Mar. 13, 1923. 1,448,354.

E. R. BARANY.

FLASH LIGHT.

FILED DEC. 21, 1921.

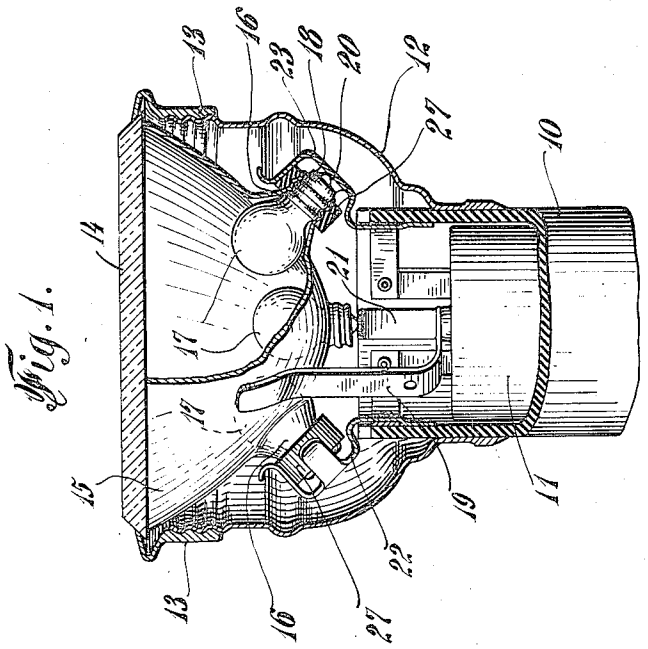



Fig. 1.

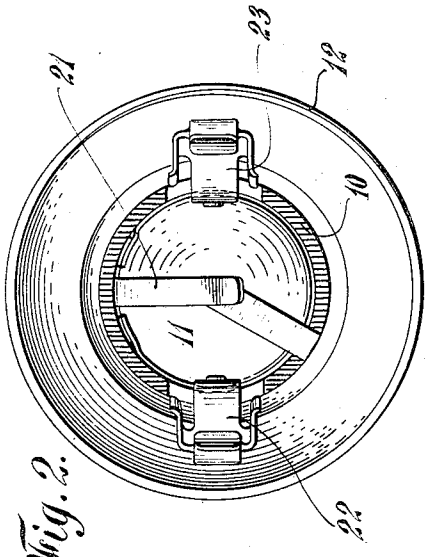



Fig. 2.

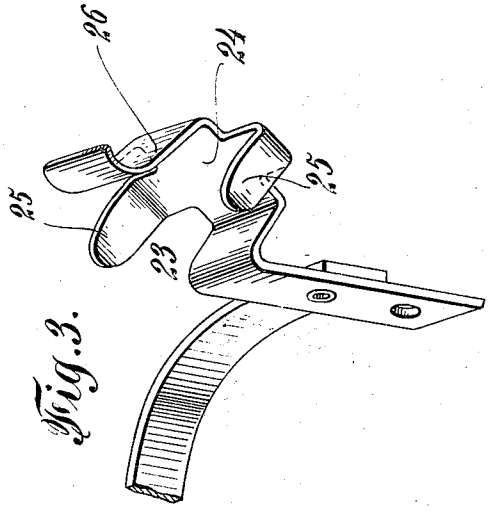



Fig. 3.

Inventor

Edmund R. Barany

By his Attorney

Williamson & Pickard

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# UNITED STATES PATENT OFFICE.

EDMUND R. BARANY, OF NEW YORK, N. Y., ASSIGNOR TO FRANCO ELECTRIC CORPORATION, A CORPORATION OF NEW YORK.

## FLASH LIGHT.

Application filed December 21, 1921. Serial No. 523,842.

*To all whom it may concern:*

Be it known that I, EDMUND R. BARANY, a citizen of the United States, and resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Flash Lights, of which the following is a specification.

My invention relates to flashlights and has for one of its objects the provision of such a device so constructed that the particular form of electric connectors employed therein may be utilized to center and retain the reflector together with its various cooperative elements in proper relative positions with respect to the battery container and reflector head during assembling and thereafter retain the assembled elements correctly positioned.

A further object of the invention is to so construct the various cooperative elements entering into the combination as to produce a flashlight which is strong, durable, easily assembled, and reliable in operation.

To these and other ends my invention consists in certain improvements and combinations of parts as will be pointed out with greater particularity in the claims appended to this specification.

In the drawings Figure 1 is a longitudinal section showing my invention embodied in a flashlight.

Figure 2 is a top plan view of the device shown in Figure 1, with the reflector removed.

Figure 3 is an enlarged perspective of one of my improved connector members.

Referring to the drawing wherein my invention is shown embodied in a flashlight. the numeral 10 indicates a housing or casing preferably constructed from fibrous or other insulating material within which a battery 11 or other source of current is arranged. The casing or container 10 carries at one end thereof a reflector head 12 the outer end of which is screw-threaded to receive a lens ring 13 adapted to retain in position the usual form of lens 14 which is mounted directly upon a reflector 15, the reflector at its outer end being spaced an appreciable distance from the outer end of the reflector head 12 as shown in Figure 1 to prevent short-circuiting as will be readily appreciated.

The reflector 15 is of the parabolical type and is provided with angularly disposed extensions or tubular protrusions 16 which are screw-threaded as shown, and are adapted to receive and retain in an angularly disposed relation, a plurality of electric lamps 17 provided with the conventional form of screw threaded outer contacts 18 which are maintained in screw threaded engagement with the screw threaded portions of the protrusions 16.

One side of the current supply is electrically connected with the reflector 15 by a more or less resilient contact strip 19 whereas the other side of the current supply is adapted to be connected with the reflector 15 through the outer contacts, 18, the lamp filaments, not shown, and the central contacts 20 of the lamps by means of suitable electrical connectors 21, 22 and 23 which are supported by the casing 10 and through which the current may be controlled by any suitable form of switch not shown.

The connectors 22 and 23 function also as supports for the reflector 15 and are of a peculiar shape as clearly shown in Figure 1 they being so formed as to enable the reflector 15 to be easily inserted or removed from the reflector head 12 as the occasion may require, to insure accuracy in placing the same in position, to positively retain the same correctly located, and to prevent any rotation thereof with respect to the container 10. The connectors 22 and 23 are bent to acute angles as shown most clearly in Figure 3 and terminate at their outer ends in contact bases 24 provided with upwardly and slightly outwardly projecting side or locking members 25 and 26. These members 26 are at their upper ends flared or curved outwardly to a greater extent than are the ends of the side members 25, this being done for the reason that such a construction makes possible a more easy removal or insertion of the reflector 15 as will be readily appreciated inasmuch as it becomes necessary to spring the connectors 22 and 23 and particularly the side members 26 thereof outwardly or away from each other when the reflector 15 is either inserted or removed.

To prevent short-circuiting of the current between the reflector 15 and the connectors 22 and 23 when the reflector 15 is positioned as shown in Figure 1, I provide insulating sleeves 27 which are threaded upon the screw threaded protrusions 16 and are adapt-

ed to snugly fit between the side members 25 and 26 of the connectors 22 and 23. From Figure 1 it will be seen that the insulating sleeves 27 rest upon the connectors 22 and 23 in a position approximately or substantially directly over the end of the casing 10 so that part of the weight of the lamps and the reflector is carried by the connectors at a point where the bending moment is practically zero, by which arrangement any tendency of the more or less resilient connectors to be bent out of shape by the weight of the reflector and lamps is practically eliminated. However, a certain amount of thrust is exerted upon the connectors 22 and 23, and also upon the conductor 17 by the lamps 12 inasmuch as the central contacts 20 of the lamps engage and slightly move these members under tension when the reflector 15 is placed in position, the inherent resiliency of these members being taken advantage of to maintain the central contacts 20 of the lamps in intimate electrical engagement with the conductor 17 and the connectors 22 and 23.

What I claim is:

1. In a flashlight a battery container, a reflector associated with said container, an extension carried eccentrically by said reflector, a support adapted to support said reflector, said support being provided with locking members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container.

2. In a flashlight a battery container, a reflector associated with said container, an extension carried eccentrically by said reflector, a support adapted to support said reflector, said support being provided with locking members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container, and means for insulating said support from said extension.

3. In a flashlight a battery container, a reflector associated with said container, an extension carried eccentrically by said reflector, an electric lamp having a central and an outer contact, said outer contact being electrically connected to said extension, a connector adapted to electrically engage said central contact, said conductor being provided with locking members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container.

4. In a flashlight a battery container, a reflector associated with said container, an extension carried eccentrically by said reflector, an electric lamp having a central and an outer contact, said outer contact being electrically connected to said extension, a connector adapted to electrically engage said central contact, said conductor being provided with locking members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container, and means for insulating said connector from said extension.

5. In a flashlight a battery container, a reflector associated with said container, an extension carried eccentrically by said reflector, an electric lamp having a central and an outer contact, said outer contact being electrically connected to said extension, a connector having one end electrically engaging said central contact and provided with side members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container.

6. In a flashlight a battery container, a reflector head associated with said container, a reflector arranged within said head, but spaced therefrom, an extension carried eccentrically by said reflector, an electric lamp having a central and an outer contact, said outer contact being electrically connected to said extension, a connector having one end electrically engaging said central contact and provided with side members adapted to receive therebetween said extension whereby said reflector is retained against rotation with respect to said container, and means for insulating said extension from said side members.

7. In a flashlight a battery container, a reflector associated with said container and having a plurality of protrusions, electric lamps extending through said protrusions and maintained in screw thread engagement therewith, a plurality of connectors maintained in electrical connection with said lamps and cooperating with said protrusions to retain said reflector against transverse and rotary movement with respect to said container.

8. In a flashlight a battery container, a reflector associated with said container and having a plurality of protrusions, electric lamps extending through said protrusions and maintained in screw thread engagement therewith, a plurality of connectors maintained in electrical connection with said lamps and cooperating with said protrusions to retain said reflector against transverse and rotary movement with respect to said container, and means for insulating said connectors from said protrusions.

9. In a flashlight a battery container, a reflector associated with said container, said reflector being provided with a plurality of protrusions angularly disposed with respect to each other, electric lamps carried by said protrusions, resilient connectors adapted to electrically engage said lamps, a plurality of arms carried at the contact ends of said connectors, said arms being adapted to co-

operate with said protrusions to retain said reflector against transverse and rotative movement with respect to said container.

10. In a flashlight a battery container, a reflector associated with said container, said reflector being provided with a plurality of protrusions angularly disposed with respect to each other, electric lamps carried by said protrusions, resilient connectors adapted to electrically engage said lamps, a plurality of arms carried at the contact ends of said connectors, said arms being adapted to cooperate with said protrusions to retain said reflector against transverse and rotative movement with respect to said container, and insulating members encircling said protrusions whereby said connectors and arms are insulated from said protrusions and said reflector.

11. In a flashlight, a reflector, a plurality of lamp receiving extensions carried by said reflector, a plurality of lamps carried by said extensions, a container adapted to receive a source of current, a plurality of connectors secured to said container and adapted to cooperate with said extensions on movement of the reflector axially to center the same with respect to said container.

12. In a flashlight, a reflector having a plurality of spaced lamp receiving extensions, and a plurality of yieldable conductor members adapted to electrically engage the lamps and cooperate with said extensions to support said reflector and retain the same against rotation.

13. In a flashlight, a reflector head, a reflector adapted to be inserted into said head, said reflector being provided with a plurality of extensions adapted to receive electric lamps, a plurality of yieldable conducting members adapted to receive thereupon the stems of said lamps and retain said reflector against withdrawal and against rotation with respect to said head.

14. In a flashlight, a reflector receiving body, a reflector adapted to be inserted into said body and having a plurality of extensions, a plurality of yieldable conducting members adapted to receive said extensions upon insertion of said reflector into said receiving body and to retain said reflector against withdrawal and rotation with respect to said receiving body.

15. In a flashlight, a movable reflector, a plurality of conducting lamp receiving extensions diverging from said reflector, a support, and a plurality of conducting members secured to said support and adapted to cooperate with said extensions upon movement of said reflector, a portion of each of said conducting members being yieldable to permit the simultaneous cooperation of said extensions with said members when said reflector is moved with respect to said support.

16. In a flashlight, cup-shaped conducting members, and a movable reflector having eccentrically disposed lamp receiving extensions adapted to enter said members, the sides of said member being yieldable to permit entrance of said extensions and yet tend to retain the same in position upon entering said conducting members.

In testimony whereof, I have affixed my signature to this specification.

EDMUND R. BARANY.