

Sept. 28, 1943.

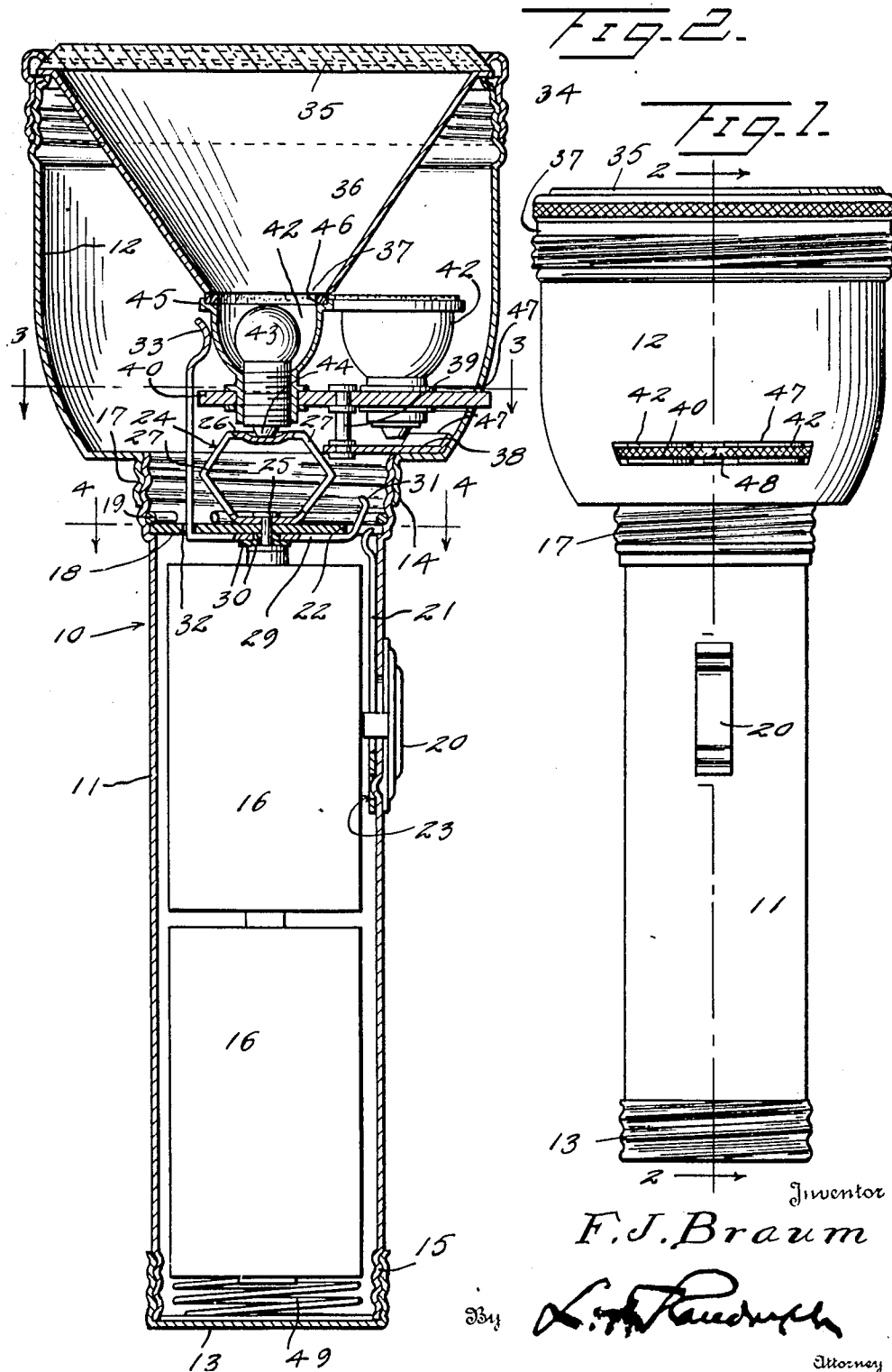
F. J. BRAUM

2,330,673

FLASHLIGHT

Filed Jan. 15, 1942

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Sept. 28, 1943.

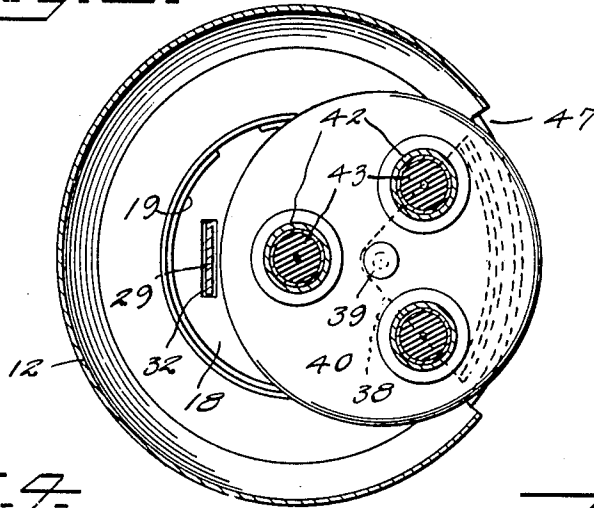
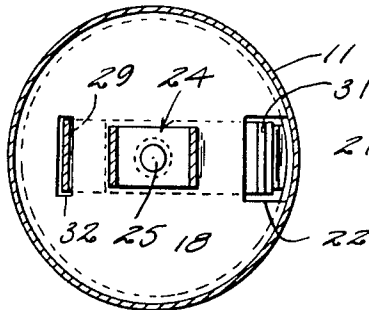
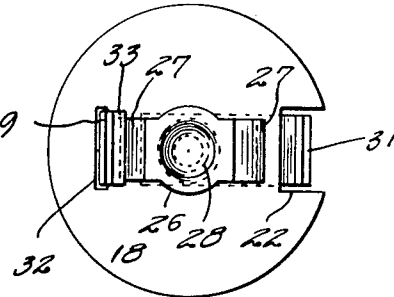
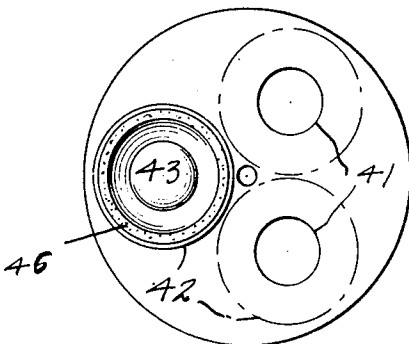
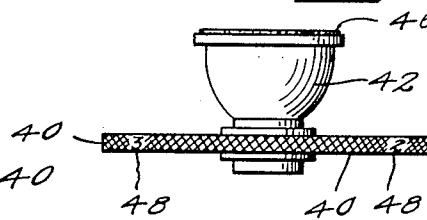
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2 Sheets-Sheet 2

Fig. 3.Fig. 4.Fig. 5.Fig. 6.Fig. 7.

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UNITED STATES PATENT OFFICE

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FLASHLIGHT

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Application January 15, 1942, Serial No. 426,916

2 Claims. (Cl. 240—10.66)

This invention relates to an improved construction of a flashlight and more particularly to a flashlight having a plurality of bulbs mounted on a movable support so that any one of the bulbs may be moved into an operative position by actuation of the support to afford means for replacing a burnt out bulb without having to disassemble the flashlight.

More particularly, it is an aim of the invention to provide a disk which is rotatably mounted in a flashlight reflector head which has a portion protruding therefrom for rotating the disk, and which carries a plurality of illuminating units each including a lamp bulb and reflector, any one of which units can be moved into an operative position in alignment with the flashlight reflector by rotation of the disk.

Still a further aim of the invention is to provide a flashlight from which light rays of different colors can be projected by mounting different colors in the lamp bulbs in the support.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate a preferred embodiment thereof, and wherein:

Figure 1 is a plan view of a flashlight constructed in accordance with the invention.

Figure 2 is an enlarged longitudinal substantially central sectional view taken substantially along the plane of the line 2—2 of Figure 1.

Figures 3 and 4 are cross-sectional views through portions of the flashlight and taken substantially along the plane as indicated by the lines 3—3 and 4—4, respectively, of Figure 2.

Figure 5 is a plan view of a portion of the flashlight, removed from the casing thereof.

Figure 6 is a plan view of the support for the lamp bulb showing one lamp bulb and reflector mounted therein, and

Figure 7 is an edge view in elevation of same.

Referring more particularly to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally a flashlight casing including a barrel or cylinder 11, a reflector receiving head 12 and a cap 13. The ends of the barrel 11 are threaded as seen at 14 and 15 and the threaded portion 15 is adapted to be engaged by the cap 13 in a conventional manner for retaining batteries 16 within the barrel 11. The head 12 is provided with a restricted, threaded inner end 17 which engages the threaded end 14 for mounting the head 12 on the forward end of the barrel 11.

The threaded end 14 is larger in diameter than the remainder of the barrel 11 and is adapted to receive a disk 18 of insulating material which seats on the shoulder at the inner end of the threaded portion 14 and which is removably held in place therein by a spring ring 19. The barrel 11 is provided with a switch 20 which is mounted to slide longitudinally thereof and which is connected to a conducting strip 21 which is disposed within the barrel 11. The insulating disk 18 has an opening 22 for receiving an end of the strip 21 and the other end of the strip 21 and the barrel 11 are provided with co-acting means for latching the switch in an inoperative or "off" position, as indicated at 23 of Figure 2. A yieldable contact member 24 is connected to the outer side of the disk 18 by means of a rivet 25. The yieldable contact member 24 extends into the head 12 and includes a base portion, which engages against the disk 18 and which is connected to the rivet 25, the outer portion 26 which is spaced from the base portion and which is yieldably connected thereto by means of angular legs 27. Legs 27 are yieldable to permit the outer portion 26 to yield toward the base portion and disk, for a purpose which will hereinafter become apparent. As best seen in Figures 2 and 5, contact member 24 is provided with an indentation or recess 28 in the outer portion 26. A strip 29 of conducting material is secured to the inner side of the disk 18 by the rivet 25 and is insulated from said rivet by collars or washers 30 of insulating material, as seen in Figure 2. One end of the strip 29 projects outwardly through the opening 22 and forms a contact element 31. Disk 18 is provided with an opening 32 through which the other end of the strip 29 extends. Said last mentioned end of the strip 29 projects into the head 12 and terminates in a yieldably disposed contact 33.

Head 12 is provided with a lens retaining ring 34 at its outer end which engages a lens 35, and the enlarged end of a reflector 36. The reflector 36 extends inwardly of the head 12 and is provided with a restricted open inner end 37 which is spaced outwardly from the contact member 24.

A support 38 is connected to the inner side of the head 12, adjacent to the restricted portion 17 and extends radially inwardly thereof. A post 39 mounted on the support 38 projects therefrom toward the outer end from the head 12. A disk 40 is rotatably mounted on the post 39 and is preferably provided with three equally spaced openings 41, in each of which is mounted a

small reflector 42. The reflectors 42 project from the outer side of the disk 40 and each contains a conventional flashlight bulb 43 having base contact 44, which project from the inner ends of the reflectors 42. Reflectors 42 at their outer, enlarged ends are provided with seats 45, each of which contains a ring shaped gasket 46 of insulating material. The reflectors 42 are supported by the disk 40 within the head 12. Head 12 is provided with a circumferentially disposed slot 47 through which a portion of the disk 40 extends. The periphery of the disk 40 is preferably knurled and is also provided with spaced indicia 48 preferably in the form of the numerals "1," "2" and "3." The indicia 48 is disposed in diametrically opposed relationship to the reflectors 42.

The exposed portion of the periphery of the disk 40 can be engaged by the finger for rotating the disk to move the different reflectors 42 into position between the contact member 24 and the reflector opening 37. As the disk reflectors 42 approach this position, the base contact of their lamp bulbs 43 engages the outer end 26 of the contact member 24 to compress said member and permit the base contact 44 to move into the recess 28 for correctly positioning the lamp bulb and reflector, of which said base contact 44 forms a part. When thus positioned, as seen in Figure 2, said reflector 42 is in alignment with the reflector 36 and its insulating ring 46 is disposed either directly beneath or in engagement with the open end 37, so that when said lamp bulb 43 is energized the light rays therefrom will be projected through the reflector 36 and lens 35. When one of these reflectors 42 is thus disposed, one part of the indicia 48 is centrally disposed relatively to the slot 47 to indicate which of the three reflectors and lamp bulbs is in an operative position.

As seen in Figure 2, the inner battery 16 is in contact with the rivet 25 and the negative end of the outer battery is in electrical contact with the barrel 11 by means of a conventional spring 49. By moving the switch 20 forwardly, the forward

end of the strip 21 will be moved into engagement with the contact 31 so that the current will flow from the batteries 16 through rivet 25, the contact member 24, base contact 44, which is in engagement therewith, through the lamp bulb 43, of said base contact 44, through its shell to the reflector 42 thereof, through the contact 33, which is in engagement with said reflector 42, through the strips 29 and 21 to the barrel 11, and through the spring 49 back to the batteries 16.

Various other modifications and changes are contemplated and may obviously be resorted to, provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claims, as only a preferred embodiment of the invention has been disclosed.

I claim as my invention:

1. A flashlight comprising a reflector-receiving head, a conical reflector mounted therein having an opening at the apex, a disc in the head inwardly of and parallel to the larger end of the reflector, excentrically located means within the head rotatably mounting said disc, a plurality of auxiliary reflectors carried by said disc having their ends in approximately the same plane as said opening and movable through turning said disc one at a time from a position overlapped and concealed by the reflector into an operative position in alignment with said opening of the reflector, a lamp in each auxiliary reflector, said head being provided with a slot through which a portion of the periphery of the disc extends so that said periphery may be engaged manually and the disc thereby be turned, each auxiliary reflector functioning to close and extend the area of the first reflector when aligned with the latter.

2. A flashlight as in claim 1 having the bases of said lamp extended below said disc, and a yieldable contact member adapted to be connected to the source of electric current of the flashlight, provided with a recess arranged to engage the bases of the lamps by snap action when said lamps are successively revolved by the disc.

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