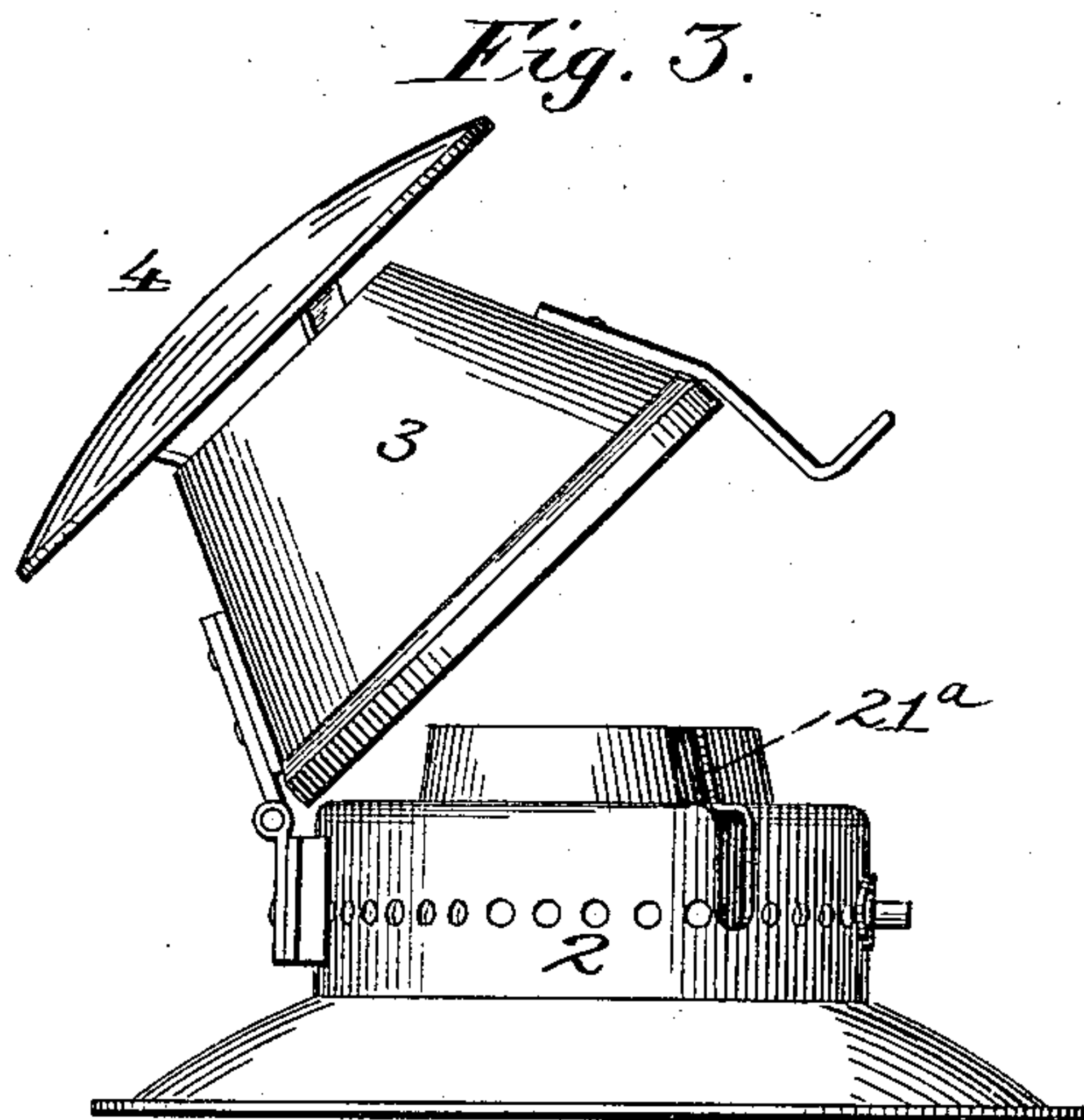
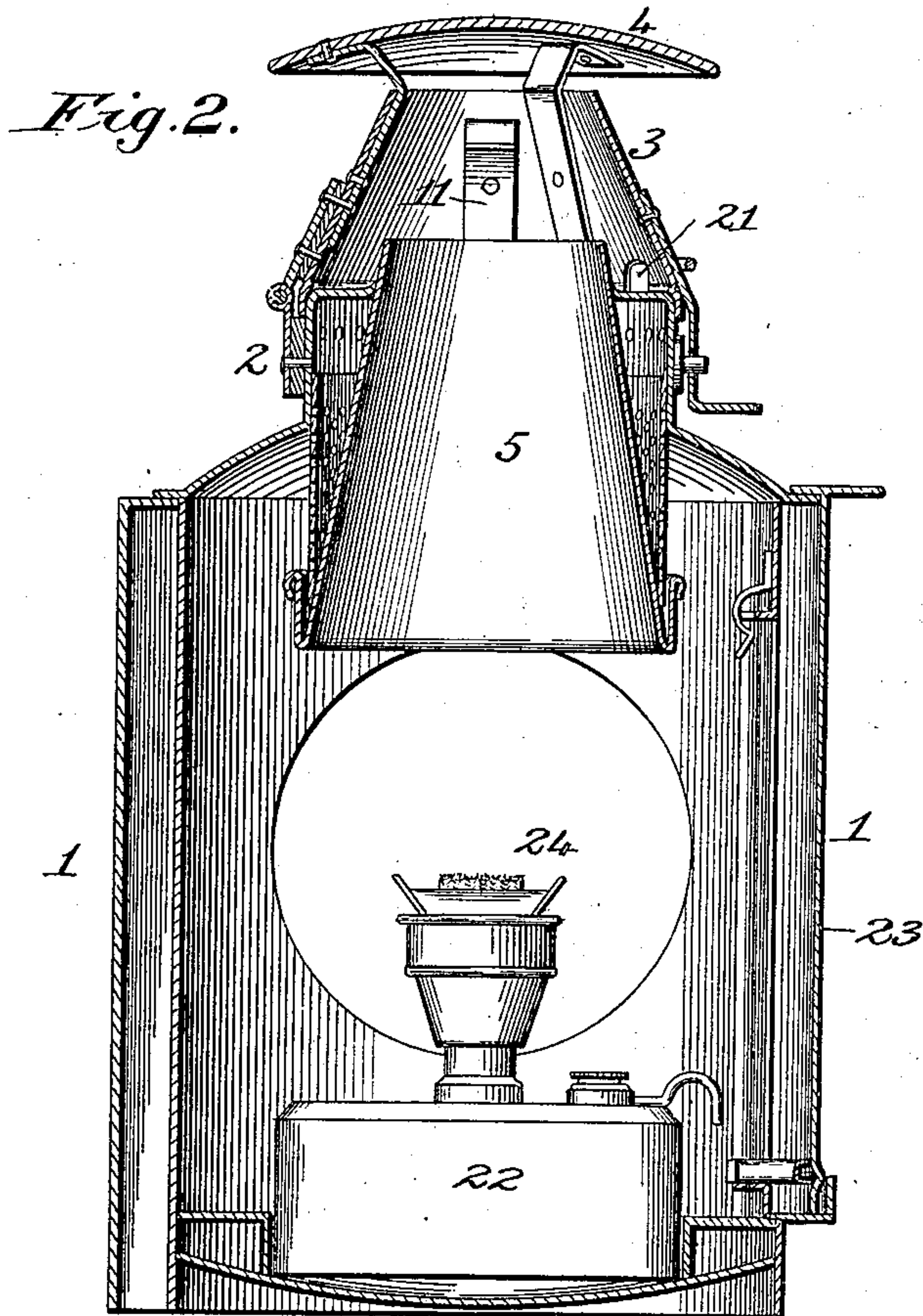


W. S. HAMM.
 CONVERTIBLE SIGNAL LAMP.

APPLICATION FILED MAY 7, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM S. HAMM, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS AND WESTLAKE COMPANY, OF ILLINOIS.

CONVERTIBLE SIGNAL-LAMP.

SPECIFICATION forming part of Letters Patent No. 742,636, dated October 27, 1903.

Application filed May 7, 1903. Serial No. 156,025. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HAMM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Convertible Signal-Lamps, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

My invention relates to a semaphore-lamp the illuminating agent of which may be electricity or oil, as occasion may require, the lamp being readily convertible from an electric to an oil lamp should any accident occur to the electric attachments or the circuit in which they occur. Lamps of this character are placed along a railroad, sometimes at a considerable distance from a station, each lamp being provided with an electric-lamp attachment, which is normally used, and also with an oil font and burner ready for the illumination of the lamp by oil should the electric light give out or under other contingency. Upon such occurrence the towerman or other employee having charge of the lights upon observation or notification from a train-crew that an electric light is extinguished will proceed to the point indicated, remove the electric attachment from the top of the lamp, adjust the oil-burning devices, and light the burner. Heretofore a combination electric and oil semaphore-lamp has been employed in the use of which and in the converting of the lamp from electric to oil illumination the cap to which the electric fixtures are attached is removed and a cap specially adapted for use in connection with an oil-lamp substituted. In my invention I aim to avoid the use of such separate caps, for the reason that the one intended to be used for the oil attachments may when not in service be lost or misplaced, thereby preventing the use of the oil-lamp, inasmuch as without the cap the flame may become extinguished by currents of air or rain. Therefore I employ but one cap equally applicable to the use of electricity or oil as the illuminant, which cap is hinged or otherwise permanently attached to the body of the lamp and cannot become detached therefrom.

Other and more special features enter into

my invention, as in the electric devices employed, means for adapting the lamp-cap to admit the wires, means to accomplish the ventilation of the interior of the lamp-body, and other features hereinafter more particularly pointed out.

It is known that there is considerable heat generated by an electric lamp, which heat creates moisture within the lamp-body unless proper means are provided for allowing its escape therefrom. Without proper means for ventilation this moisture during cold weather collects upon the interior surfaces of the lenses and the lamp-body, causing frost to cover the lenses, thus reducing the effectiveness of the signals and in the case of the lamp-body causing corrosion or rust, thereby reducing its life. Special means are therefore employed by me in connection with the lamp-body and the electric devices for allowing the passage of hot air from within the lamp to a point above said devices and thence to the outside of the lamp.

In the further description of my invention which follows reference is made to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a vertical sectional view of a lamp or lantern illustrating my invention, adapted to the use of electricity as the illuminant. Fig. 2 is a similar view showing the electric-lamp devices removed and the lantern adapted to be lighted by oil. Figs. 3 and 4 show modifications hereinafter described. Similar numerals of reference indicate similar parts in the respective figures.

The body or casing of the signal-lantern (represented by 1) has an upwardly-projecting portion 2 of lesser diameter, to which the cap 3, open at the top, is hinged, a hood 4 being secured to said cap to cover its open top. 5 is a tube, preferably frusto-conical, through which the products of combustion pass when an oil-lamp is used.

The above parts are common to lanterns of this type and require no further description.

A block or lamp-carrier 6, preferably of wood, is secured to a cap-piece 7, a portion of said block being removed at one side, there being thus formed a recess 8. The block is of rectangular form in cross-section, and its

four corners are removed, as shown at 8^a, so as to make the block of such size as to enter the top of the tube 5. A band of metal 9 surrounds the block 6 just beneath the cap-piece 7, which band retaining rectangular form rests at its corners upon the frusto-conical tube 5 when the block 6 and its attached incandescent or glow lamp 10 are inserted into the lantern through said tube. A spring 11, riveted to the cap 3, presses when said cap is closed upon the cap-piece 7 and holds the device in place. A socket 12, of the ordinary form and construction, is secured to the bottom of the block 6 for supporting the bulb 10.

The vertical wall of the recess 8 of the block 6 is covered with one or more sheets 13, of mica, rubber, or other non-conductor of electricity, on which sheets are placed two binding-posts 14 14, they being fastened to the block 6. These binding-posts are separated from each other, but connected by a fusible conductor 15. From the lower binding-post 14 a wire 16 passes through the lower portion of the block 6 to the socket 12, where it is attached to one part of the circuit-closer contained therein. One of the leads or conducting-wires 17 passes between the cap-piece 7 and the block 6 to a binding-post 18, which is connected by a wire 19 to the upper binding-post 14. The other lead 20 is attached to a similar binding-post (not shown) and passes thence downward behind the non-conductor 13 to the other post of the circuit-closer within the socket 12.

The hinged cap 3 of the lantern has a notch 21 formed in its bottom edge where it laps over the upwardly-projecting portion 2, said notch being of such size and shape as to permit the conducting-wires 17 and 20 to easily pass therethrough into the cap to the electric lamp. By means of this notch the hinged cap 3 may be raised and lowered at any time without interfering with the conducting-wires, the notch 21 bridging them.

The lamp or lantern body 1 is adapted to receive an oil-lamp 22, which may be inserted to and withdrawn from the body or casing through an opening in the side, preferably closed by a vertically-sliding door 23. As hereinabove stated, the oil-lamp 22 is only intended to be used in the event of the extinction of the electric light, and when not employed the oil-burner 24 is removed from the font and placed inside the lamp at one side of the font, so as to be out of the way of the lens and of the electric lamp 10, all as shown in Fig. 1. As seen in Fig. 2, the font of the oil-lamp 22 and its burner 24 are in place and the electric lamp 10 and its fixtures, as seen in Fig. 1, removed. In the use of either illuminant, electricity or oil, the lamp body or casing 1, with its hinged cap 3, remains the same, the lantern, as before stated, being capable of ready conversion from an electric to an oil lantern without any change in the lantern-body or its adjuncts.

Between each of the flat sides of the block 6 and the curved surface of the tube 5 is a space through which the heated air may readily pass to the cap and out through the opening covered by the hood 4, thus affording complete ventilation for the lantern.

In operation, a number of electric lamps being included in one circuit, the current passes through the leads or conducting-wires 17 20, the fusible conductor 15, and the filament of the lamp or bulb 10. Should the resistance in the circuit beyond the lamp be lessened, as by short-circuiting, the current might be increased to such a degree that the filament would be destroyed, which destructive action is, however, prevented by the fusible conductor 15, which will melt before the current has increased sufficiently to burn out the lamp. Upon the extinguishment of the electric light the hinged cap 3 of the lantern may be thrown back on its hinge and the electric lamp and its fixture withdrawn, the conducting-wires being freed on raising the cap 3. The door 23 is then raised and the burner 24 secured to the oil-font 22 and lighted.

Certain features herein described in connection with my invention are claimed in application, Serial No. 156,912, of Louis H. W. Kerber, filed May 13, 1903, they forming no part of the improvement herein claimed by me.

I do not restrict myself to the exact details of construction, combination, and arrangement herein set forth, it being obvious that minor variations thereof not involving the exercise of invention may be made by the skilled mechanic, and such departures from what is herein described and claimed not involving invention I consider as within the scope and terms of my claims. For example, in Fig. 3 the notch for the passage of the conducting-wires instead of being in the hinged cap is in the body of the lantern, and in Fig. 4 the liftable cap is shown permanently secured to the lamp-body by a chain or link attachment. Other departures from the constructions herein shown and described may be readily devised and yet be within the scope of my invention.

Having thus described my invention, I claim—

1. The combination with a lantern having a cap, and provided with a fixed open-topped central draft-tube, of an electric-lamp carrier adapted to be supported by and within said open-topped central draft-tube and to be removed therefrom, an aperture being furnished for the passage of the conducting-wires, substantially as set forth.

2. The combination with a lantern, having a fixed open-topped central draft-tube and also a hinged cap, of an electric-lamp carrier adapted to be supported by and within said open-topped tube and to be removed therefrom, and means provided in the lantern and carrier for permitting the escape of heated

air from the lantern, said cap having an aperture for the passage of the conducting-wires, substantially as set forth.

3. The combination with a lantern, having
5 a fixed open-topped central draft-tube and also an attached liftable cap, of an electric-lamp carrier adapted to be supported by and within said open-topped tube and to be removed therefrom, an aperture being provided
10 for the passage of the conducting-wires, substantially as set forth.

4. A lantern, having an open-topped central draft-tube, combined with an electric-lamp carrier adapted to be supported by and
15 within said open-topped tube, conducting-wires attached to said electric-lamp carrier, means on said carrier for holding it within said tube, a non-detachable liftable cap having a notch for bridging said conducting-
20 wires, and means for holding said carrier in position when the cap is closed, substantially as set forth.

5. A lantern, having an open-topped central draft-tube, combined with an electric-lamp carrier adapted to be supported by and
25 within said tube, conducting-wires attached to said lamp-carrier, an aperture being provided for the passage of said wires to the exterior of the lantern, means on said carrier
30 for holding it within said tube, an attached liftable cap, and a spring, attached to said cap, for pressing on said carrier and holding

it in position when the cap is closed, substantially as set forth.

6. A lantern, having an open-topped central draft-tube, combined with a removable
35 electric-lamp carrier adapted to be supported by and within said tube, a cap-piece on said carrier, a lamp-socket secured to the bottom of the carrier, conducting-wires attached to
40 the socket and passing out between said carrier and its cap-piece, an aperture being provided for the passage of said wires to the exterior of the lantern, a liftable cap permanently attached to the lantern and independent
45 of the lamp-carrier, and a spring for pressing on said carrier when the cap is closed, substantially as set forth.

7. The combination with a lantern having a cap, and provided with a fixed open-topped
50 central draft-tube, of an electric-lamp carrier adapted to be supported by and within said open-topped tube and to be removed therefrom, an aperture being furnished for the
55 passage of the conducting-wires, and means for holding said carrier in position when the cap is closed, substantially as set forth.

In testimony whereof I hereunto set my hand and seal.

WILLIAM S. HAMM. [L. S.]

Witnesses:

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