F. W. WAKEFIELD.

BATTERY LAMP.

APPLICATION FILED FEB. 20, 1915.

1,168,351. Patented Jan. 18, 1916.

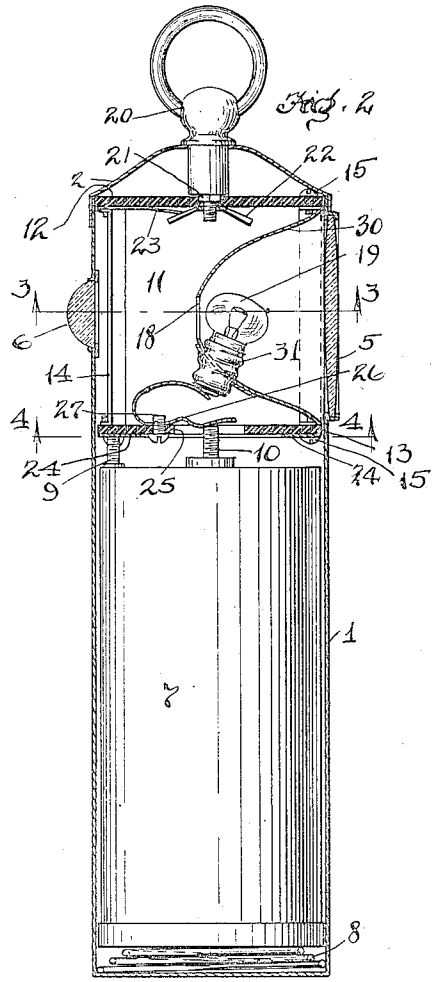


Fig. 2.

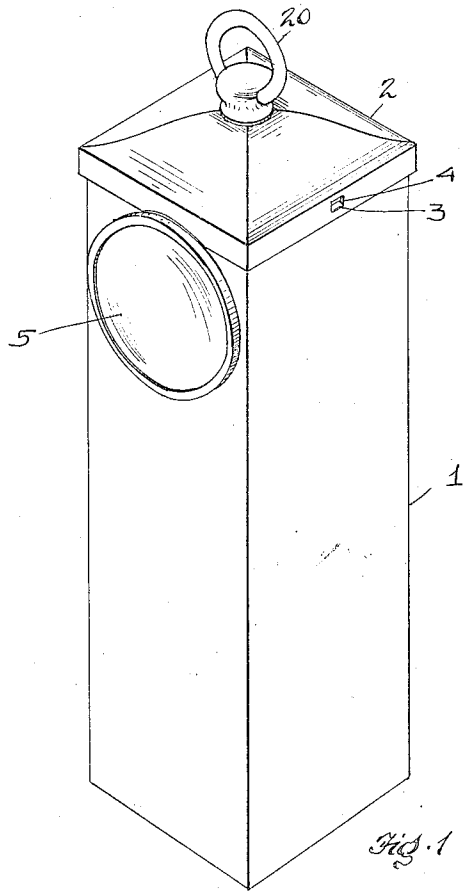


Fig. 1.

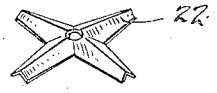


Fig. 5.

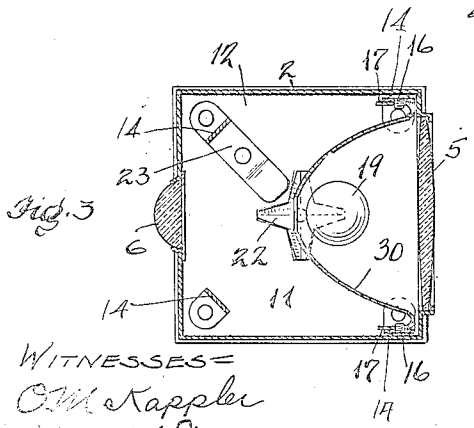


Fig. 3.

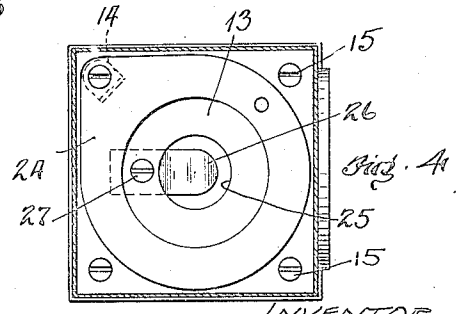


Fig. 4.

WITNESSES=

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BATTERY-LAMP.

1,168,351. Specification of Letters Patent. Patented Jan. 18, 1916.

Application filed February 20, 1915. Serial No. 9,573.

To all whom it may concern:

Be it known that I, FREDERICK W. WAKEFIELD, a citizen of the United States, and a resident of Vermilion, county of Erie, and State of Ohio, have invented a new and useful Improvement in Battery-Lamps, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention relates to battery lamps in which everything is inclosed in a casing.

One of the objects is to provide a casing which will receive a standard dry cell thus obviating the use of special batteries which are so inconvenient to obtain.

Another object is to provide means permitting the battery to be placed in the box and the electrical circuit made without having to place the battery in a particular position.

Still a further object is to provide a convenient operating switch in connection with the handle so that the operation of the lamp may be controlled by the hand carrying the same.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing: Figure 1 is a perspective view of my lamp assembled; Fig. 2 is a vertical section through the lamp; Fig. 3 is a section taken on the line 3—3 Fig. 2; Fig. 4 is a section taken on the line 4—4, Fig. 2; and Fig. 5 is a perspective view of the switch member.

In the present lamp I provide a casing 1 having a cover 2 removably attached thereto, preferably by means of inturned lugs 3 which are adapted to engage in slots 4 cut in the sides of the casing. In one side of the casing adjacent the top a lens 5 is mounted in any convenient manner and a second small lens 6 preferably made of red glass is shown as mounted opposite the larger lens 5.

The casing will be made in different sizes to accommodate the standard sizes of dry batteries, the size preferred being that of the Columbia dry cell No. 6 which is used in general work and may be purchased at any hardware store, garage or electrical supply store and is thus easily obtainable when it is necessary to obtain a new battery. I mount such a battery 7 in the casing, a spring 8 being placed between the same and the bottom of the casing to keep the battery binding posts 9 and 10 in contact with the contact members connecting the battery to the lamp.

Above the battery, a lamp-carrying cage 11 is mounted within the casing. This cage is made of two plates 12 and 13 of insulating material spaced apart by four posts 14 of conducting material which are fastened to the plates by means of screws 15. To the two forward posts 14 a metallic reflector 30 is attached by the screws 16 passing through the strips and the recurved portions 17 of the reflector. The reflector has a small opening 18 allowing light to reach the small lens 6. Mounted in the reflector is a lamp socket 31 in which the lamp 19 is placed.

A handle 20 is mounted on the cover and, projects through the same and a small opening 21 in the plate 12. On this projecting end is threaded a switch member 22 which is adapted to revolve with the handle 20. This switch member serves to attach the lamp-carrying cage 11 to the cover so that the cage is removable therewith. To one of the rear posts 14 a contact arm 23 is attached, this arm extending toward the center of the plate and being adapted to be contacted by the switch member 22. The operation of this member is best shown in Fig. 3. The post which has this arm 23 attached thereto is connected at its lower end with an annular plate 24 attached to the lower side of plate 13 and adapted to contact with the peripherally disposed binding post 9 of the battery, irrespective of the position of the same in the casing 1. This lower plate 13 has an opening 25 above which is mounted a contact spring 26 which makes an electrical connection with the centrally disposed binding post 10 of the battery. This spring arm is attached to the plate 13 by a screw 27

and has a recurved end which contacts with the bottom contact of the lamp socket 31. The two forward posts 14 are electrically connected to the cover 2 by the screws 15 being in contact with the same so that the battery is connected with the lamp through the arm 26 which engages the lamp base, while the outside of the lamp is of course electrically connected with the socket in the reflector. The latter is, in turn, connected to the cover through the forward posts and thence through the handle, and the switch member 22 to the arm 23 and then through the adjacent rear post to the plate 24 and back to the battery through the binding post 9.

In using the present lamp it is carried by the handle and by slightly rotating the same the contact between the switch member 22 and the arm 23 is made or broken. Fig. 5 shows this switch member to be so made that as it contacts the arm 23 the friction increases until the arm has passed more than half way over one of the branches of the switch. This frictional engagement is sufficient to keep the contact made but by slightly moving the handle the contact is broken.

By attaching the lamp-carrying cage to the cover, a very handy construction is obtained as when a battery is to be changed, the cover is simply taken off, the cage coming out therewith. After replacing the battery the cage is replaced with the cover. The battery is simply placed with the binding posts uppermost, the ring on the bottom of the cage allowing contact to be made regardless of the angular positions of the battery and the cage. The only precaution necessary is to see that the reflector opens toward the large lens. A very convenient construction is obtained which permits the use of standard dry batteries and yet gives a neat appearing serviceable flash light, or lantern for continuous illumination, just as desired.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a battery lamp, the combination with a battery having a peripheral and a central contact and a casing adapted to contain the same, of a lamp-carrying cage adapted to fit within said casing and to make an electrical circuit between said battery and said lamp, irrespective of the relation and angular positions of the same.

2. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a lamp-carrying cage mounted within said casing and provided with a continuous peripheral ring electrically connected to said lamp and a central member similarly connected to said lamp, said ring and said member being adapted to coöperatively complete a circuit through such battery by contact with the peripheral and central contacts thereof, respectively.

3. In a battery lamp, the combination with a casing, of a standard battery snugly fitted therein, and having peripheral and central binding posts, and a cage mounted above said battery in said casing, and bearing a lamp, an annular metallic ring disposed on the bottom of said cage and electrically connected to said lamp, a resilient metallic member centrally on the bottom of said cage and also electrically connected to said lamp, said ring and said member cooperating to complete a circuit through said battery by contacting said peripheral and central binding posts respectively.

4. In a battery lamp the combination with a casing and a battery therein, of a cover adapted to removably engage said casing, a lamp carried by said cover, fitting within said casing and electrically connected to said battery, a handle on said cover, and a switch operable by the rotation of said handle and adapted to make and break such electrical connection between said battery and said lamp.

5. In a battery lamp the combination with a casing and a standard battery therein; of a cover adapted to removably engage said casing; a cage bearing a lamp, attached to said cover, fitting within said casing, and electrically connecting said battery and said lamp; a handle on said cover; and a switch operable by the rotation of said handle and adapted to make and break the said connection between said battery and said lamp.

6. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a lamp-carrying cage adapted to be removably mounted in said casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, and a cover for said casing adapted to secure said cage in place therein.

7. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a lamp-carrying cage adapted to be removably mounted in said casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, irrespective of the axial position of the latter, and a cover for said casing adapted to secure said cage in place therein.

8. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a lamp-carrying cage adapted to be removably mounted in said

casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, a cover for said casing adapted to secure said cage in place therein, and a switch carried by said cover and adapted to control the electrical connection of the lamp with the battery.

9. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a lamp-carrying cage adapted to be removably mounted in said casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, a cover for said casing adapted to secure said cage in place therein, a rotatable handle on said cover, and a switch carried by said cover and operable by the rotation of said handle, said switch being adapted to control the electrical connection of the lamp with the battery.

10. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a cage adapted to be removably mounted in said casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, and a metallic reflector carried by said cage and provided with a lamp socket.

11. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a cage adapted to be removably mounted in the casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, a metallic reflector carried by said cage and provided with a lamp socket, switch-controlled circuit connections between said reflector and one of said contacts, and a member connected with the other contact and adapted to engage the base of a lamp mounted in such socket.

12. In a battery lamp, the combination with a battery and a casing adapted to contain the same, of a cage adapted to be removably mounted in said casing and provided with electrical contacts adapted to engage the respective binding posts on the battery, a metallic reflector carried by said cage and provided with a lamp socket, a cover for said casing adapted to secure said cage therein and to close the circuit connection between said reflector and one of said contacts, a switch carried by said cover and adapted to control such connection, and a member connected with the other contact and adapted to engage the base of a lamp mounted in such socket.

Signed by me, this 15th day of February 1915.

FREDERICK W. WAKEFIELD.

Attested by—
GEO. A. KLAAR,
GERALD L. BASIL.