A. D. CARDWELL.

PORTABLE ELECTRIC LANTERN.

APPLICATION FILED MAY 27, 1920.

1,423,911.

Patented July 25, 1922.

Fig. 1.

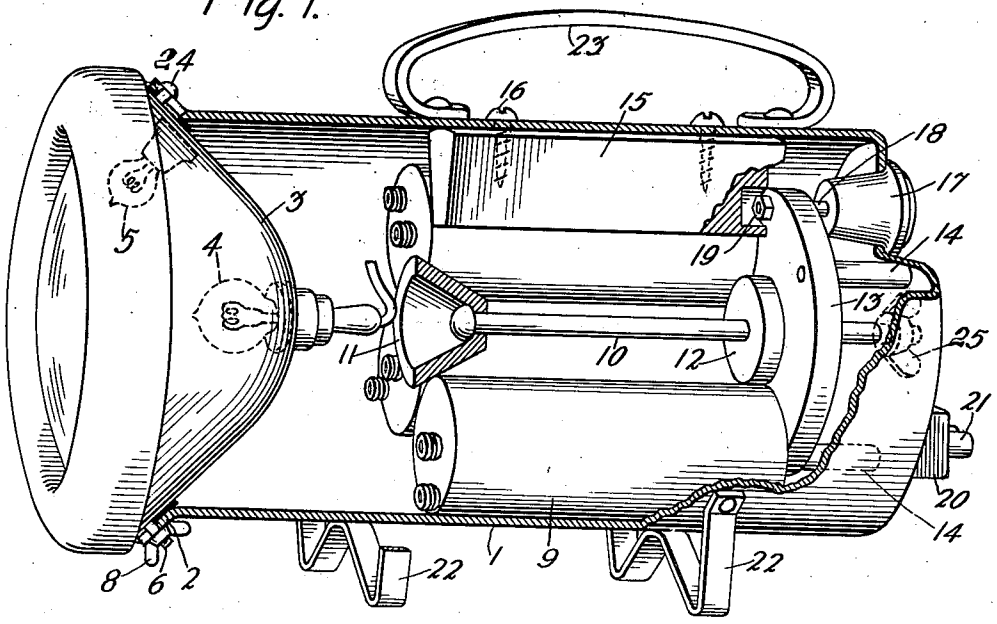


Fig. 2.

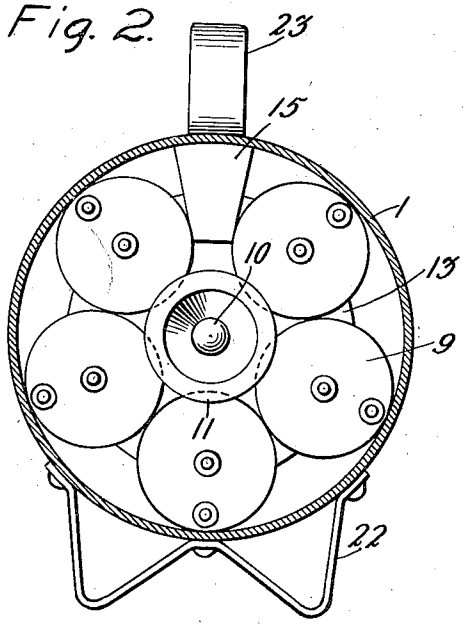
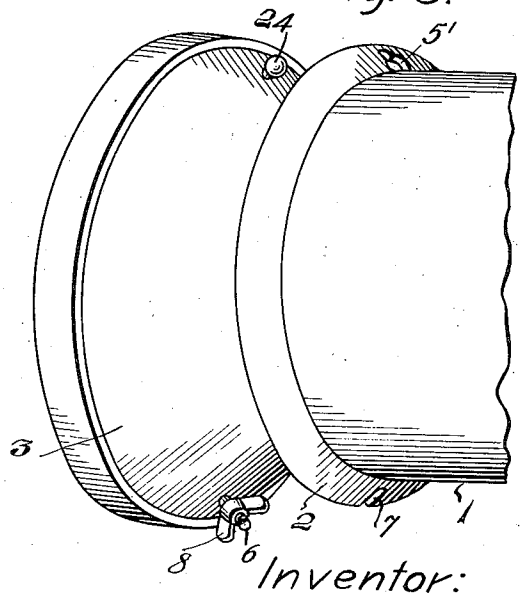


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PORTABLE ELECTRIC LANTERN.

1,423,911. Specification of Letters Patent. Patented July 25, 1922.

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To all whom it may concern:

Be it known that I, ALLEN D. CARDWELL, a citizen of the United States, residing at Rockville Center, in the county of Nassau, State of New York, have invented certain new and useful Improvements in Portable Electric Lanterns, of which the following is a full, clear, concise, and exact description.

This invention relates to improvements in portable electric lanterns of the type in which the illuminating elements and the source of electricity are embodied in a unitary structure.

The primary object of the invention is to provide a lantern of this type which is adaptable for use as a headlight and running lamp for vehicles and also as a portable trouble or work lamp.

The embodiment of the invention illustrated in the drawing, and hereafter described in detail, is especially adapted for use on self-propelled railway hand cars. The regulations under which such hand cars are operated require that in night running they be provided with a white headlight and a red tail-light and since the cars are used for inspection and repair purposes a portable trouble and work lamp is also made a part of the car's equipment. To satisfy these needs in the most practical and inexpensive manner, the improved lantern herein has been devised, which comprises a container having feet for supporting it upon the tray of the hand car and with a handle for carrying it. A plurality of electric dry cells are enclosed and held against movement within the container which supports at one end a headlight provided with two lamps of different candle power and at its other end a tail-light having a red lens. Through the operation of suitable switches, these three lamps may be independently connected in circuit with the electric cells, the tail lamp and lower candle power front lamp being used as running lights and the front lamp of higher candle power serving both as a trouble and inspection lamp and also as a work lamp when repairing the trouble. It is to be understood, however, that the improved lantern herein is not confined to the use previously described but may be employed for a large variety of purposes as is readily appreciated.

The invention has as a further object the provision of simple and effective means for holding a plurality of electric dry cells within a container so that they cannot move relative to each other or to the container, the securing means being easily released so that cells may be readily removed or replaced.

Other features of the present improvement are described in detail in the specification and illustrated in the accompanying drawing, in which,

Figure 1. is a side elevation of the improved lantern, a substantial portion of the container being broken away to show the relative positions of the headlight, tail-light, electric batteries, and the means for holding the latter in their assembled position;

Figure 2 is a vertical sectional view of the lantern taken on a line just in rear of the headlight;

Figure 3 is an enlarged fragmentary perspective view showing in detail the means for removably securing the headlight within the open end of the container.

Referring now to the drawings in detail in which like reference numerals designate similar parts throughout the several views, 1 represents a cylindrical container which is illustrated as being a metal can having its open end flared at 2 to receive the bowl-shaped portion of a headlight 3 which is represented as being of the typical automobile type, and provided with a centrally disposed electric bulb 4 and a second electric bulb 5 positioned near the upper periphery of the reflector and being of lower candle power than the bulb 4.

To removably secure the headlight within the open end of the container 1, a round-headed rivet 24 secured to the portion 3 of the headlight is fitted within a pear-shaped opening 5′ made in the flared portion 2 of the container, and a screw-threaded bolt 6 carried by the portion 3 of the headlight is fitted within a radial slot 7 made in the flared portion 2 of the container, a wing-headed nut 8 threaded on the bolt 6 holding the bolt and rivet 24 in assembled position.

A plurality of electric dry cells 9 are fitted within the container 1 having their sides parallel with the sides of the container. In the construction shown, these cells are arranged in a ring, through the center of which a bolt 10 is passed carrying on one end a conical spreader 11. The bolt 10 extends through the center of two disks 12

and 13 secured together, the smaller disk 12 fitting between the dry cells 9 and the larger disk 13 engaging the bottoms thereof and being spaced from the closed end of the container 1 by feet 14. The outer end of the bolt 10 projects through the center of the closed end of the container 1 and is screw-threaded to receive a wing-headed nut 25 which serves, when screwed up, to draw the spreader 11 inwardly, forcing the sides of the dry cells 9 radially into contact with the inner periphery of the container 2 and their ends against the disk 13 which in turn has its feet 14 clamped tight against the end of the container 1.

When it is desired to remove or replace the dry cells within the container, it is only necessary to unscrew the wing nuts 8 and 25 which permits the removal of the headlight 3 and spreader 11 from the container. The dry cells may then readily be removed or replaced and the headlight and spreader again assembled in their positions in the container.

In the drawings, the diameter of the container 1 is illustrated as being slightly greater than the ring formed by five dry cells, so, in order to take up the space between the cells and thus to prevent the cells from shifting, a wooden filler block 15 is provided having its sides beveled to fit between the cells and secured to the inner face of the container 1 by screws 16. By using a container 1 of the size illustrated, a standard form of headlight and standard size dry cells may be employed, but it is to be understood that the size of the container 1 and headlight may be made such that the container will receive a ring of five or six standard size dry cells, or especially constructed dry cells may be employed, in which cases the filler block 15 would be unnecessary.

A red lens tail-light 17 of usual construction, having a flared casing, is passed through an opening made in the end of the container 1, and is clamped between the rear face of the disk 13 and the end of the container by means of a bolt 18 carried by the lamp, which projects through the disk 13 and receives a nut 19, the block 15 being cut away to receive the nut and projecting end of the bolt.

A suitable switch 20 having three push buttons 21 is secured on the end of the container 1, the actuation of the buttons 21, through suitable wiring connections (not shown), serving to independently connect the lamps 4 and 5 and the tail lamp 17 in circuit with the dry cells 9.

Secured to the casing 1 are feet 22 and a handle 23 which permits the lantern to stand upon a flat surface or to be carried and directed in much the same manner as a flashlight is used.

When the lantern herein illustrated and described is used on a self-propelled railway hand car, the feet 22 support it on the tray of the car with the headlight directed to the front and the tail lamp 17 directed to the rear. While the hand car is in motion the tail lamp 17 and the lower candle power lamp 5 are lit and serve as running lights. By means of the handle 23 the lantern may be lifted and light thrown in any direction for inspecting the rails, switches, telephone and telegraph wires, etc., during which use the large candle power lamp 4 is lit. After the hand car has been removed from the track, and repair or construction work is to be done, the lamp 4 is used as a work light.

What I claim is:

1. An electric lantern comprising, a container, a plurality of dry cells mounted therein and arranged in a ring, means within the ring for clamping the dry cells against the inner surface of the container, a head light and a tail light carried by the container, and means carried by the container for connecting said lamps in circuit with said dry cells.

2. An electric lantern comprising, a container having an abutment, a plurality of dry cells mounted within the container and arranged in a ring with one of their ends in engagement with said abutment, means within the ring for clamping the dry cells against the inner surface of the container, a head light and a tail light carried by the container, the said tail light secured to the said abutment, and means carried by the container for connecting said lamps in circuit with said dry cells.

3. An electric lantern comprising, a container having an open and a closed end, an abutment within said container and spaced from the closed end thereof, a plurality of dry cells within the container and having one of their ends in engagement with the said aubtment, a head light mounted in the open end of said container, a tail light fitted within the space between the closed end of the container and the said abutment, and means securing the said tail light to the said abutment.

4. An electric lantern comprising, a container having an open and a closed end, an abutment within said container and spaced from the closed end thereof, a plurality of dry cells within the container arranged in a ring and having one of their ends in engagement with the said abutment, means within the ring for clamping the ends of the dry cells against the abutment and for holding the said abutment in spaced relationship to the closed end of the container, a head light mounted in the open end of the container, a tail light fitted within the space between the abutment and the closed end of

the container, the said tail lamp secured to said abutment, and means carried by the container for connecting the lamps in circuit with the said dry cells.

5. The combination with a cylindrical container having an open and a closed end and an abutment spaced from the closed end thereof, of a plurality of uniform cylindrical articles mounted within the container and arranged in a ring with their sides parallel with the inner wall of the container and their ends in engagement with the abutment, a tapered element arranged within the ring and engaging the opposite ends of the articles, a rod connected with the tapered element and passing through aligned openings made in the abutment and closed end of the container, and a nut mounted on the projecting end of said rod for drawing the tapered element toward the abutment for spreading and clamping the sides of the articles against the inner surface of the container and their ends against the said abutment.

6. The combination with a cylindrical container having an open and a closed end and an abutment spaced from the closed end thereof, a plurality of dry cells mounted within the container and arranged in a ring with their sides parallel within the inner wall of the container and their ends in engagement with the abutment, a tapered element arranged within the ring and engaging the opposite ends of said dry cells, a rod connected with the tapered element and passing through aligned openings made in the abutment and closed end of the container, and means for moving said tapered element toward the abutment for spreading and clamping the sides of the dry cells against the inner surface of the container and their ends against said abutment.

7. An electric lantern comprising a container having an open and a closed end, a battery mounted therein and spaced from the ends of said container, a headlight mounted within the open end of said container, and a tail light projecting through an opening formed in the closed end of said container and fitted within the space between the closed end of said container and the adjacent side of the battery, and means for connecting said lights in circuit with said battery.

8. An electric lantern comprising a container having an open and a closed end, a battery mounted therein and spaced from the ends of said container, a headlight mounted within the open end of said container, a tail light projecting through an opening formed in the closed end of said container and fitted within the space between the closed end of said container and the adjacent side of the battery and means for connecting said lights in circuit with said battery.

9. An electric lantern comprising a container having an open and a closed end, a plurality of dry cells mounted on their sides within said container and spaced from the ends thereof, a headlight mounted within the open end of said container and a tail-light projecting through an opening formed in the closed end of said container and fitted within the space between the closed end of said container and the ends of said dry cells, and means for connecting said lights in circuit with said dry cells.

10. An electric lantern comprising a container having an open and a closed end, a plurality of dry cells mounted on their sides within said container and spaced from the ends thereof, the terminal ends of said dry cells being directed toward the open end of the container, a headlight mounted within the open end of said container, a tail-light projecting through an opening formed in the closed end of said container and fitted within the space between the closed end of said container and the bottoms of said dry cells, and means for connecting said lights in circuit with said dry cells.

In witness whereof, I hereunto subscribe my name this 25th day of May A. D., 1920.

ALLEN D. CARDWELL.