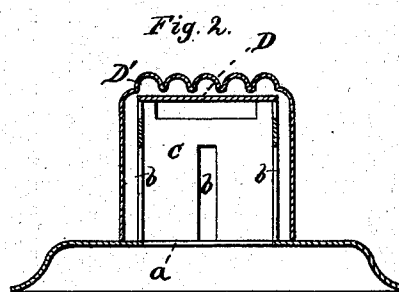
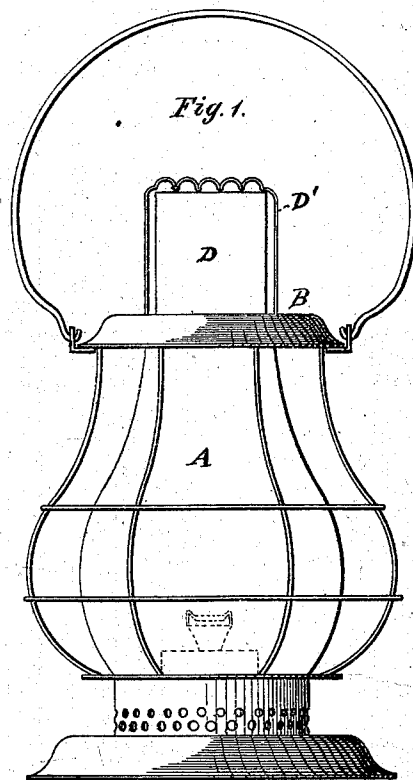


A. J. WARREN.
Lanterns.

No. 146,415.

Patented Jan. 13, 1874.



Witnesses:

W. H. Duhamel
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Inventor.

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UNITED STATES PATENT OFFICE.

ANDREW J. WARREN, OF NEW YORK, N. Y.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **146,415**, dated January 13, 1874; application filed December 24, 1873.

To all whom it may concern:

Be it known that I, ANDREW J. WARREN, of New York, county of New York and State of New York, have invented certain new and useful Improvements in Lanterns, of which the following is a specification:

My invention relates more particularly to such lanterns as are intended to be carried about; and the nature of my invention consists in the construction and arrangement of the cap or top of the lantern, whereby a draft is obtained around all sides and top of the cap, the object being to enable the consumer to use the cheaper forms of carbon-oil, where heretofore the more expensive lard and sperm oils have been required, and also to protect the hand of the carrier from heat.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of a lantern with my invention attached. Fig. 2 is a sectional view of the cap.

A represents a lantern constructed in any of the known and usual ways. B represents the cap of the lantern provided with a central orifice, *a*. C represents a square frame or cup attached permanently to the top of the cap B and surrounding the orifice *a*. Each side of the frame or cup C is provided with a vertical slot, *b*, in the center from the lower edge upward for a suitable distance. The frame or cup C is surrounded by an exterior frame formed of two plates, D and D', the plate D being bent to form a top for the interior frame C a suitable distance above it, and the ends of the plate passing vertically downward parallel with and a short distance outside of the two opposite sides of the frame C. The plate D' is bent in the same manner parallel with and a short distance beyond the other two sides of the interior frame C; but the middle

portion of this plate D' is corrugated, as shown and elevated above the middle portion of the plate D. The plates D and D' being of about the same width as the sides of the interior frame C, suitable openings are left at the corners.

By this construction of the cap of the lantern, sufficient draft is obtained to allow of the use of kerosene-oil or any of the cheaper forms of carbon-oil. In the lanterns heretofore used such oils could not be employed where the lantern had to be swung to and fro; but with my improvement this can be done, as the air passing in at the corners, between the frames C and D D', will pass through and out at the opposite side without in the least interfering with the light or with the draft. The corrugated surface of the plate D' establishes a current of air between it and the plate D, keeping said corrugated portion of the plate D' cool, and thus protecting the hand of the carrier from the heat.

A lantern provided with a cap of this construction will prove a cheap, and at the same time good and durable, signal-lantern for use on railroads.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the cap B of a lantern, of the interior frame C, having a central vertical slot, *b*, in each side, and the exterior frame composed of the plates D and D', the latter being corrugated in the center, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 24th day of December, 1873.

ANDREW J. WARREN.

Witnesses:

H. S. ABBOT,
THOMAS BYRNE.