

T. H. JACKSON.
ELECTRIC LANTERN.
APPLICATION FILED APR. 25, 1919.

1,333,077.

Patented Mar. 9, 1920.

FIG. I.

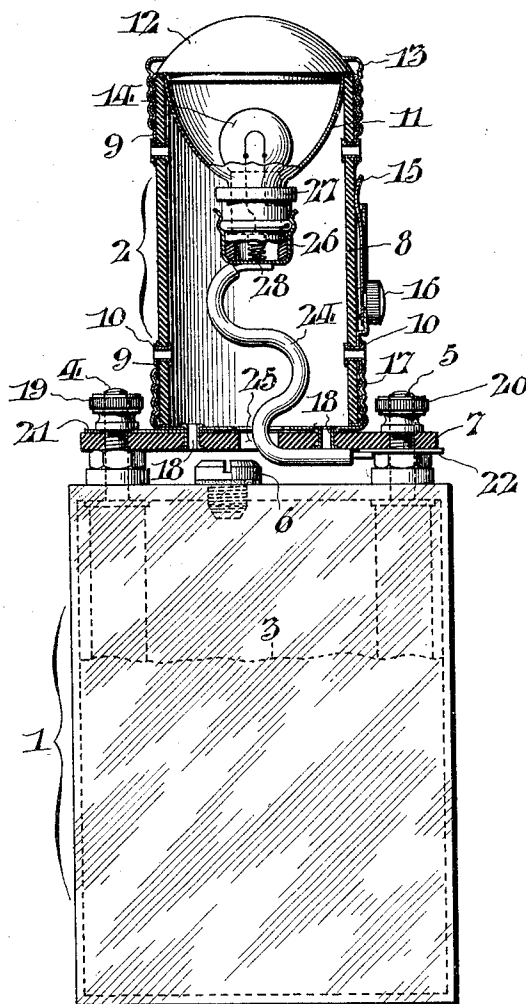
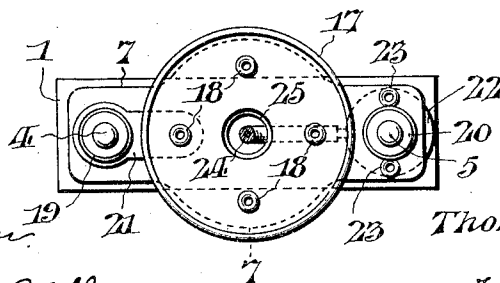


FIG. II.



WITNESSES:

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ELECTRIC LANTERN.

1,333,077.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS H. JACKSON, a citizen of the United States, residing in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric Lanterns, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to electric lanterns, and more especially to lantern equipments of portable type, suitable for use by meter-readers in reading gas-meters in dwelling-houses, for example. It is my aim to make the lantern light, compact, and convenient to carry and to use; durable and rugged, and reasonably proof against breakage if dropped; simple in construction, and free from liability of derangement; easy and inexpensive in upkeep; and capable of rapid manufacture at relatively low cost. How these and other advantages can be secured in connection with my invention will appear from the description hereinafter of the best embodiment at present known to me, while its scope and essentials will be indicated in my claims.

In the drawings, Figure I, is a side elevation of a lantern constructed in accordance with my invention, certain parts being in section.

Fig. II, is a plan view, certain upper parts being removed.

As will be seen from the drawings, the lantern equipment comprises a compact unitary battery structure 1, as source of electric current and a lantern proper 2, associated therewith. The battery 1, is shown as a thin, flat rectangular electric storage battery of familiar commercial type, consisting of a closed case of non-fragile translucent material containing the electrolyte in the form of a solid or semisolid mass 3, with metal terminals 4 and 5, projecting in parallelism from one end thereof and the usual refilling plug 6. Secured to and carried by said terminals 4 and 5, is a bridge piece 7, which, in turn, carries the lantern proper 2. The lantern 2, is of a familiar tubular commercial type, comprising a tubular case 8, of insulating fiber with screw-threaded metal ferrules 9, 9, secured on its ends by tubular rivets 10; a metal reflector 11, and a glass lens or cover piece 12, clamped on the upper end of the case by a flanged metal sleeve 13, screwed on the ferrule 9; a low-voltage

tungsten-filament incandescent electric lamp 14, secured in the reflector in the usual way; and the usual sliding switch 15, with operating button 16, for putting the ferrules 9, 9, in electrical connection with one another to complete the lamp circuit. The lower end of the case 8, is screwed into the usual metal cap 17, which is secured on the bridge piece 7, by the tubular rivets 18.

Since the bridge piece or member 7, extends across or bridges the terminals 4 and 5, it must embody or be provided with means of insulation, in order to avoid short-circuiting the lamp 14. The simplest way of giving the bridge piece 7, this insulating character is to make it of a suitably thin piece of insulating fiber with its ends engaging and secured to the terminals 4 and 5. As shown in Fig. II, the fiber bridge piece 7, is apertured to receive the screw-threaded terminals 4 and 5, and is securely clamped on them by their thumb nuts 19 and 20.

Current connection to the lantern 2, from the terminals 4 and 5, is made by means of conductors 21 and 22 at opposite ends of the bridge piece 7 shown as in the form of flat metal pieces or strips carried by the bridge piece 7 at opposite sides thereof in reference to its thickness, and clamped into electrical connection with the terminals by the nuts 19 and 20. The conductor 21, on the upper side of the bridge piece 7, is connected to the cap 17, which forms an element of the lantern supply circuit by being riveted down under it. The conductor 22, on the lower side of the bridge piece 7, is secured thereby by the tubular rivets 23, and it is connected to the lamp 14, by means of an insulatively covered flexible lead 24, which enters the case 8, through a hole 25, in the bridge piece 7, and a still larger hole in the bottom of the cap 17. As shown, this lead 24, is at one end soldered to the conductor 22, and at the other to a sheet metal spring cap 26, whose spring fingers engage an annular ridge on an insulating sleeve 27, attached to the reflector 11. The screw shell terminal of the lamp base (not shown) screws into the reflector neck (not shown) as usual, and the center contact of the lamp base has soldered thereto a helical wire spring 28, which engages the bottom of the cap 26. Closure of the switch 15, therefore, completes the lamp circuit between the terminals 4 and 5, and lights the lamp.

The battery structure 1, need not exceed approximate dimensions of 4"x3"x $\frac{1}{2}$ ", so that it can be slipped into the upper outside coat pocket of the person using it, where it will be instantly available, and the device as a whole is so light in weight that it can be comfortably carried in this manner. It can also be securely held under the left arm of the meter reader, who can by slight movement of his body and arm direct the beam of light to the meter dials, while both his hands are occupied in recording their readings. It also makes a convenient trouble lamp about an automobile; and upon occasion it will stand upright on the ground and illuminate the bottom of the car body,—a feature much appreciated by anyone who has to lie on his back under an automobile in making repairs. Not only is the device as a whole rigid and strong, but it has no delicate parts liable to be injured, or to get out of order; and its component elements are simple and easy to put together and take apart. For the battery 1 and the lantern 2, can be used (as already intimated) devices already available in the open market, so that the only special parts required are the bridge piece 7, and the current connections.

It will be seen, furthermore, that the parts other than the battery 1 and its terminals are all associated with the bridge piece 7 in a compact, unitary lantern structure that can be attached to the battery and detached therefrom (without any disassembling or impairment of its integrity) with the utmost convenience and quickness, and that the necessary electrical connections are correctly made by the mere act of attachment, without any special attention,—since it makes no difference which of the battery terminals 4 and 5 is connected to either of the conductors 21 and 22. The bridge piece 7 forms the backbone or unifying structural member or element of this whole lantern structure; while the bridge piece 7, conductors 21 and 22, and conductive socket or cap 17 form, so to speak, the nucleus of the lantern structure, and in themselves constitute a distinct unitary attachment.

Having thus described my invention, I claim:

1. The combination of a compact, unitary, closed battery structure with parallel terminals projecting from one end thereof; a unitary lantern structure mounted upon said end of the battery structure and comprising a structural member bridging said terminals, a lantern proper secured to said structural member intermediate said terminals, and current supply conductors for said lan-

tern secured to said structural member; and means for detachably securing said structural member to the battery terminals and thereby attaching the lantern structure to the battery structure and clamping the lantern current supply conductors into electrical connection with the battery terminals.

2. The combination of a thin, flat, unitary closed battery structure with parallel screw-threaded terminals projecting from one end thereof; a unitary lantern structure mounted upon said end of the battery structure and comprising a structural member bridging said terminals and having its ends apertured to receive them, a lantern proper seated and secured against said structural member intermediate its apertures with an element of its supply circuit on its abutting end, a current supply conductor for said lantern clamped between said element and said structural member and extending into proximity to one of the terminal-receiving apertures of said member, and another current supply conductor for said lantern secured to said structural member and extending into proximity to its other terminal-receiving aperture; and nuts detachably securing said structural member to the battery terminals and thereby attaching the lantern structure to the battery structure and completing the electrical connections between battery and lantern.

3. An attachment comprising a structural member adapted to be secured across battery terminals; a conductive socket for detachably securing a lantern proper mounted on said structural member; and current supply conductors for the lantern secured to said structural member and arranged to engage the battery terminals when said structural member is secured thereto; one of said conductors being clamped between said socket and said member.

4. An attachment comprising an insulating bridge piece with ends apertured to receive battery terminals, a lantern cap secured to said bridge piece between its apertures, and current conductors carried by said bridge piece and extending into proximity to said apertures at opposite sides of said bridge piece for engagement with the battery terminals.

In witness whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 24th day of April 1919.

THOMAS H. JACKSON.

Witnesses:

JAMES H. BELL,
E. L. FULLERTON.