Aug. 30, 1938. C. E. FORTINE 2,128,810

COMBINED FLASHLIGHT AND TESTER

Filed Jan. 9, 1937

Fig. 1.

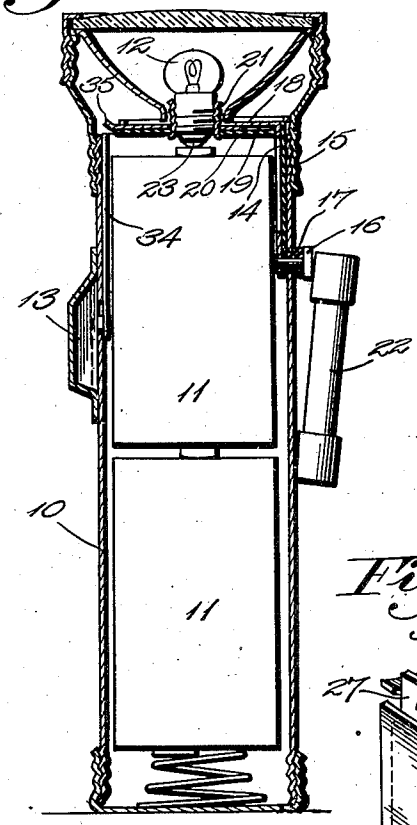


Fig. 2.

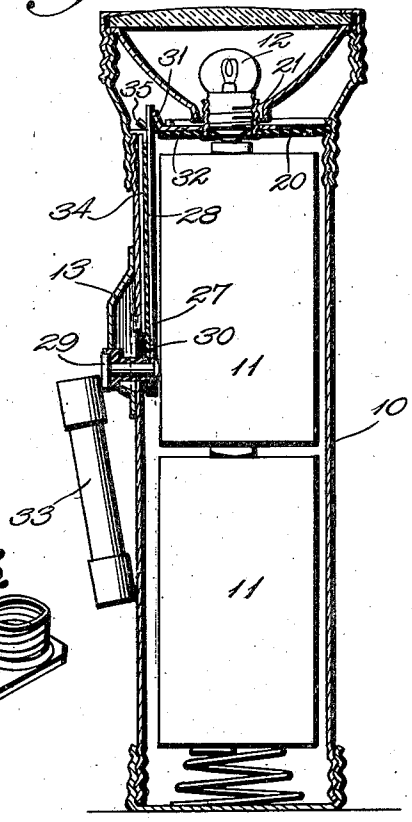


Fig. 8.

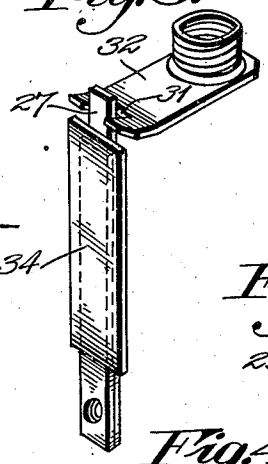


Fig. 6

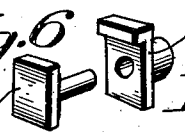


Fig. 7.

Fig. 3.

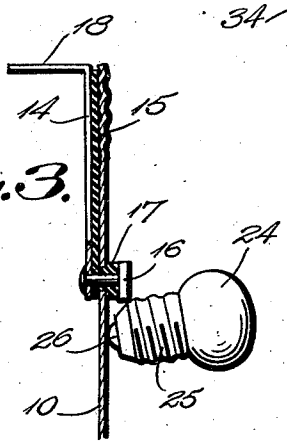


Fig. 4.



Fig. 5.



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COMBINED FLASH LIGHT AND TESTER

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Application January 9, 1937, Serial No. 119,850

2 Claims. (Cl. 175—183)

This invention relates to combined flash lights and testers and has for an object to provide a flash light having a contact for testing cartridge fuses and bulbs of low voltage such as Christmas tree ornaments and other bulbs.

A further object is to provide a device of this character which may be combined with the conventional switch of a flash light so that a fuse or bulb may be tested by simply placing one terminal thereof against the contact and the other terminal thereof against the casing of the flash light, the flash light bulb lighting if the fuse or bulb being tested is in good working order.

A further object of the invention is to provide a device of this character which will be formed of a few strong simple and durable parts, which will be inexpensive to manufacture, and which will not easily get out of order.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawing forming part of this specification,

Figure 1 is a longitudinal sectional view through a flash light equipped with an additional contact for testing fuses, small bulbs and the like.

Figure 2 is a longitudinal sectional view of a flash light in which a testing contact is assembled with the conventional switch of the flash light.

Figure 3 is a detail sectional view of the flash light and illustrating the testing of a small bulb.

Figure 4 is a detail perspective view of an insulating strip.

Figure 5 is a detail perspective view of the tester electrical conductor bar.

Figure 6 is a detail perspective view of the rivet for assembling the tester conductor bar with the conventional switch of the flash light.

Figure 7 is a perspective view of the insulating bushing in which the rivet is mounted.

Figure 8 is a perspective view of the conductor bars of the tester and switch shown in Figure 2.

Referring now to the drawing in which like characters of reference designate similar parts in the various views, 10 designates a conventional flash light casing, 11 flash light cells, 12 the flash light bulb and 13 the flash light switch, these parts being conventional.

In carrying out the invention a tester conductor bar 14 is insulated from the flash light casing by means of an insulating strip 15 and is connected at the lower end to a testing contact 16 which may be a rivet passing through the flash light casing and insulated therefrom by a bushing 17. The upper end of the conductor bar is bent laterally, as shown at 18, to engage with a conductor bar 19 which is supported by an insulating disc 20 and engages the metal socket 21 which receives the flash light bulb 12.

To test a cartridge fuse 22 one terminal of the fuse is placed against the testing contact 16 while the opposite terminal is placed against the casing 10 of the flash light thereby closing the flash light bulb circuit which may be traced from the battery to the center contact 23 of the bulb, socket 21, conductor bar 19, tester conductor bar 14, and tester contact 16, through the fuse to the casing which is grounded as usual to one pole of the lowermost battery. Thus if the fuse is good the flash light bulb will be illuminated and indicate that the fuse is in good working order.

As shown in Figure 3 if a small bulb 24 is to be tested the outer contact 25 of the bulb may be placed against the tester contact 16 and the center contact 26 may be placed against the casing 10 of the flash light whereupon the circuit just traced will be closed if the lamp is in good working order and the flash light bulb 12 will be lighted.

As shown in Figure 2 the testing contact may be assembled with the conventional switch 13 of the flash light and for this purpose a relatively long conductor bar 27 is mounted on an insulating strip 28 and both the strip and the bar are connected to a tester contact 29 which may be in the form of a rivet which extends through an insulating bushing 30 and insulates the contact from the casing 10 of the flash light.

The upper end of the conductor bar 27 is slidably fitted against an upturned tongue 31 projecting from a conductor bar 32 that is supported upon the insulating disc 20 of the flash light and engages the metal socket 21 that receives the flash light bulb 12.

When the switch 13 is in off position the conductor bar 27 will be in engagement with the tongue 31. A cartridge fuse 33 may be tested by placing one terminal thereof against the testing contact 29 and the other terminal against the casing 10 of the flash light. If the cartridge is in good working order it will close the flash light circuit and the flash light bulb 12 will be lighted, but if the fuse is not in good working order, the

flash light circuit will not be closed and the flash light bulb will not be lighted thus indicating that the fuse is burned out.

It will be observed that when the testing contact 29 is assembled with the conventional switch it does not interfere in any manner with the normal operation of the flash light as a flash light since the conventional conductor bar 34 of the conventional switch is insulated from the tester conductor bar 27 by the strip of insulation 28 and may be moved to closed circuit position against the conventional tongue 35 on the conductor bar 32 by sliding the switch 13 in the usual manner forwardly or may be moved to open circuit position by sliding the switch 13 rearwardly in the usual manner, in either case the conductor bar 27 sliding as a unit with the switch and by virtue of its length always remaining in closed circuit position in contact with the tongue 31 of the conductor bar 32.

It will be pointed out that when testing some bulbs 24 the bulbs 24 will light instead of the bulb 12, and when testing other bulbs 24 the bulb 12 will light depending upon the type of bulb being tested. When testing flash light bulbs and radio pilot bulbs both the bulb 24 and the bulb 12 will light.

From the above description it is thought that the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

1. The combination with a portable flash light having a casing, a light circuit, and a switch in the circuit having an operating button slidably mounted on the side of the casing intermediate the ends of the casing, of an insulated conductor slidably mounted in the casing and connected in closed circuit position in the light circuit both in the "on" and in the "off" positions of the switch, and an insulated test terminal connected to the conductor and projecting through the button, said test terminal having an uninsulated free end forming a contact exposed exteriorly of the button, the arrangement being such that the lamp circuit is closed when the terminals of an operative lamp or fuse to be tested are brought respectively into contact with the casing and with the contact.

2. The structure as recited in claim 1 in which the test terminal consists of a rivet performing the dual function of securing the conductor to the button and forming an exposed contact exteriorly of the button.

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