Feb. 17, 1953 G. R. FROHLICH 2,629,045

FLASHLIGHT HAVING A CENTRAL ADJUSTABLE LAMP CARRIER

Filed Oct. 27, 1949

Fig. 1.

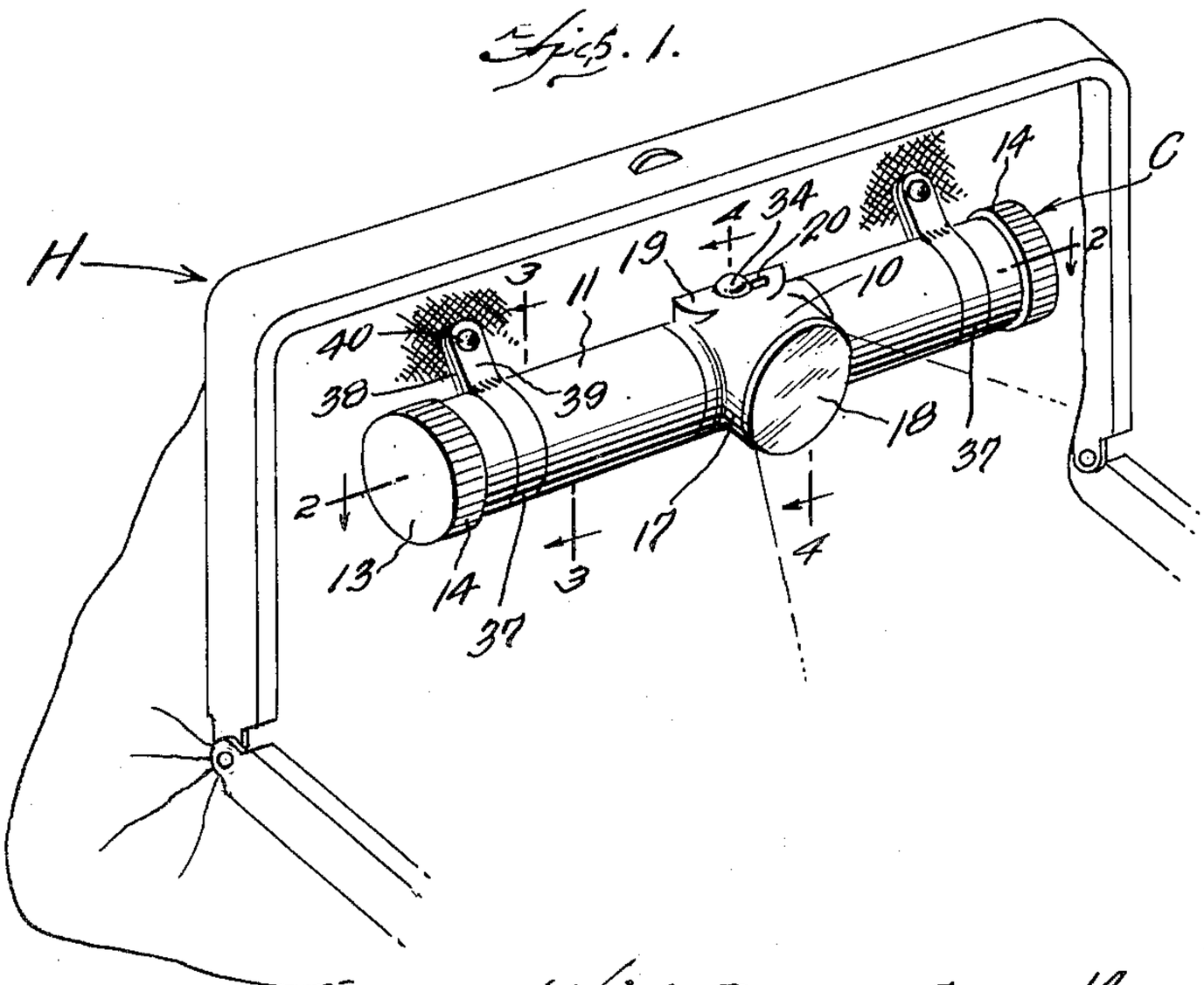


Fig. 2.

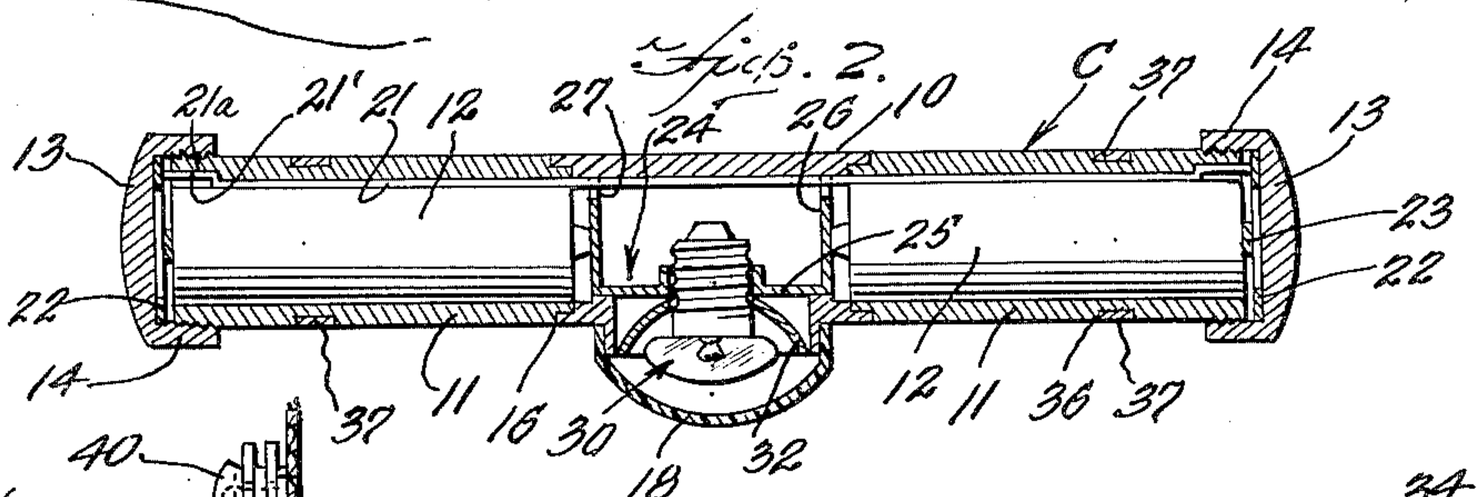
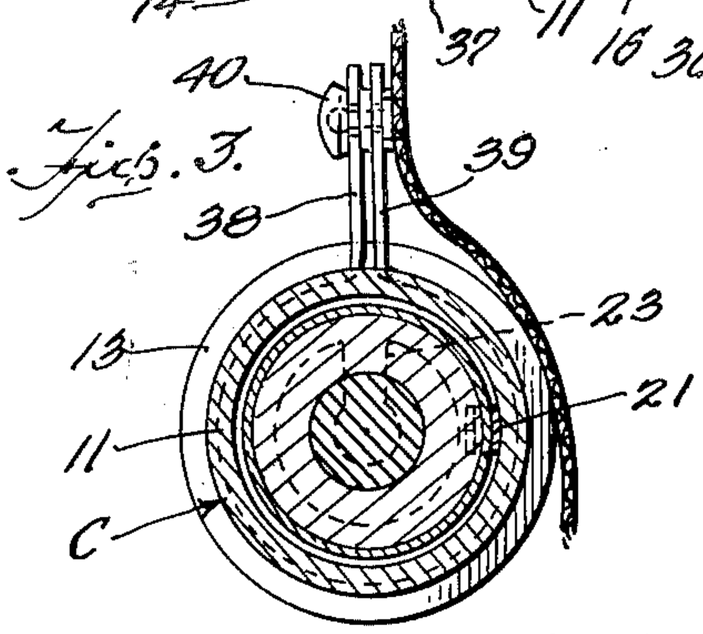
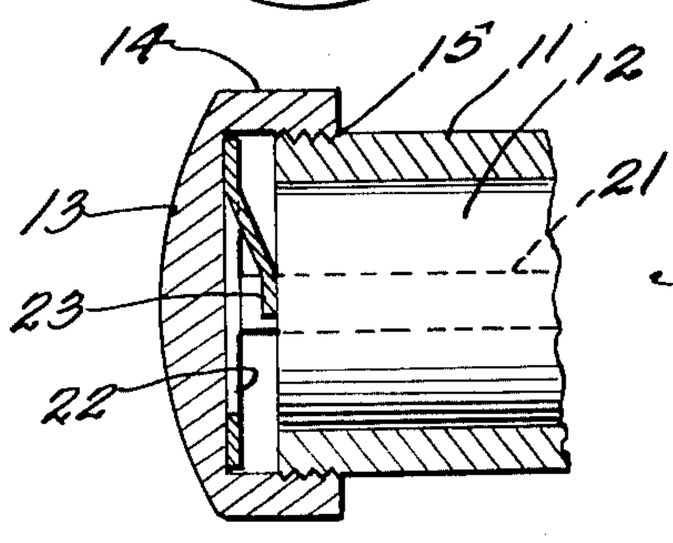


Fig. 3.





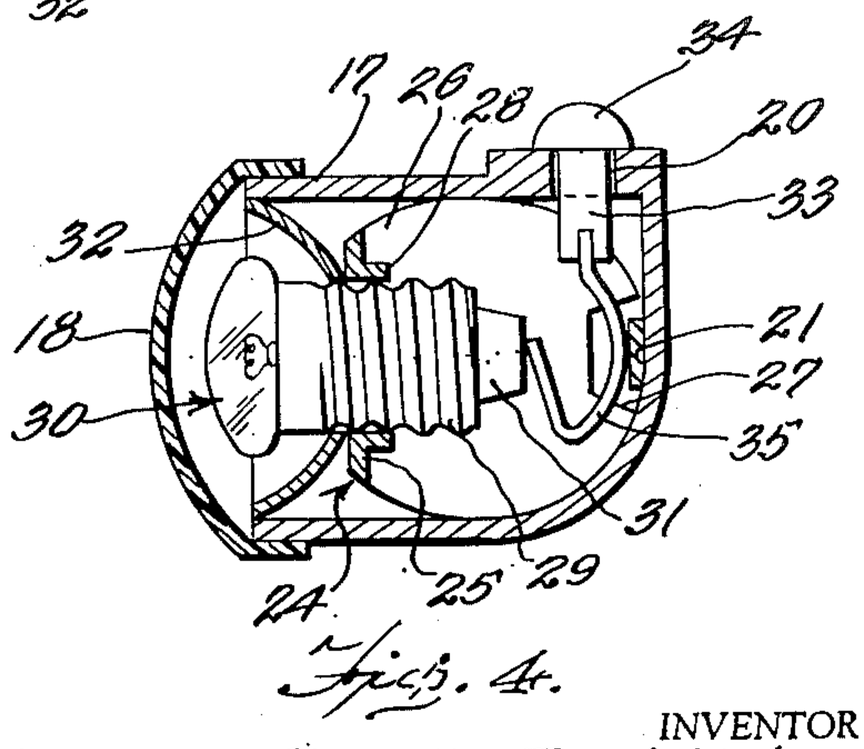


Fig. 4.

Fig. 5.

INVENTOR
Gus R. Frohlich

BY Wilfred L. Lawson

ATTORNEY

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FLASHLIGHT HAVING A CENTRAL ADJUSTABLE LAMP CARRIER

Gus R. Frohlich, Los Angeles, Calif.

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1 Claim. (Cl. 240—10.67)

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This invention relates to improvements in electric hand or flash lights and a particular object of the invention is to provide a light of this kind having a long casing with the incandescent lamp in the middle portion thereof between a pair of batteries, wherein a novel and simple arrangement is provided to electrically couple one side of the lamp filament with the terminals of like polarity of the two batteries.

Another object of the invention is to provide in a device of the character stated, a novel means of providing a common conductor for the other two poles of the batteries and for establishing at will the necessary electrical connection between such conductor and the other side of the lamp filament to complete the electric circuit necessary to energize the lamp.

Still another object is to provide a novel sliding switch arrangement for opening and closing said circuit.

Yet another object is to provide a novel means for mounting a light unit within a hand bag or other receptacle whereby the light may be conveniently turned to direct the light rays in a desired direction.

Other objects and advantages will appear as the description proceeds and the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming a part of the specification, with the understanding, however, that the invention is not to be limited to the exact details of construction shown and described since obvious modifications will occur to a person skilled in the art.

In the drawing:

Figure 1 is a view in perspective illustrating an electric light constructed in accordance with the present invention and showing the same mounted upon the inside of a hand bag.

Figure 2 is a longitudinal sectional view taken substantially on the line 2—2 of Figure 1, the plane of section paralleling the longitudinal axis of the lamp base and the lamp and batteries being left in elevation.

Figure 3 is a transverse section, on an enlarged scale taken substantially on the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a transverse section, on an enlarged scale taken substantially on the line 4—4 of Figure 1, looking in the direction of the arrows, the lamp and movable switch element being left in elevation.

Figure 5 is a longitudinal fragmentary section, on an enlarged scale, of one end of the device, in a plane perpendicular to the section plane for Figure 2, showing details of a battery terminal connection.

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Referring now more particularly to the drawing, it will be seen that one application of the invention has been shown, as being mounted upon the inside of a hand bag which is generally designated H. It is to be understood, however, that this is not the only use to which the invention may be put, as it will be readily obvious that it may be mounted in other receptacles without departing from the spirit of the invention.

The light comprises a long, tubular casing or housing, generally designated C, which is made up of a central switch and bulb carrying section 10; the two lateral or side sections 11, of tubular form, in which the batteries 12 are housed, and the end cap sections 13, each of which has a skirt portion 14 in which is threadedly secured the adjacent end of a lateral section as indicated at 15.

The caps 13 are knurled or ribbed around the outside of the flanges or skirts as shown in Figure 1, to facilitate turning the light as hereinafter described.

The central section and the lateral sections are secured together by the press fitted interengaging flanges 16 as shown in Figure 2.

As is clearly shown the central section, while shorter than the lateral sections, is approximately tubular and at its ends, is of the same outside and inside diameter as the ends of the lateral sections to which it is joined and into which it opens.

Extending from the side of the central section is a neck 17, over the open outer end of which is secured, in a suitable manner, a transparent lens or bulls-eye 18.

Formed in the flattened top 19, of the section 10, is a slot 20, the length of which is directed longitudinally of the casing.

Running lengthwise of the entire casing, that is through the central and lateral sections 10 and 11, and at the back of the casing, is a current conductor or bus bar 21, which is held in position by having a portion 21', at each end, offset and engaged in a recess 21*a* in the wall of the adjacent section 11. Each end of this conductor projects slightly beyond the end of the adjacent section as clearly shown in Figures 2 and 5.

Within each cap 13 is a flat metal annulus 22, against one face of which the adjacent end of the conductor abuts, for electrical connection therewith, and such annulus has as an integral

part, an inwardly projecting resilient terminal 23 which is pressed against the metal casing bottom which forms one pole of the adjacent battery 12.

Within the central section 10 is a current conducting bridge 24, which, when viewed in side elevation as in Figure 2, is U-shaped and comprises the longitudinal bar 25 and the right angularly directed, parallel legs 26.

The bar 25 is disposed across the inner end of the neck 17 and each of the legs 26, is of the proper circular form to engage in the circular part of the central section, in position to be engaged, and electrically connected with the central terminal forming the other pole of a battery 12.

The edge of each of the disk like legs 26, at the rear part thereof is provided with a cut-out or notch 27, see Figure 4, for the passage of the conductor bar 21.

The bar 25 has a central opening defined by an inwardly projecting sleeve 28, which is suitably formed to receive and have electric contact with the shell 29 forming one terminal of an electric incandescent lamp 30. The other, and end, terminal 31 of this lamp is directed toward, but spaced from the conductor bar 21.

A suitable reflector 32 is secured in the neck 17 between the head of the lamp and the lens 13, in the conventional manner.

Slidably lengthwise of the slot 20 is a switch pin 33 which has a button 34 on its outer end for its actuation.

The pin 33 has fixed thereto one end of a resilient bowed metal switch blade 35 which has the convex side thereof disposed in sliding contact with the conductor bar 21, as shown in Figure 4. The other end of the blade is set at an angle to come into contact with the terminal 31 of the lamp when the three parts 33, 34 and 35, making up the switch, are shifted in the proper direction.

In this manner the circuit including the batteries and lamp is closed.

For the convenient mounting of the light for turning on the long axis of the casing, each section 11 has formed in and around the outside thereof the channel 36, in which is engaged a split band ring 37, having the two, relatively long terminals 38 and 39.

The terminal 39 is secured in a suitable manner to the inside of the receptacle H and carries one of the two parts of a snap fastener 40, the other terminal 38 carrying the other part of the fastener, as shown in Figure 3. Thus when the two terminals 38 and 39 are coupled together the band will be engaged in an annular channel and as two of the bands are employed it will be seen that the light may be readily turned. The knurled or roughened edges of the caps 13, facilitate such action.

From the foregoing it will be apparent that there is provided in the present invention a light of unique construction which will greatly assist in the location of articles in a hand bag or satchel in which the light is mounted and may also be detached and used as a hand flash light when desired.

I claim:

In a flashlight, an elongated tubular body formed of separable interconnected end and intermediate sections, an open cylindrical neck portion projecting laterally from the center of said intermediate section, a U-shaped member of sheet metal having circular end portions interconnected by a straight central portion fitted within said intermediate section with the central portion extending across the inner open end of said neck portion, an annular flange encircling an aperture formed in the center of said central portion and constituting a socket for a lamp bulb, a reflector encircling said lamp bulb and supported within said neck portion on the base thereof, a concavo-convex lens seated over the outer end of said neck portion, an electric cell housed within each of said end sections, a metal conductor extending through the body between the bottoms of said cells, the positive electrodes of said cells bearing against the said circular end portions of the member, caps closing the outer ends of said end sections, resilient switch element disposed in contact with said conductor, means for moving said switch element into and out of contact with the center contact of the base of the lamp bulb, and a bracket carried by each of said end sections to support the body in a fixed position of use, said intermediate section being slip jointed to the adjacent ends of said end sections whereby it may be turned relatively to the end sections to vary the angular direction of the light beam from said lamp bulb and the reflector.

GUS R. FROHLICH.

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