Feb. 27, 1934. O. C. BRITSCH 1,948,613

FLASH LIGHT

Filed Dec. 10, 1931

FIG.1.

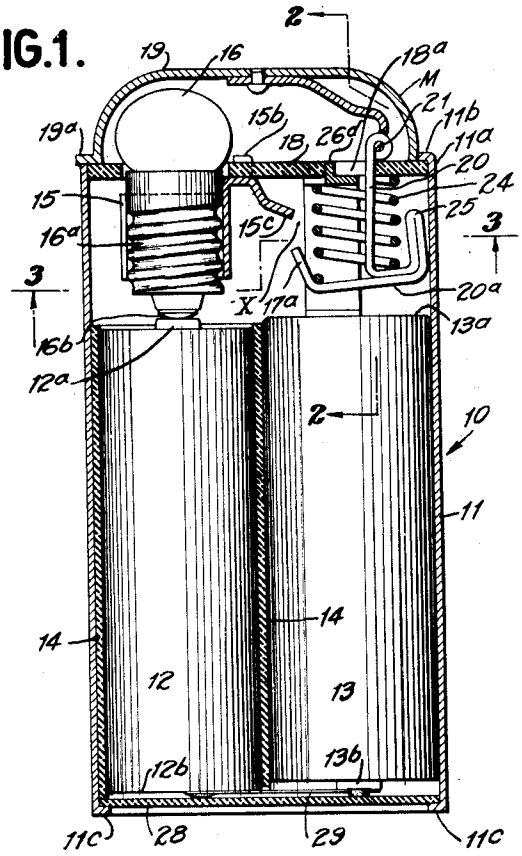


FIG.2.

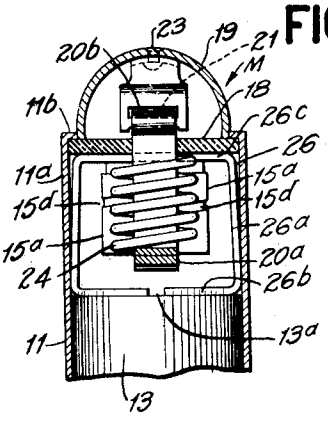


FIG.3.

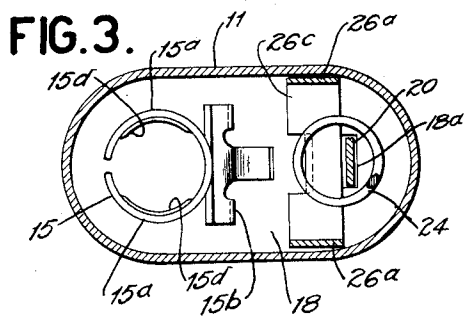
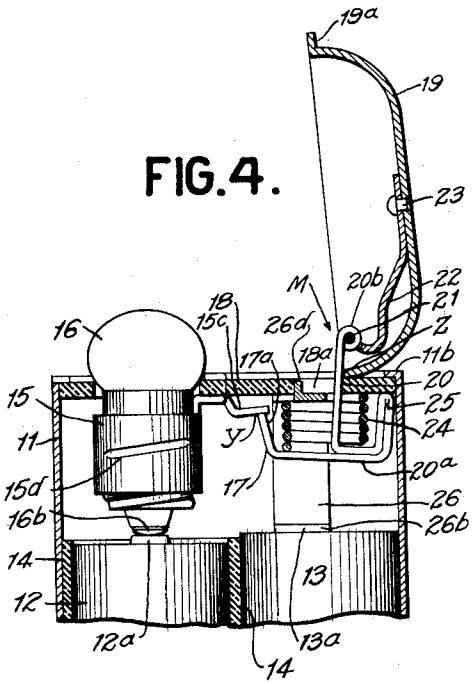


FIG.4.



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FLASH LIGHT

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Application December 10, 1931
Serial No. 580,030

4 Claims. (Cl. 240—10.67)

This invention relates to portable lighting devices and more particularly is directed to pocket battery flashlights.

Among the objects of the invention is the provision of an improved device of the character described comprising few and simple parts which shall be easily assembled to form a reliable and dependable lighting means capable of withstanding rough and hard usage yet which shall be small and compact so that it can be readily carried in the pocket or in hand bags, which shall be neat in appearance, convenient to handle and operate, cheap to manufacture, and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangements of parts which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention.

Figure 1 is a cross sectional view taken through a pocket flashlight constructed to embody the invention showing the cover in closed position.

Figure 2 is a fragmentary cross-sectional view taken on line 2—2 of Figure 1.

Figure 3 is a cross-sectional view taken on lines 3—3 in Figure 1 showing the lamp removed from the socket, and

Figure 4 is a fragmentary cross-sectional view taken through the cover and switch portions of the improved socket flashlight showing the cover in its retained open position.

Referring to the drawing, 10 denotes a pocket flashlight of a type that can conveniently be carried in a vest pocket or in a woman's hand bag, constructed to embody the invention. Said flash-lamp 10 may comprise a suitable outer casing 11, as here shown being formed of sheet metal, enclosing a battery of one or more dry cells 12 and 13. Only one of these cells, namely 12, need be insulated by a wrapper 14 of paper, fibre or other suitable material, from the other cell 13 and the casing 11, thereby simplifying the construction. The upper end 11*a* of the casing extends beyond the carbon and zinc terminals 12*a* and 13*a* of the cells 12 and 13 respectively to provide a housing for a lamp receptacle socket 15 carrying a standard miniature incandescent bulb 16 and for a switch 17 for making and breaking the circuit from said battery cells to the bulb 16.

The socket 15 and switch 17 are mounted to extend down from the under side of an insulating plate 18 and a suitable cover 19 is movably mounted to enclose and shield the bulb portion which extends through said plate 18 to the upper side thereof. Said plate 18, socket 15, switch 17 and cover 19 form a closure member, designated generally at M, for the upper end of the casing 11. Said member M is retained in position by an inturned flange 11*b* provided on the casing end 11*a*, said flange forming an abutment engaging the peripheral portion of the plate 18, as is clearly shown in Figures 1, 2 and 4. The socket 15 preferably is made of a single stamping bent to provide spring shell contact portions 15*a* for receiving the screw base 16*a* of the bulb 16, spaced lugs 15*b* which are extended up through the plate 18 for anchoring the socket 15 thereto, and an extending spring contact portion 15*c* which forms part of the switch 17.

The current carrying parts of the flash-lamp include, besides the shell contact and contact portions, 15*a* and 15*c*, respectively, a blade 17*a* of the switch 17, said blade terminating the lower end or foot 20*a* of a hinge lever 20. The upper end 20*b* of said hinge lever 20 is pivoted at 21 to an outer end of an arm 22 which is anchored to the inside of the cover 19 by any suitable means, such as rivet 23. A helically wound compression spring 24 is provided between said lever foot 20*a* and the plate 18, said lever 20 being positioned to pass through the spring and through an opening 18*a* in the plate 18, as is clearly shown in Figures 1, 2 and 4.

The foot 20*a* also has an extension abutment stop 25 which is adapted to contact with the underside of the plate 18 for swinging the blade 17*a* to contact with the spring contact portion 15*c* on moving the cover 19 to its open position shown in Figure 4. Straddling the spring 24 and the lower end of the lever 20 under the plate 18, there is provided a saddle jumper 26 which has spring sides 26*a* for contacting with the inside surface of the upper casing 11*a* and has lower spring

contact ends 26*b* for abutting the zinc battery terminal 13*a*. The upper end 26*c* of the saddle jumper 26 may be provided with a lug 26*d* which extends into the opening 18*a* for retaining said jumper from being accidentally displaced. The jumper 26 also serves as spacing and bracing means between the battery cell and the plate 18 as well as a current carrying part of the electrical circuit.

The bottom end of the casing 11 may be bent to form an inturned flange 11*c* on which is seated an insulating closure 28 for enclosing the battery, a jumper 29 being provided for electrically interconnecting the carbon terminal 13*b* of the cell 13 with the zinc terminal 12*b* of the cell 12 to join the battery cells in series circuit.

The practical operation of the invention will now be apparent. The battery cells 12 and 13 and closure member M are assembled in the casing 11 with the bulb 16 inserted in the socket 15, as shown in Figure 1. The center contact 16*b* of the bulb base 16*a* will then tightly contact with the carbon cell terminal 12*a*. The shell contact portions 15*a* of the socket 15 are each provided with an impressed thread 15*d* for engaging the screw base 16*a* in the well understood manner. When the cover 19 is in closed position, the switch is in open circuit position, as at X.

To operate the flash-lamp 10 for lighting the bulb 16, the cover 19 is swung open on the pivot 21, a lip 19*a* being provided on the cover 19 to facilitate the opening operation. As the cover 19 swings to its open position, shown in Figure 4, the spring 24 is compressed by the raising of the lever member 20 and the blade 17*a* is brought into rubbing contact with portion 15*c*. The stop 25 contacting on the under side of the plate 18 serves as a fulcrum of a leverage for throwing the plate 17*a* upwardly and toward the socket extension portion 15*c*. These interconnecting switch and cover hinge parts which operate on opening the cover 19, are disposed to swing the pivotal center 21 to the right of a bearing point Z on the insulating plate 18 so that the cover 19 is retained in open position until said center 21 is swung back to the left of the aligning position with respect to said bearing point Z, thereafter the spring 24 acts to automatically swing the cover 19 closed.

The circuit from and to the battery cells through the switch 17 and the socket 15 permits the current to first pass from the battery cell zinc terminal 13*a* to the casing 11 and also to the saddle jumper 26, hence through the spring 24 to the lever foot 20*a*. When the cover 19 is closed, as shown in Figure 1, the circuit is opened at X. Moving the cover 19 to its opening position, raises the blade 17*a* to contact with the spring extension portion 15*c* for closing the circuit at Y, as shown in Figure 4. The current then passes successively through the shell contact portions 15*a*, the lamp 16 and back to the battery cells through the carbon terminal 12*a*.

The form of the invention disclosed in the drawing contemplates assembling the battery cells and the closure member permanently in the casing 11, the entire device forming a structure of non-demountable parts with the exception of the bulb 16. However, if desired, the casing 11 may be so constructed as to permit the removal and replacement of the battery cells 12 and 13.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A flashlight of the character described comprising a metallic casing, a dry cell battery in the casing having one battery terminal in contact with said casing, and a closure member for one end of the casing having an insulating plate, an electric lamp socket mounted to extend between the plate and the battery and adapted to retain an incandescent bulb in contact with the other battery terminal, a cover for removably enclosing said plate and socket, a lever extended through the plate, said lever having an end on one side of the plate hinged to the cover, a compression spring interposed between the other end of the lever and other side of said plate for resiliently attaching the lever and cover to the plate, and a switch actuated by said lever on movement of said cover.

2. In a flashlight of the character described, an end casing closure member comprising an insulating plate having an opening, a lever extending through said opening, a cover pivoted to one end of said lever, and a compression spring interposed between the other end of said lever and said plate.

3. In a flashlight of the character described, an end casing closure member comprising an insulating plate having an opening, a lever extending through said opening, a cover pivoted to one end of said lever, a compression spring interposed between the other end of said lever and said plate, and a current carrying jumper secured by said spring to extend from said plate.

4. In a flashlight of the character described, an end casing closure member comprising an insulating plate having an opening, a lever extending through said opening, a cover pivoted to one end of said lever, a compression spring interposed between the other end of said lever and said plate, a current carrying jumper secured by said spring to extend from said plate, and a switch blade carried by said last mentioned lever end.

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