing, said cap having an apertured end wall substantially in alignment with one of said semi-circular ends and also having a transverse partition spaced from said apertured end wall, said partition being provided with a central slot extending upwardly from the edge of said partition, a lamp bulb comprising a light-emitting glass end portion disposed in said aperture, an intermediate shell terminal in engagement with the upper terminal of one of said batteries, and a center base terminal projecting through the slot of said partition at the opposite end of said bulb, a one-piece manually-operated transverse rockable switch plate disposed at the opposite side of said slotted partition from said lamp bulb, the central portion of said switch plate engaging the upper terminal of the other of said batteries, said switch plate having an upstanding lug for detachable engagement with the base terminal of said lamp bulb.

5. In a vest pocket flashlight, an elongated casing having an open top, a pair of parallel reversely arranged dry batteries located in said casing and electrically connected together at their bottom ends, a hollow cover cap detachably fitted over the top of said casing, a lamp bulb detachably carried in a transverse position in said cap with its light-emitting end extending through the end of said cap with its shell terminal engaging the upper terminal of one of said batteries and having its base terminal extending beyond the center of said cap, and a rockable transverse switch plate engaging the upper terminal of the other battery and having an upstanding contact lug for detachable engagement with the base terminal of said bulb, said plate having an operating handle extending outside the opposite end of said cover from said light-emitting end.

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