

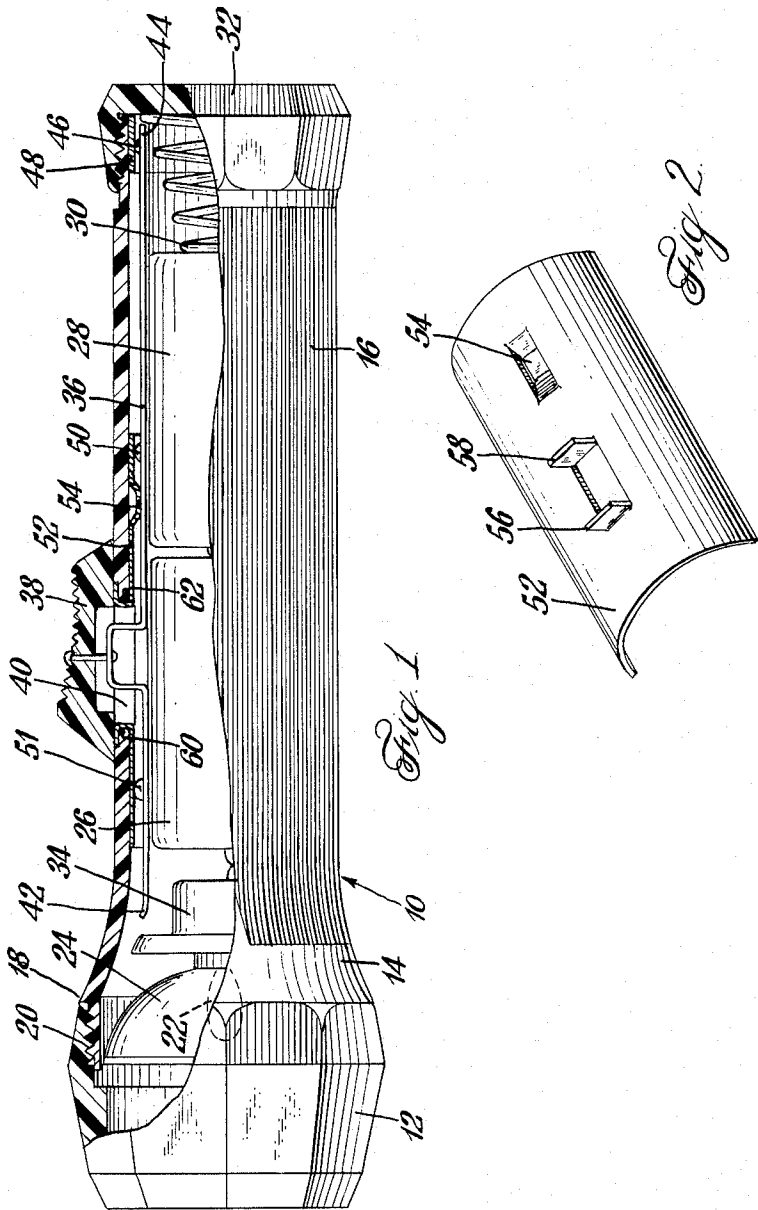
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F. STAHL

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FLASHLIGHT

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INVENTOR.
FRANCIS STAHL

BY
Henry A. Mangella Jr.
ATTORNEY

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3,261,972

FLASHLIGHT

Francis Stahl, St. Albans, Vt., assignor to Union Carbide Corporation, a corporation of New York
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1 Claim. (Cl. 240—10.66)

This invention relates in general to flashlights and more particularly to flashlights embodying a plastic case or container.

In recent years the production of plastic body-type flashlight cases have increased in number primarily because of economics, simplicity of fabrication and decorativeness. Although the plastic flashlight cases have been generally patterned after metal cases, they are lighter in weight, corrosive resistant and can readily be made waterproof. However, one of the disadvantages of plastic flashlights is that its service life is somewhat diminished as compared with a metallic flashlight because of the "wear" which takes place in the interior wall of the plastic case due to the moving metal parts of the conventional switch slide assembly. The switch assembly and metal slide member, which may be movable between two or more contact positions, are customarily secured to the wall of the plastic case of the flashlight. The "wearing" arises as the metal slide member, which is provided with a number of dimples, rides back and forth and over a detent or lock position disposed within the inside wall of the plastic case.

Accordingly, it is the principal object of the present invention to provide a more reliable and wear-proof plastic flashlight.

Another object of the invention is to provide a plastic flashlight with longer service life.

According to the invention, the novel feature of the improved flashlight of the invention comprises a unique wear plate mounted on the plastic case so as to be rigidly fixed thereto. The longitudinally movable metal slide contact strip is secured to the switch slide and its dimples provide a positive action to provide the "lock-on," "lock-off" feature requirement.

The above and other objects of the invention will become further apparent from the following detailed description, reference being made to the accompanying drawing, showing the preferred embodiment of the invention, and in which:

FIG. 1 is a view in side elevation and broken away in parts to illustrate the details of construction; and

FIG. 2 is a perspective view of the wear plate of the invention.

The flashlight is denoted as a unit by the reference numeral 10 and the lens cover or head is denoted by 12. The flashlight 10 is basically of conventional plastic construction such as polyethylene and comprises an elongated cylindrical casing or tube 14 providing a handle which may or may not have lengthwise outstanding ribs 16 formed integrally with the tube 14 for gripping purposes. The front end of the flashlight tube 14 is denoted as 18 and it terminates in the usual externally screw-threaded neck 20. The lamp 22 is illustrated by dotted lines, the conventional flanged parabolic reflector as 24 and the dry cell batteries as 26 and 28. A compression spring 30 is disposed between the battery 28 and the rear screw cover 32 of the flashlight casing 14 in order to urge the batteries 26 and 28 into a good cell to cell connection and to urge battery 26 into engagement with the lamp base and contact shell 34.

The slide contact strip 36 is a long, thin conductive metal member and has a plurality of dimples disposed along its length. A switch slide 38 is suitably secured, through a guide hole or slot 40 in the tube 14, to the slide contact strip 36 by means of conventional fasteners,

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such as, for instance rivets and the like. Thus, the ends 42 and 44 of the contact strip 36 remain free. Front end 42 contacts the contact shell 34 when the switch slide 38 is axially moved forward to the "on" position. The rear end 44 containing dimple 46 remains in contact with a conductive annular member 48 which is in contact with the spring 30 which in turn contacts the base (negative polarity) of the cell container of battery 28 thus electrically completing the series battery-lamp circuit.

Dimple 50 located near the center of the contact strip 36 provides the "lock-on," "lock-off" feature of the flashlight and dimple 51 ensures that the front free end 42 of the contact strip 36 maintains contact with the contact shell 34 during operation.

The dimple 50 engages and rubs against a novel wear plate 52 having a detent 54 which enables a user of the flashlight to hear a distinct "click" as the switch slide 38 is moved forward or backward or vice versa, as for example, from the "on" position to the opposite "off" position. It is not necessary to further describe the details of construction or operation of the flashlight 10, inasmuch as such devices are well-known to those skilled in the art, and since no further description of it is required for an understanding of the improved flashlight of the invention.

As best shown in FIG. 2, the wear plate 52 is preferably composed of relatively harder material than that of the tube 14. The wear plate 52 is generally arcuate in shape and it is suitably made of thin sheet metal, such as steel or the like. The detent 54 is suitably punched in the central portion of the wear plate 52 and ears 56 and 58 are preferably punched out from the surface of the metal in order that they may be used for fastening the wear plate 52 to the flashlight tube 14 by bending the same about the end edges 60 and 62 of the guide hole or slot 40.

The wear plate 52 provides a hard bearing surface between the dimples 50 and 51 of the movable contact strip 36 and the relatively soft flashlight tube 14 which is generally made of a suitable plastic such as polyethylene, polypropylene, polyvinyl chloride, polystyrene or the like. The wear plate 52 also provides some additional rigidity and stiffness to the wall of the flashlight tube 14 and thus may permit a thinner sidewall thickness than used heretofore in the manufacture of plastic flashlight tubes. Abrasive wear on the inner surface of the plastic tube is eliminated and a wearproof matching indent is provided by the wear plate for the "lock-on," "lock-off" feature of the conventional slide switches which are of use generally in the type of flashlight described hereinbefore.

While the invention has been illustrated and described as embodied in plastic flashlights, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit and scope of the present invention.

What is claimed is:

A long life flashlight comprising a hollow substantially thin plastic casing constituting a handle adapted to contain batteries and having a forwardly facing reflector and cooperable lamp assembly at its forward end, a switch slide member guided for axial movement in a slot in said casing and being permanently secured by mechanical fastening means to an inner contact strip which is adapted to engage said lamp assembly for providing the on-off feature of said flashlight; a wearproof attachment disposed adjacent to the inside wall of said casing about said slot and comprising a long thin metallic wear plate shaped to the curvature of said casing, said wearproof attachment having a detent and outwardly extending ears extending through and engaging the ends of said slot in said casing, said detent being aligned with said contact

strip and cooperating with same for providing an audible click and lock-on, lock-off positions for said switch slide member.

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NORTON ANSHER, *Primary Examiner.*J. F. PETERS, JR., *Assistant Examiner.*