Dec. 25, 1956 H. GOLDEN 2,775,688

FLASHLIGHT

Filed April 16, 1954 2 Sheets-Sheet 1

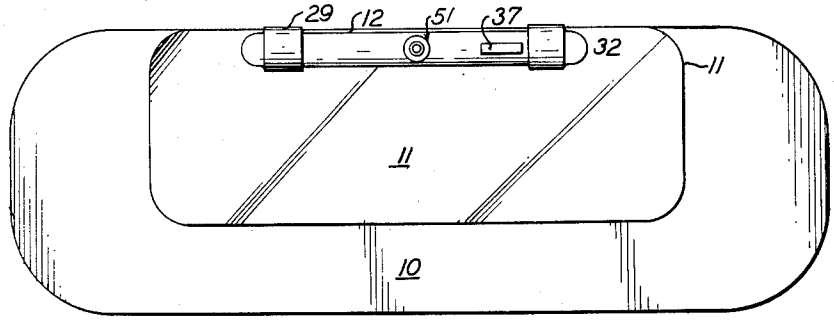


FIG. 1

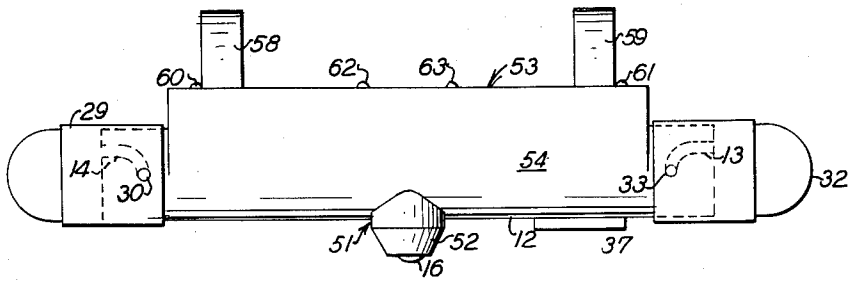


FIG. 2

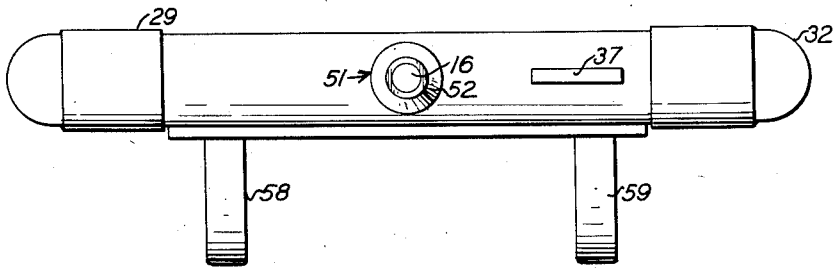


FIG. 3

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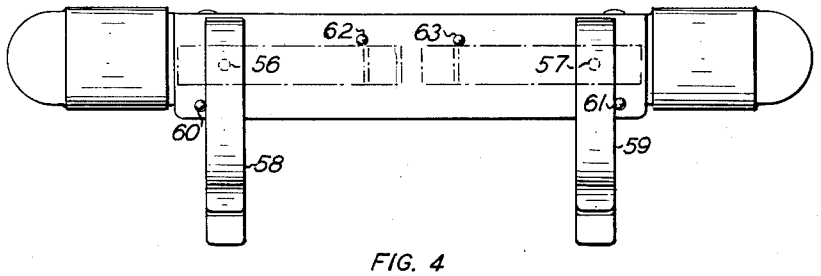


FIG. 4

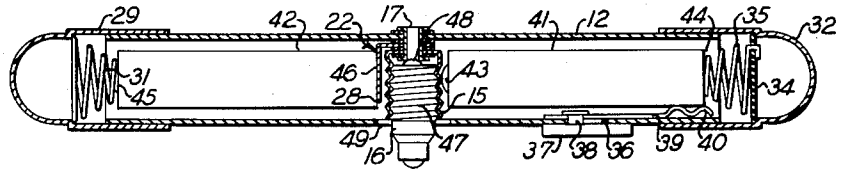


FIG. 5

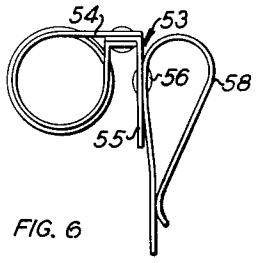


FIG. 6

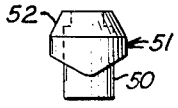


FIG. 8

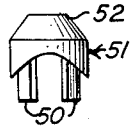


FIG. 9

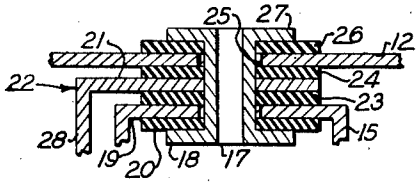


FIG. 7.

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FLASHLIGHT

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Application April 16, 1954, Serial No. 423,679

2 Claims. (Cl. 240—10.66)

This invention relates to illumination and more particularly to a flashlight designed to be supported from a mirror or other object and to provide illumination for a person or other object in front of the mirror.

Heretofore, numerous flashlights have been designed and produced which were intended to project light rays from various directions with relation to the flashlight in a longitudinal direction and in a transverse direction. However, the majority of these prior art flashlights depended upon either a rotating head which carried the bulb and reflector or the provision of a plurality of bulbs and reflectors disposed at different angles with relation to the longitudinal axis of the flashlight. Furthermore these prior art devices, by reason of their very construction, were relatively large and bulky and were not particularly well adapted to be disposed adjacent the upper edge of a mirror and to provide adequate illumination for a person standing in front of the mirror.

It is therefore an object of this invention to provide a flashlight of relatively small dimensions utilizing conventional flashlight battery calls and designed to be supported from an object, such as a mirror, and to illuminate a person or other object disposed in front of the mirror.

A further object of the invention is the provision of a flashlight of relatively small size utilizing conventional flashlight battery cells and in which the bulb providing illumination is disposed substantially midway of the length of the flashlight and projects light rays substantially at right angles to the longitudinal axis of such flashlight.

A still further object of the invention is the provision of a relatively small size flashlight utilizing conventional flashlight battery cells and designed to illuminate an object disposed to one side of the longitudinal axis of the flashlight and to be supported upon an object, such as a mirror, or to be conveniently carried in the pocket of a person.

Another object of the invention is the provision of a relatively small size flashlight designed to project light rays at substantially right angles to the longitudinal axis of the flashlight and in which the bulb is disposed substantially midway of the length thereof and the battery cells providing electric energy are inserted from each end of the flashlight.

A further object of the invention is the provision of a relatively small size flashlight utilizing conventional flashlight battery cells and which is designed to illuminate objects located at one side of the longitudinal axis of the flashlight, which may be conveniently and economically manufactured from readily available materials and sold in a highly competitive market.

Further objects and advantages of the invention will become apparent from the following description taken in conjunction with the accompanying drawing wherein:

Fig. 1 is an elevational view of a conventional visor of the type utilized in automobiles with a mirror applied thereto and with a flashlight constructed in accordance with this invention supported adjacent the upper edge of the mirror;

Fig. 2, a top plan view of a flashlight constructed in accordance with this invention;

Fig. 3, a front elevational view of the flashlight shown in Fig. 2;

Fig. 4, a rear elevational view of a flashlight constructed in accordance with this invention and showing the supporting means therefor, both in operative and in folded position;

Fig. 5, a longitudinal sectional view of a flashlight constructed in accordance with this invention and showing the internal structure thereof;

Fig. 6, an end elevational view of the flashlight of this invention;

Fig. 7, a fragmentary sectional view showing the socket for the bulb to be utilized in the flashlight of this invention and the particular mounting means for such socket;

Fig. 8, an elevational view of the bulb cover and lens utilized in this invention; and

Fig. 9, an elevational view similar to Fig. 8, and showing another aspect of the bulb cover and lens utilized in this invention.

With continued reference to the drawing there is shown in Fig. 1, a visor **10** which may be hingedly mounted upon an automobile in the known conventional manner and also mounted upon the visor **10** is a mirror **11** which may be secured to the visor **10** by spring clips or any other desired means. The structure of the visor **10** and mirror **11** is entirely conventional in every respect and is only shown and described in order to more clearly set forth the structure and operation of the flashlight of this invention.

The flashlight of this invention, as best shown in Fig. 5, may well comprise a tubular casing **12** which is provided at each open end thereof with a bayonet slot **13** and **14**, the purpose of which will be presently described. Substantially midway of the length of the tubular casing **12** a socket **15** is disposed and this socket is designed to threadedly receive a conventional flashlight bulb **16**.

The manner of securing the socket **15** to the tubular casing **12** is best shown in Fig. 7, and since the socket **15** must be insulated from the casing **12**, washers of fiber or other suitable insulating material are utilized for this purpose. The socket **15** is secured to the casing **12** by a hollow rivet or other suitable means **17** which is provided with a flange **18** on the inner end thereof, and between this flange **18** and an inwardly extending flange **19** on the socket **15** an insulating washer **20** is disposed. It is to be noted that the flange **19** on the socket **15** is not in electrical contact with the rivet **17**. Between the flange **19** and one leg **21** of a lug **22**, an insulating washer **23** is disposed and it is to be noted that the leg **21** of the lug **22** is in electrical contact with the pivot **17**. Another insulating washer **24** is disposed between the leg **21** of the lug **22** and the tubular casing **12**. It is to be noted that the rivet **17** passes through an aperture **25** in the casing **12**, which aperture is somewhat larger than the outer diameter of the rivet **17** and consequently, there is no electrical connection between the casing **12** and the rivet **17**. Outwardly of the casing **12** an insulating washer **26** is provided and overlying this washer **26** is a flange **27** on the outer end of the rivet **17**, which flange together with the flange **18** serves to firmly retain the socket **15** in position within the casing **12** and substantially midway the casing **12**. The lug **22** is provided with a leg **28** which is disposed radially of the casing **12** and is located at one side of the socket **15**, as best shown in Fig. 5.

A cap **29** may be removably secured on one end of the casing **12** by a dimple or pin **30** projecting inwardly therefrom and received in the bayonet slot **14**. Disposed within the cap **29** is a tapered compression spring **31**, the purpose of which will be presently described. The opposite end of the casing **12** may be closed by a cap **32** removably secured on the casing **12** by a dimple or pin **33** projecting inwardly therefrom and received in the bayonet slot **13**. Insulating material in the form of

a disc 34 or in any other suitable form is disposed within the cap 32 and secured and supported by this insulating disc 34 is a tapered compression spring 35, the purpose of which will be presently described.

An elongated slot 36 is provided in the wall of the casing 12 and a finger engaging member 37 disposed outwardly of the casing 12 is provided with a pin 38 which projects through the slot 36 into the interior of the casing 12. Secured to the inner end of pin 38 is an elongated strip 39 of resilient material and one end of this strip 39 is provided with a curved or corrugated portion 40. Sliding movement of the finger engaging member 37 and the pin 38 in the slot 36 results in longitudinal movement of the strip 39 and engagement and disengagement of the curved end 40 with the spring 35. This mechanism provides a switch means which operates to open and close the electrical circuit to the bulb 16 in a manner to be presently described.

Conventional flashlight battery cells 41 and 42 are disposed within the casing 12 and it is to be noted, that the cell 41 is positioned with the positive pole 43 thereof engaging the socket 15 and with the negative pole 44 engaging the spring 35 supported by the insulated disc 34 in the cap 32. The cell 42 is positioned with the positive pole 45 engaging the compression spring 31 carried by the cap 29 and the negative pole 46 is in engagement with the leg 28 of the lug 22. As is well known, the screwthreaded portion 47 of the bulb 16 provides one contact thereof, and a button 48 on the end of the bulb and in engagement with the flange 18 of the rivet 17 provides the other contact for the bulbs 16. It will therefore be seen, that the electrical circuit is from the button 48 on the bulb 16 through the rivet 17, leg 21 of lug 22, leg 28 of lug 22 to the negative pole 46 of battery 42 and through positive pole 45 of the cell 42 to the compression spring 31. From spring 31 the circuit continues through the cap 29 and the casing 12 to the strip 39 which forms a portion of the switch and when the curved end 40 of strip 39 is in engagement with spring 35 the circuit will continue through this spring to the negative pole 44 of battery cell 41 and through the positive pole 43 of this battery to the socket 15 and therethrough to the threaded portion 47 of the bulb 16 thus completing the circuit and energizing the bulb. When the finger piece 37 and strip 39 is moved toward the left, as viewed in Fig. 5, the curved end 40 of the strip 39 will be disengaged from the spring 35 thus breaking the electric circuit and deenergizing the bulb 16.

The casing 12 may be provided with an aperture 49 surrounding the bulb 16 and received in aperture 49 may be prongs 50 of a lens and bulb cover 51. The lens and bulb cover 51 may be conveniently molded from a suitable transparent plastic and the outer surface 52 thereof, may be so formed as to diffuse and direct the light rays from the bulb 16 in any manner desired. The prongs 50 are sufficiently resilient to frictionally retain the bulb cover and lens 51 in place in the aperture 49 and may be conveniently removed to permit replacement of the bulb 16.

In order to properly support the flashlight of this invention on the mirror 11 or on any other desired object, a bracket 53 may be secured to a strap 54 surrounding the tubular casing 12 or the bracket 53 may be secured to such casing 12 by welding or any other suitable means. Bracket 53 is provided with a downwardly extending flange 55 to which may be pivotally secured as by rivets or other suitable means 56 and 57 a pair of U-shaped spaced spring clips 58 and 59.

As shown in Fig. 4, the clips 58 and 59 are disposed to engage a mirror or other supporting object and are arranged substantially at right angles to the longitudinal axis of the casing 12. The clips 58 and 59 may be conveniently located in the desired position by dimples or pins 60 and 61 projecting outwardly from the leg 55 of the bracket 53 and, when desired, the clips 58 and 59 may be rotated to the folded position shown in dotted lines in Fig. 4 and are prevented from moving beyond this position by dimples or pins 62 or 63 projecting from the leg 55 of bracket 53. In the folded position as shown in Fig. 4, one of the clips 58 or 59 may be utilized to secure the flashlight of this invention, in a pocket of the user.

It will therefore be seen by the above described invention there has been provided a flashlight of relatively small size in which the bulb is positioned substantially midway of the length thereof and with the battery cells inserted from each end of the flashlight casing. Likewise, means is provided to support the flashlight upon an object, such as a mirror and to illuminate a person or other object placed in front of such mirror. The flashlight is readily removable from the mirror or other support and may be conveniently carried by a person in the pocket and is provided with means for securing the same in place to prevent inadvertent loss thereof. It will further be seen that the flashlight of this invention may be manufactured by relatively economical die stamping and other metal working operations and that assembly thereof may be accomplished by relatively unskilled personnel thereby permitting sale of the device in a highly competitive market.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is shown in the drawing and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A flashlight comprising an elongated tubular casing, a bulb socket mounted within said casing substantially midway of the length thereof, said socket extending transversely of said casing and being insulated therefrom, said socket comprising a shell forming one contact and a central contact secured to the inner end thereof insulated from said shell, a lug connected to said central contact and disposed in spaced relationship to said shell axially of said casing, a removable cap for one end of said casing, a compression spring in said cap whereby a battery may be disposed in said casing with the negative pole in contact with said lug and the positive pole in contact with said spring, a removable cap for the opposite end of said casing, a compression spring in said last named cap, means for insulating said last named spring from said last named cap whereby a battery may be disposed in said casing with the positive pole engaging said shell and the negative pole engaging said last named spring, switch means comprising a slidable metallic strip engaging said casing, a curved end on said strip for engaging said last named spring to complete the circuit and breaking the circuit when out of engagement with said last named spring, finger engaging means for moving said strip, an aperture in said casing in alignment with said socket, a bulb cover and lens removably disposed in said aperture, a bracket secured to said casing and spring clips rotatably mounted on said bracket for detachably securing said flashlight in any desired position on a support.

2. A flashlight as defined in claim 1 in which said bulb cover and lens is provided with spring fingers disposed within said aperture and engaging the wall thereof to frictionally retain said cover and lens in position.

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