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J. J. DUNCAN

2,550,233

FLASHLIGHT, FUSE, AND CIRCUIT TESTER

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Fig. 1.

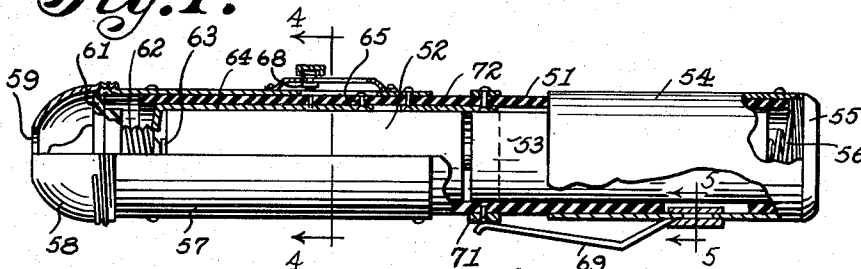


Fig. 2.

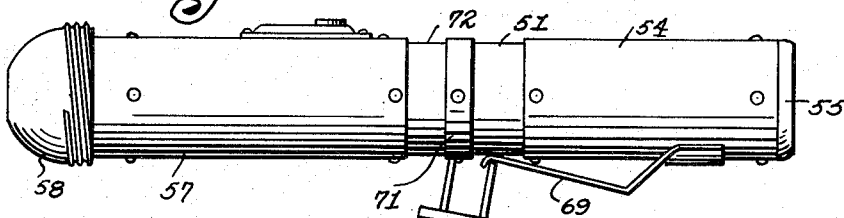


Fig. 4.

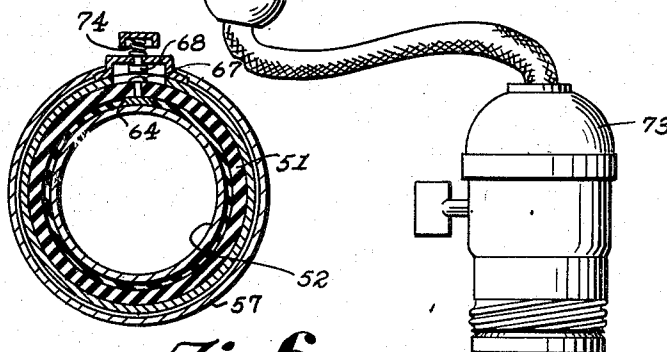


Fig. 5.

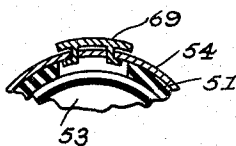


Fig. 6.

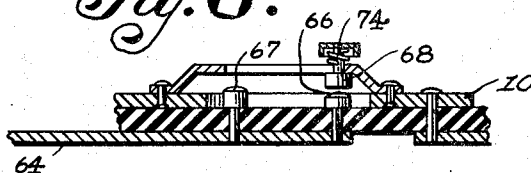
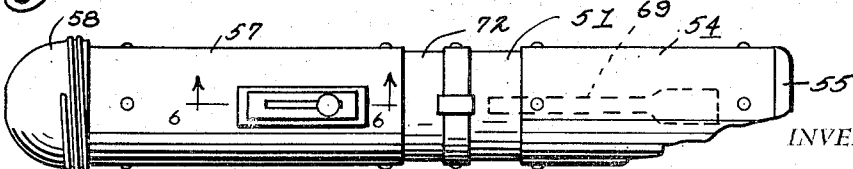


Fig. 3.



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## UNITED STATES PATENT OFFICE

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## FLASHLIGHT, FUSE, AND CIRCUIT TESTER

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1 Claim. (Cl. 175-183)

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This invention relates to a combined electric flashlight and fuse or circuit tester.

It is an object of the present invention to provide in a flashlight an assemblage of parts so arranged that an electric current established by the batteries within the flashlight may be delivered through a fuse or circuit to be tested upon the operation of one switch of the flashlight to cause the lamp to be placed in the circuit with the batteries so that a signal will be given after a circuit is completed through the fuse or circuit being tested.

Other objects of the present invention are to provide a combined flashlight or fuse or circuit tester, which is of simple construction, inexpensive to manufacture and efficient in operation.

For a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a side elevational view of the testing flashlight which is of the shape of a slender pencil type flashlight adapted for insertion in a coat pocket, portions of the device being broken away and shown in section,

Fig. 2 is a side elevational view of the combined flashlight and tester being applied to a lamp socket cord for the purpose of testing the circuit through the lamp socket, the cord plug terminals contacting with a ring and clip part of the device,

Fig. 3 is a top plan view of the combined flashlight and tester,

Fig. 4 is an enlarged sectional view, taken on line 4-4 of Fig. 1,

Fig. 5 is an enlarged sectional view taken on line 5-5 of Fig. 1,

Fig. 6 is an enlarged fragmentary view taken generally on line 6-6 of Fig. 3.

Referring now to the drawings wherein like reference characters denote corresponding parts wherein there is shown my pocket type flashlight and tester. This tester and flashlight comprises a casing 51 of insulating material adapted to contain batteries 52 and 53. Over the rear of the casing 51 is a metal sleeve 54 to which is threaded a cap 55. A contact spring 56 extends between the cap and battery 53. About the front of the casing is a long metallic sleeve 57 to which is threaded a nozzle light retainer 58 having a hole 59 through which light rays are extended. The sleeve 57 supports an insulating member 61 which in turn supports a lamp bulb 62. This lamp bulb engages at its center with a terminal 63 of battery 52. A metallic terminal strip 64 contacts the bulb 62 and is secured to the insulating

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casing 51 through rivets 65 having contact portions 66 and 67, Figure 6, on which slidable push button 68 may be imposed. The push button 68 upon being brought forward will automatically engage with the contact terminal 67 without having to depress the same. This action will cause the light to be turned on and remain so until the push button is withdrawn. Fixed to the metal sleeve 54 is a pocket clip 69 having contact with a ring 71 on the casing which is connected with the metal sleeve 57 through a conductor bar 72.

When the push button contact 68 is in engagement with the contact 67 current will flow through battery 52, lamp bulb 62, metal strip 64, contact 67, push button 68, metal sleeve 57, bar 72, ring 71, clip 69, metal sleeve 54, cap 55, spring 56, battery 53 and the battery 52.

When the device is used for testing, the push button 68 is moved rearwardly to a location over contact 66. When the push button is depressed engagement is made with the contact 66, Figure 6, and current will flow through the same circuit. The clip 69 is slidable on the sleeve 54 and can be withdrawn to the position shown in Figure 2 out of engagement with the ring 71 and an element to be tested is disposed in circuit relationship between the clip 69 and the ring 71 in the manner shown in Figure 2. This element being tested is in the form of a lamp socket as indicated at 73. The push button 68 is depressed against the action of its spring 74 when the test is to be performed.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claim.

I claim:

In a testing flashlight, the combination which comprises a tubular casing of insulating material, a light bulb socket mounted in one end of the casing, batteries positioned in the casing with a center terminal of one of the batteries positioned for engagement with the terminal of a light bulb in the said socket, a metal sleeve slidably mounted on the end of the casing opposite to that in which the light bulb socket is positioned, a spring providing connecting means between the metal sleeve and end of a battery, a clip carried by the metal sleeve and extended beyond the end thereof to a point intermediate of the length of the casing, a metal band positioned on the casing spaced from the end of the metal sleeve and positioned to be engaged by the extended end of the said clip, an inner bar con-

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nected to the band by a rivet extended through the casing, a frame having an elongated slot therein positioned on the outer surface of the casing and with the intermediate part thereof spaced from the casing, a rivet connecting the frame to the said inner bar, a pair of terminals mounted in spaced relation in the casing and positioned under the slot of the frame, an inner bar connected to said pair of terminals through the casing and extended to the light bulb socket, and a button slidably mounted in the slot of the frame and positioned to engage one terminal of the said pair of terminals to complete a circuit through the light bulb and positioned in spaced relation to the other terminal of the said pair of terminals when moved to the opposite end of the slot, said button mounted to be depressed to engage the said other terminal to test a circuit, one terminal of which is in engagement with the band on the casing and the other with the clip

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of the slidably mounted metal sleeve with the said metal sleeve actuated to a position in which the end of the clip is spaced from the band.

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