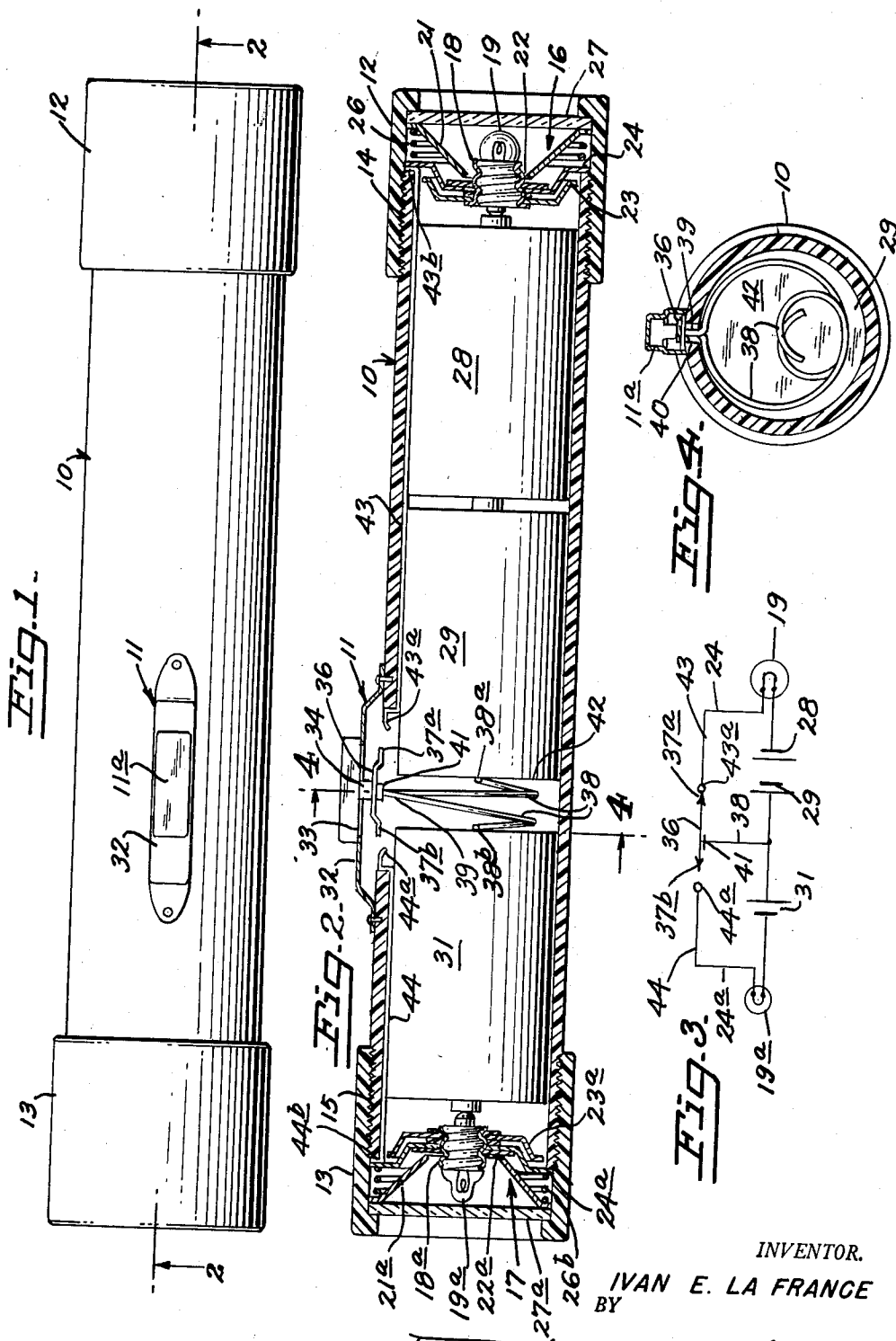


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FLASHLIGHT CONSTRUCTION

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FLASHLIGHT CONSTRUCTION

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This invention relates to a new and improved flashlight construction.

A principal object of the present invention is to provide a new and improved flashlight construction of the type characterized as being provided with illuminating lamps at opposite ends of the battery casing for selective alternative energization. The present flashlight construction may be utilized advantageously as a combination utility and emergency signal light—the preferred embodiment of the invention being provided at one end with a white light source for directing a beam of white light when the device is used for ordinary illumination purposes, and being provided at its other end with a colored light source for utilization as an emergency signal light. In this connection, it has been found that a lamp embodying the features of the present invention to be hereinafter described can be used to great advantage by persons, such as train conductors, for example, whose work requires readily available use of both conventional utility flashlights in addition to emergency signalling lights or devices. It is understood, of course, that the particular or preferred uses to which the present construction may be put, are not limiting factors in considering the scope of the invention.

Another object of the invention is to provide a flashlight construction comprising first and second electrical lamps mounted at opposite ends of the battery casing and a plurality of batteries establishing first and second independent battery circuits for respectively actuating said first and second lamps, and wherein a single novel switch means is provided for selectively energizing one or the other of said lamps from current supplied by one of the two battery circuits.

Other numerous objects and advantages of the present invention will become apparent upon reading the following specification, and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

Fig. 1 is a plan view of the flashlight construction.

Fig. 2 is a longitudinal sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a wiring diagram showing the electrical battery circuits for selectively energizing the lamps.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 2.

Referring now more specifically to the drawings, the particular embodiment of the flashlight construction illustrated is shown as comprising a tubular battery casing 10, preferably formed of electrically non-conductive and weather resistant material, such as extruded plastic or the like; a switch mechanism, indicated generally at 11, mounted exteriorly of the battery casing; and oppositely disposed lens housings 12 and 13, each of which is adapted to be threadedly attached as at 14 and 15 to opposite ends of the battery casing.

The reference numerals 16 and 17 designate generally lamp-housing assemblies mounted to opposite ends of the

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battery casing, and retained in position by lens housings 12 and 13 respectively. Lamp housing assembly 16 comprises, more specifically, a lamp socket 18 threadedly receiving an electric lamp 19 and a conventional lamp reflector 21 which is provided with a central aperture 22 through which the lamp 19 projects. The lamp socket 18 is also provided with a centering disk 23 having a diameter only slightly less than the interior diameter of battery casing 10, and an electrical contact disk 24 which is adapted to overlie the end circumferential edge of casing 10 and in which position it is securely maintained by expansion spring 26 disposed between the reflector 21 and disk 24. A conventional lens 27 of glass or other transparent material is mounted within cap 12.

The lamp housing assembly 17 mounted at the opposite end of the battery casing, may be constructed substantially identically to the assembly 16 above designated. Accordingly, the component elements comprising assembly 17 are numbered similarly to the corresponding component elements comprising assembly 16, but are suffixed by the letter "a" to distinguish them in the drawings.

The battery casing is adapted to retain a plurality of dry cell batteries as indicated at 28, 29 and 31 respectively. In the arrangement shown, batteries 28 and 29 are provided in series to energize lamp 19, whereas dry cell battery 31 is provided to energize lamp 19a upon appropriate movement of switch 11, as will more fully hereinafter appear.

The switch mechanism heretofore designated generally at 11 comprises a housing 32 formed with an elongate slot 33 adapted to slidably support the stem 34 of switch button 11a. The inwardly projecting end of stem 34 is provided with a contact finger 36 having terminals 37a and 37b which project towards opposite ends of the battery casing. An electrically conductive partitioning member comprising a spring 38 and having its upper end 39 embedded within, or otherwise secured to battery casing 10, as at 40, is provided interiorly of the casing between dry cell batteries 29 and 31. The upper end 39 of the spring contact 38 is provided with a contact brush 41 disposed in slideable electric contact with the underside of contact finger 36. It will be observed that dry cell 29 (which in conjunction with dry cell 28 is adapted to supply current to lamp 19), is retained in casing 10 with its zinc casing base portion or terminal 42 in contact with slide 38a of the spring contact member 38. Dry cell battery 31, which is adapted to supply current to lamp 19a, is similarly disposed within the battery casing with its base terminal in contact with the side 38b of spring contact 38.

An electrical conduit comprising an electrically conductive strip 43 including terminals 43a and 43b extends longitudinally interiorly of the battery casing for establishing an electrical circuit between contact disk 24 of lamp housing 16 and switch mechanism 11. Electrically conductive strip 44 including terminals 44a and 44b is similarly provided to establish an electrical circuit between contact disk 24a of lamp housing 17 and switch mechanism 11.

In operation, when the switch button 11a is moved slidably to the right or toward lamp housing 16, terminal 37a of switch contact finger 36 will be moved into contact with terminal 43a of conduit 43 and thereby establish an electric circuit from batteries 28 and 29 via lamp filament 19, lamp socket 18, contact disk 24, conduit 43, contact finger 36, brush element 41, and spring contact 38 in engagement with terminal 42 of battery 29.

Movement of switch button 11a to the left or toward lamp housing 17 will, of course, cause terminal 37b of contact finger 36 to engage conduit 44 and thereby ener-

gize lamp 19a through current supplied from battery 31 via the lamp filament, lamp socket 18a, contact disk 24a, conduit 44, contact finger 36, brush 41 and spring contact element 38 in contact with the base terminal of battery 31.

It is believed evident that when switch button 11a is moved to its central position with respect to slot 33 neither of the contact finger terminals 37a or 37b will be engaged with their respectively associated conduit strips 43 and 44, and hence both of the aforementioned battery circuits will be open and neither of the lamps 19 or 19a will be energized.

The spring contact element 38 in addition to comprising a common part of each of the two separate battery circuits, also functions to maintain the dry cell batteries spring biased into intimate electrical contact with their respectively associated lamps.

As heretofore noted, it is a principal object of the invention to provide a double-end flashlight which may be used alternatively as a utility light or as an emergency signal device. Accordingly, in the preferred embodiment and use of the invention one of the two lenses 27 or 27a is made of clear uncolored transparent glass or transparent plastic for directing a beam of white light for ordinary illumination purposes, whereas the other of the lenses is colored red, for example, so as to emit a red light for emergency purposes.

It is further noted that two entirely separate battery circuits are provided to energize the two lamps. Hence if the batteries in one of the two circuits should become weak or exhausted, the other battery circuit would not be affected and would remain operative. Moreover, if on a given occasion, the flashlight is being utilized as an emergency signaling device, and the battery circuit to which the signal lamp end is ordinarily connected becomes exhausted, it is apparent that the normal utility battery circuit can then be utilized for emergency signalling simply by reversing the interchangeable colored and uncolored lens housings 12 and 13.

Although the flashlight construction shown in the drawings, and hereinabove described, incorporates two batteries 28 and 29 in series for illuminating one of the lamps, and a single battery 31 for illuminating the other lamp, it will be readily appreciated that a lesser or greater number of batteries for illuminating the lamps 19 and 19a could be employed, if so desired.

Although I have described the present invention in some detail for purposes of illustration and example, it is understood that various changes and modifications may be practiced within the spirit of the invention and scope of the appended claims.

I claim:

1. A flashlight construction comprising a tubular battery casing; first and second electrical lamps mounted at opposite ends of said casing; an electrically conductive partition member disposed interiorly of said casing; a first battery disposed in said casing to the first side of said partitioning member having one of its terminals electrically connected with said partition member and having its other terminal electrically connected to the filament of said first lamp; a second battery disposed in said casing to the second side of said partitioning member with one of its terminals electrically connected to said partitioning member and having its other terminal electrically connected to the lamp filament of said second lamp; first means including a manually operative switch mechanism for selectively opening and closing a first circuit from said first battery through said first lamp filament and back to said first battery; and second means

including said manually operative switch element for selectively opening and closing a second circuit, independent of said first circuit, from said second battery via said second lamp filament and back to said second battery.

2. A flashlight construction according to claim 1 and wherein said partitioning member comprises an electrically conductive spring element disposed interiorly of said battery casing with its opposite sides in engagement with the zinc casing terminals of said first and second batteries.

3. A flashlight construction comprising a tubular battery casing; first and second electric lamp housings mounted at opposite ends of said casing supporting first and second electric lamps; an electrically conductive partition member disposed interiorly of said casing; a first battery disposed in said casing to the first side of said partitioning member with its casing terminal in electrical contact therewith, and with its carbon electrode electrically connected to the filament of said first lamp; a second battery disposed in said casing to the second side of said partition member with its casing terminal in electrical contact therewith, and having its carbon electrode electrically connected to the filament of said second lamp; a switch mechanism disposed exteriorly of said casing comprising a switch button provided with a contact finger having first and second terminals; a first conduit including a terminal located adjacent the first terminal of said contact finger electrically connected to said first lamp housing; a second conduit including a terminal located adjacent the second terminal of said contact finger electrically connected to said second lamp housing; means electrically connecting said partitioning member with said contact finger; said switch button mounted for slidable movement to a first position whereat said first terminal of said contact finger engages the terminal of said first conduit for establishing a first closed circuit from said first battery via said first lamp, said first lamp housing, said first conduit, said contact finger, and said partitioning member back to said battery; said switch button slidably movable to a second position whereat said second terminal of said contact finger engages the terminal of said second conduit for establishing a second closed circuit, independent of said first circuit, from said second battery via said second lamp, said second lamp housing, said second conduit, said contact finger, and said partitioning member back to said second battery.

4. A flashlight construction according to claim 3 and wherein said partitioning member comprises an electrically conductive spring element disposed interiorly of said battery casing with its opposite sides engaging the zinc casing terminals of said first and second batteries.

5. A flashlight construction according to claim 3 and wherein said partitioning member comprises an electrically conductive spring element disposed interiorly of said battery casing with its opposite sides engaging the zinc casing terminals of said first and second batteries; and wherein said means electrically connecting said spring partitioning member with said contact finger comprises a brush provided on said partitioning member and disposed in slidable electrical contact with said contact finger.

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