

L. C. MATSON.
FLASH LIGHT.
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1,421,093.

Patented June 27, 1922.

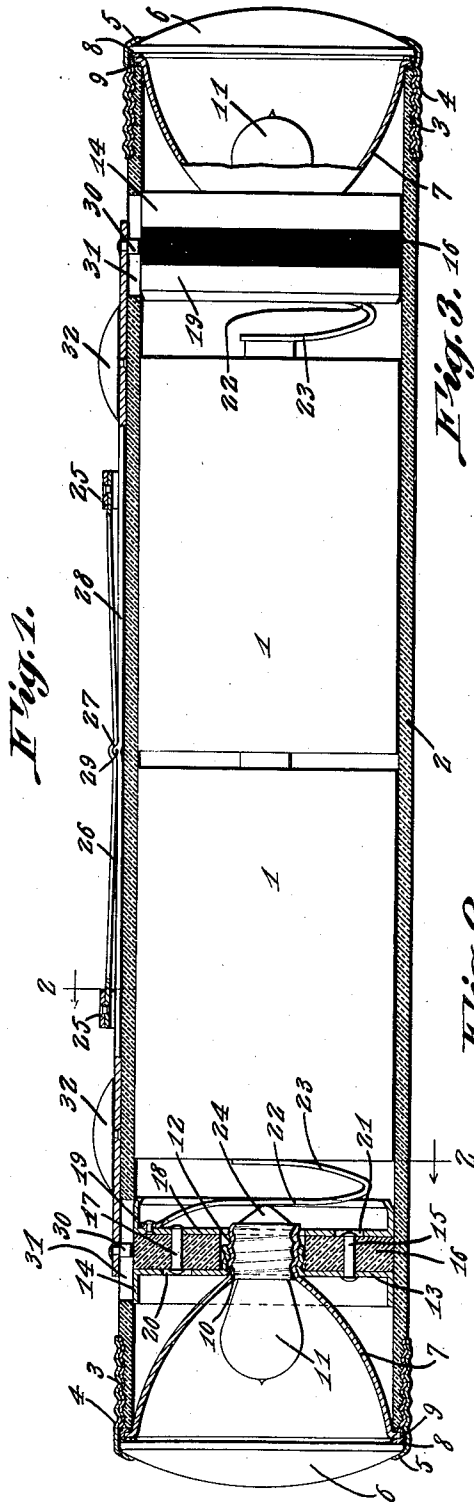


Fig. 1.

Fig. 2.

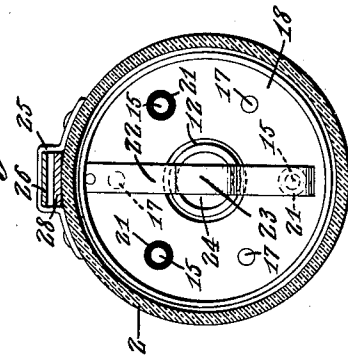


Fig. 3.

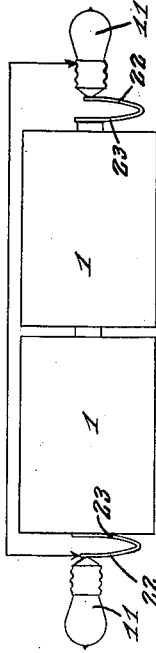
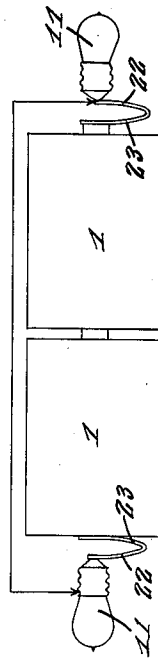


Fig. 4.



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FLASH LIGHT.

1,421,093.

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To all whom it may concern:

Be it known that I, LESLIE C. MATSON, a citizen of the United States, residing at Dunbarton, in the county of Lafayette and State of Wisconsin, have invented a new and useful Flash Light, of which the following is a specification.

This invention relates to flashlights, one of its objects being to provide a device of this character having two or more illuminating units each including a bulb, a reflector and a lens, whereby, should one of the units become broken or otherwise get out of order, another unit can promptly be placed in action simply by shifting a switch provided for that purpose.

Another object is to provide a device of this character which is simple in construction, the parts of which can be assembled readily, and which allows the batteries to be inserted into or removed from either end.

A further object is to provide a switch mechanism eliminating interior sheets of strips, the entire construction of the device insuring certainty of current action and neatness of switch design.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims, it being understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing any of the advantages of the invention as set forth in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings

Figure 1 is a longitudinal section through the flashlight, the battery being shown in elevation and one of the illuminating units being shown in section and the other mainly in elevation.

Figure 2 is a section on line 2—2, Figure 1.

Figure 3 is a diagram showing the direction of current when one of the illuminating units is in action.

Figure 4 is a similar view showing the other unit in use.

Referring to the figures by characters of reference 1 designates batteries removably seated in a shell or casing 2 or fibre or other insulating material. Each end of the shell has a metal sleeve 3 threaded as shown

and adapted to be detachably engaged by a lens cap 4 having an inturned flange 5 for lapping the peripheral portion of a lens 6 and clamping the lens in position. A reflector 7 is seated in each end of the shell and has an annular flange 8 at its outer end adapted to be clamped by the lens 6 against an insulating washer 9 which straddles flange 8. The reflector has a central threaded sleeve 10.

One illuminating unit is located at each end of the shell and each unit includes, in addition to a reflector 7, a bulb 11 the threaded nipple of which is seated in the threaded reflector sleeve 10 which is in turn seated in a threaded sleeve 12 extending from the center of a disk 13 of conductive material and which disk has an annular flange 14 adapted to fit snugly against the inner surface of the shell. This disk is fastened by rivets 15 to a disk 16 of insulating material and secured by rivets 17 to the other face of the disk 16 is a disk 18 of conductive material. This disk 18 has an annular flange 19 engaging the inner surface of the wall of the shell. Openings are provided in the disk 13 to receive the heads of the rivets 17 so that there will be no electrical connection through the rivets between the disks and similar openings are formed in the disk 18 to receive the heads of the rivets 15 for the same purpose.

A spring strip 22 is attached to the disk 18 and is bent or folded back to form a yielding contact 23. This strip 22 normally contacts with the terminal 24 of the lamp while the contact 23 is adapted to engage one of the battery terminals. It will be apparent that when the two illuminating units are in position, their spring contacts 23 will hold the batteries properly centered.

Mounted on the outer surface of the shell are guide straps or brackets 25 connected by a longitudinal spring strip 26 bowed inwardly toward the shell and provided between its ends, with a transverse groove 27. A switch in the form of a strip 28 of conductive material is slidable on the shell and within the guides or brackets, this strip being provided between its ends with a transverse rib 29 normally seated in the groove 27 in the spring strip 26. Contact studs 30 are extended inwardly from the end portions of the strip 28 and slide within slots 31 in the shell 1, the said studs being so located that when the sliding strip or switch

member 28 is held in intermediate position by the rib 29 in groove 27, the two studs will engage the peripheral portions of the insulating disks 16 and neither bulb will be lighted. Finger pieces 32 are arranged on the switch member 28 near each end and by means thereof the said member can be shifted in either direction away from normal position. When the switch member 28 is thrust to the right in Figure 1 it establishes a circuit from the left strip 22 and its disk 18 to the disk 13 at the right with the result that the right hand bulb will be illuminated, as will be obvious by referring to Figure 3. When the switch member is moved in the opposite direction from normal the other lamp will be lighted as illustrated in Figure 4.

It will be noted that the flanges 19 are beveled so that the parts can be inserted readily into the shell without becoming hung on the studs 30. The beveled faces also exert a slight lift upon the studs so that certainty of contact is insured. The batteries can be inserted from either end, as will be apparent and with positive poles toward either lamp. The reflectors and other members of the units are interchangeable and can be inserted into the shell with the utmost freedom due to the fact that any points on the circumferences of the disks can be engaged by the studs. Thus wear upon the parts is likewise distributed.

While the present device more than doubles the practical and emergency value of the flashlights heretofore devised, it adds very little to the cost of manufacture or to the weight, this slight increase being more than offset by the extreme value of the device in an emergency when, should one lamp be rendered useless because of breakage or the like, the other can be promptly brought into play.

What is claimed is:—

1. In a flashlight the combination with a shell, and a battery insertible into the shell from either end, of separate similar conductive illuminating units detachably engaging and within each end of the shell for holding the battery in position and in operating relation with the units, each unit including spaced conductive disks, an insulating disk therebetween, a reflector carried by one of the conductive disks, a lamp carried by the reflector, and a battery engaging contact carried by the other conductive disk, and a switch member inovably mounted on

the shell and normally engaging the insulating disks of the units, said member being shiftable in either of two directions to engage one conductive disk of each unit to place one of the lamps in circuit with the battery.

2. In a flashlight the combination with a shell, and a battery therein, of spaced conductive disks, an insulating disk therebetween and secured thereto, a reflector carried by one of the spaced disks, a lamp carried by the reflector, a battery engaging contact carried by the other conductive disk, and a switch normally contacting with the insulating disk and shiftable to the periphery of either of the other disks.

3. In a flashlight the combination with a shell, of a conductive unit insertible thereinto and including spaced conductive disks, an insulating disk therebetween and secured thereto, a sleeve carried by one of the conductive disks, a reflector carried by said sleeve, a contact strip carried by the other conductive disk, a lamp engaging the reflector sleeve, said reflector surrounding and being detachable from the lamp and having a shell engaging flange at its outer end, a lens engaging insulation straddling said flange, and a lens cap detachably engaging the shell for clamping a lens upon the flange of the reflector.

4. In a flashlight the combination with a shell of insulating material and having spaced slots, of a battery insertible into the shell from either end, conductive units insertible into the respective ends of the shell, each unit including conducting disks, an interposed insulating disk, a reflector carried by one of the conducting disks, a battery engaging contact carried by the other conducting disk, a reflector, a lamp carried thereby, a lens, and means for binding the lens against the reflector to hold the disks positioned within the shell, a switch member slidable on the shell, contacts thereon and slidable within the slots to engage the peripheries of the disks, and means upon the shell for holding the switch member normally with its contacts in engagement with the insulating disks.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

LESLIE C. MATSON.

Witnesses:
J. M. LEHR,
WM. METCALF.