Aug. 5, 1952 H. B. MITCHELL 2,606,242

MULTICOLORED ELECTRIC FLASHLIGHT

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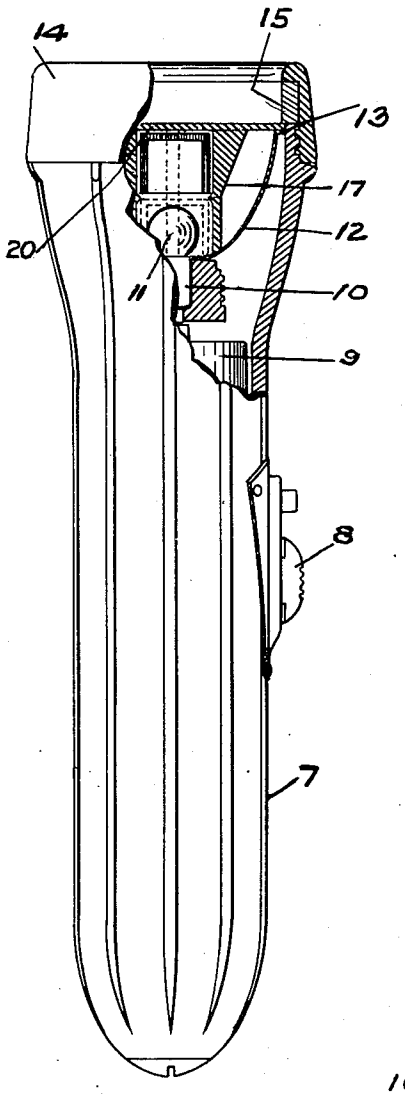


Fig. 1

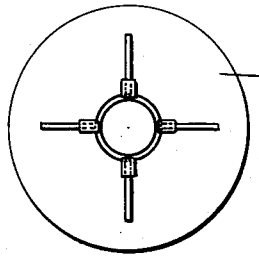


Fig. 2.

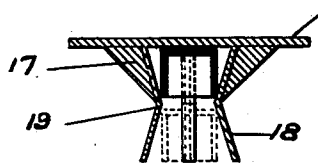


Fig. 3.

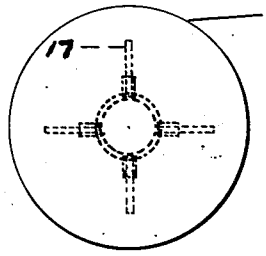


Fig. 4.

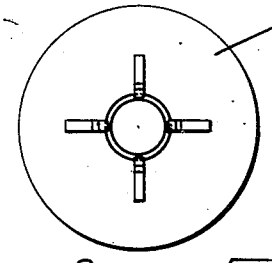


Fig. 5.

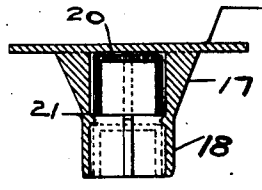


Fig. 6.

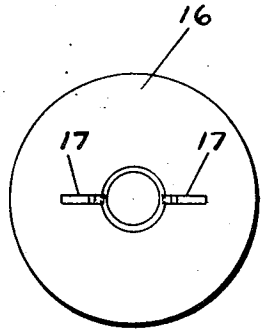


Fig. 7.

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MULTICOLORED ELECTRIC FLASHLIGHT

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3 Claims. (Cl. 177—327)

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This invention relates to portable lamps and more particularly to flashlights in which an incandescent lamp bulb is operated by a removable battery of dry cells.

The principal object of the invention is to provide means associated with a flashlight whereby the concentrated beams of light may be varied in color to first emit a clear or white light for illuminating objects, and as desired to present red beams to flash a warning signal when danger is imminent.

An additional object of the invention is the provision of a cap that is preferably made of red plastic material, as compared to the lens and seating means for the caps that are constructed of clear plastic, whereby the successive red and white beams may be optionally flashed.

A further object of the invention is the provision of a novel mounting of the cap relative to the lens of the flashlight.

An additional object of the invention is the production of a variable light changer that can be readily adjusted to the construction of standard flashlights, is economical to manufacture, positive in operation, strong, durable, readily replaceable and highly efficient and serviceable in use.

Other objects and advantages will be apparent during the course of the following description.

The preferred and modified forms of my invention are illustrated in the accompanying drawings in which,

Fig. 1 is an elevational view of a flashlight to which my invention is applied, the view being partially shown in section and disclosing the preferred form of the invention,

Fig. 2 is an inverted view of a modified form of retaining means for the colored cap of the invention,

Fig. 3 is a cross sectional view of Fig. 2,

Fig. 4 is a top plan view of Fig. 2,

Fig. 5 is an inverted view of the preferred form of the invention,

Fig. 6 is a fragmentary sectional view of the form of the invention disclosed in Fig. 1 and illustrating to advantage the top lens and the red colored plastic cap that is mounted in the vanes that are integrally moulded with the lens, and

Fig. 7 is a modified form of the invention in which two vanes are employed to retain the cap.

In the accompanying drawing wherein for the purpose of illustration like numerals refer to like parts throughout the same, the numeral 7 indicates a casing of any desired configuration that is provided with a conventional circuit closer 8. One or more of the batteries housed

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within the casing are indicated by the numeral 9 and serve to make electrical contact with the supported socket 10 that carries therein an electrical bulb 11.

A conventional parabolical metal reflector 12 is suitably secured to the socket. On the upper marginal flanged end 13 of the reflector rests the lens of the present invention which will be hereinafter fully described.

Any convenient open end closure 14 and a collar 15 may be employed to detachably retain the lens within the confines of the flashlight casing.

The lens 16 that is utilized in the present invention consists of a circular plate of clear plastic material as generally employed in flashlights. A plurality of vanes 17, terminating in depending legs 18, are moulded to the bottom of the lens so that there is in reality formed a one piece construction of lens, vanes and legs.

In the form of the invention disclosed in Figs. 2 and 3, the legs 18 flare outwardly from the vanes 17, as at 19, to thus frictionally retain in an adjusted position between the vanes, a cap 20. In Figs. 1, 5 and 6, the retaining means for the cap in said adjusted position are nubs 21 that are formed at the point of juncture of the vanes 17 and the legs 18.

Said cap 20 employed as the variable light changer, that is when the light is changed from white to red and vice-versa, is a red plastic cylindrical body having a lower open end. This cap is of a slightly greater diameter than that of the bulb 11 in order that the cap can readily encompass the bulb as the cap slides from its full line position of Figs. 3 and 6 to the dotted line position of said figures.

In the operation of my variable light changing invention, finger pressure applied to the center of the pliable lens 16 when the flashlight is held in an upright position will expand the flared arms of Fig. 3 or will move radially or outwardly the nubs 21 of Fig. 6. Thus the cap will readily drop from its seat within the vanes, will encompass the bulb and hence red beams of light will be diffused from the flashlight as the beams are reflected from the metallic reflector 12. Subsequently by turning the flashlight upside down, or in other words, by reversing the vertical position of the flashlight and repeating the same finger pressure on the center of the lens, the red colored cap will slide toward the lens. Release of the finger pressure will cause the cap to again be seated as originally retained by the nubs or frictionally gripped by the vanes. Thus the user will obtain the illumination of a clear light as

found in the conventional flashlight. In this instance there will only be present a negligible showing of red that will be entirely dissipated or will disappear when viewed from a distance.

While I have mentioned the color red as the constituent color of the cap, it is obvious that the cap could be made of varied colored lights for any desired purpose. The use of the red colored cap will be most effective and serviceable in converting a white light to a red light when danger is imminent, for instance when an automobile accident occurs and it is desired to flash a warning signal. The underlying principle of the invention of a variable colored light also has a splendid field of use in a variety of signalling devices, for instance railroad lanterns, and can also be used in illuminated toys.

It is to be understood that the forms of my invention herewith shown and described are to be taken as preferred examples of the same and that various changes relative to the shape, size, material and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a flashlight, the combination, with a lamp, a casing and a reflector, of a pliable lens made of clear plastic material, a plastic cap having transparent sides and having a lower open end and being made of a color that varies from the color of said lens, means carried by said lens for detachably supporting said cap therein, said cap capable of being dislodged from its supporting means upon the application of manual pressure to the center of said lens to cause said cap to encompass the lamp and to change the light rays to the color of said cap, said cap capable of being returned to its normal supported position beneath said lens when the flashlight is inverted.

2. In a flashlight, the combination, with a lamp, a casing and a reflector, of a pliable lens having a plurality of pliable arms depending therefrom, a cap having transparent sides and a bottom open end, said cap being normally retained beneath said lens and between the arms thereof and lying in the path of the light rays reflected from the lamp, said cap capable of being dislodged from said arms to encompass the lamp, when manual pressure is applied to the center of said lens to thus vary the color of the light diffused from the lamp, said cap capable of being returned to its normal seated position between said arms when the flashlight is inverted.

3. In a flashlight, the combination, with a lamp, a casing and a reflector, of a pliable lens made of clear plastic material, a plurality of spaced pliable arms integrally formed with said lens and depending therefrom, a red colored cap having a lower open end and transparent sides and adapted to be seated beneath said lens and between said arms, means provided in said arms to grip said cap adjacent the lower end thereof to prevent accidental displacement of the cap from said arms, said cap capable of being dislodged from the cap gripping means upon the application of pressure to said the center of lens, whereby the cap encompassing the lamp causes a diffusion of red light rays therefrom.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,104,911	Snyder	Jan. 11, 1936
2,361,480	Joffo	Oct. 31, 1944
2,431,091	Thomas	Nov. 18, 1947
2,434,741	Hefner et al.	Jan. 20, 1948