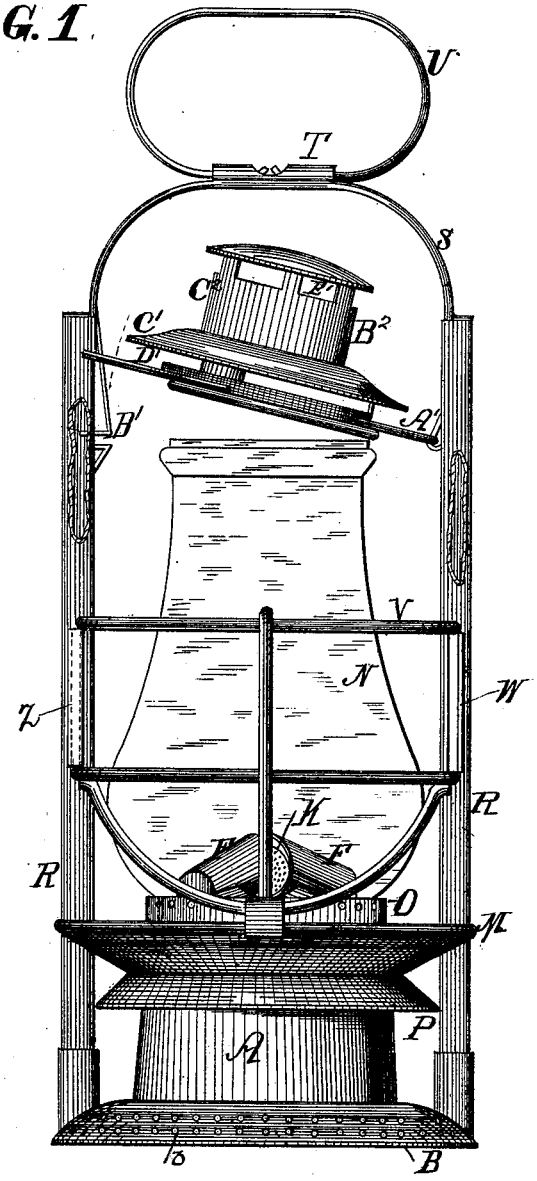
2 Sheets—Sheet 1.

E. B. REQUA.

LANTERNS.

No. 195,648. Patented Sept. 25, 1877.

FIG. 1.



WITNESSES

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2 Sheets—Sheet 2.

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FIG. 2.

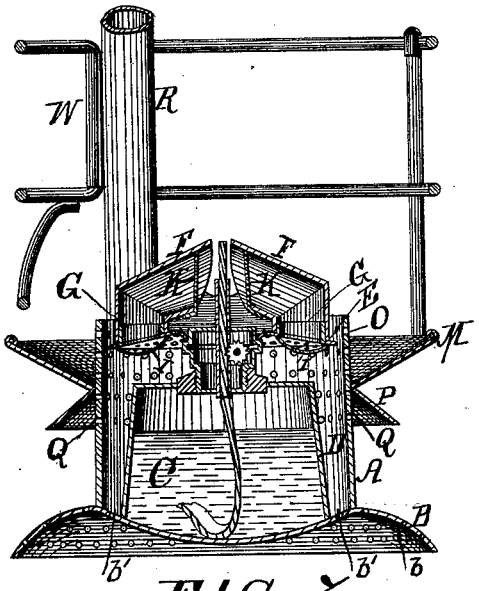


FIG. 3.

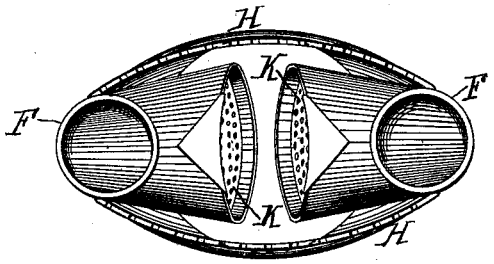
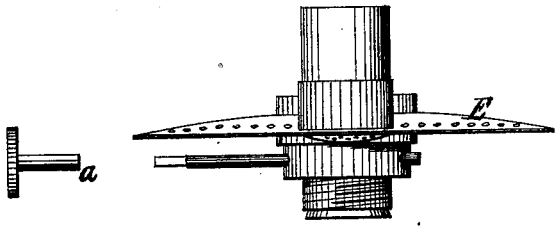


FIG. 4.



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UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **195,648**, dated September 25, 1877; application filed August 27, 1877.

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Lantern, of which the following is a specification:

This invention relates to certain improvements in the construction of lamps and lanterns; and it consists, first, in the combination, in a lantern, of two tubular deflectors provided with foraminous disks and partitions, whereby the currents of air admitted to the burner are rendered steady and uniform and back drafts are prevented; second, in the combination, with the lantern-body, of the reversely-set concavo-convex annular deflectors, located below the globe-holder, and adapted to deflect fresh air into the lantern when the same is suddenly shifted in a vertical direction; third, in the combination, with the lamp-fount and lantern-body, of an annular chamber communicating with the atmosphere below the lantern and with the lantern above the burner by means of a tubular deflector and apertures in the dividing-diaphragm, substantially as set forth; fourth, the combination, with the arched connecting-piece of the tubular standards which form the framework of the lantern, of a tubular socket with an opening between the two ends for securing the bail, the ends of said bail being inserted in said socket and bent upward through the opening to prevent removal, as more fully hereinafter set forth; fifth, in the combination, with the tubular standard forming the frame of the lantern, of a cross-piece for supporting the upper metallic section of the lantern, said cross-piece being hinged to one standard and adapted to engage and be held by a locking device on the other, substantially as set forth.

In the drawings, Figure 1 represents a side elevation of my improved lantern; Fig. 2, a vertical section through the same; Fig. 3, a top view of the burner and tubular deflectors; and Fig. 4, a detachable view of the tubular deflectors.

The letter A represents the body of the lantern, supported upon the convex side of a concavo-convex disk, B, which forms the base of the lamp.

C represents the lamp-fount, secured within the body A to the bottom B of the lantern, an annular space, D, being left between the outer wall of the lamp-fount and the inner wall of the lamp-body for the passage of air upward to the burner. The base B is provided with a series of perforations, *b*, around its outer edge, and a series of perforations, *b'*, leading into the space D, for the admission of air to said space.

The letter E represents a concavo-convex diaphragm secured to the burner-cap, the convex side downward, said diaphragm dividing the annular space D from the upper part of the lantern. From said diaphragm, on each side, extend the tubular deflectors F, terminating just above the burner on each side of the same. Said deflectors communicate with the annular space D below the diaphragm, and are detachably secured to short tubes G, in order that they may be removed for cleaning, and they are connected together at each side by means of the plates H H, in order that they may always be accurately adjusted with respect to each other.

At the openings leading to the deflectors, on the lower side of the diaphragm, are secured cup-shaped perforated or foraminous disks I I, and at the upper ends of the deflectors foraminous partitions K K, which steady the draft and prevent the air from being forced backward when the lantern is suddenly elevated. The diaphragm E is also provided with perforations I I, leading to the upper part of the lantern, to supply outside draft to the lamp.

In order that the burner-cap and diaphragm may be readily removed, the ratchet-shaft is terminated within the lantern-body, and is provided with a removable key, *a*, which can be inserted through an opening in the lantern-body in order to raise and lower the wick. This also offers an efficient protection against tampering with the light when the lamp is hung in public places, as the key may be removed after the wick is adjusted.

The letter M represents a concavo-convex annular plate with the concave side upward, surrounding the body A of the lantern at a point below the upper edge of the same, which forms the seat for the globe N. Said

plate serves not only as a guard for the lower part of the globe, but also as a deflector to direct a current of air into the lamp through the apertures O in the upper part of the lamp-body, in order to supply fresh air to the interior of the lantern when it is suddenly elevated, for the purpose of supporting combustion and preventing the back-pressure of the products of combustion caused by such sudden elevation, which would be liable to extinguish the light.

The letter P represents a similar downwardly-extending concavo-convex annulus located just below the annulus M, for the purpose of deflecting air into the lamp, when the same is suddenly depressed, through suitable apertures Q in the lamp-body.

From the base of the lantern, on opposite sides of the same, extend two upright standards, R R, through the plate M, to which, they, are attached. Said standards are united at the top by means of an arched cross-piece, S, the upper side of which is provided with a tubular socket, T, with an opening about midway between its ends, into which the ends of the bail U are fitted, said ends being bent up and out of the opening to prevent their removal. The upright standards form a support for the wire guards V V, one of which is rigidly secured to said standards, the other being hinged to one of said standards, as shown at W, the other standard being provided with a catch, Z, by means of which the said hinged guard may be held when closed, said guard being capable of being swung back to remove or insert the globe.

The letter A′ represents a cross-piece, hinged to one of the standards at one side, and adapted to engage in a locking device, B^1, on the other standard. Said cross-piece supports the metallic section B^2, which rests upon the upper edge of the globe, and confines it in place upon its seat below. Said section is constructed with a downwardly-projecting annular flange, C^1, of greater diameter than that of the flue or chimney C^2 above, so as to catch the air and deflect it through the apertures D′ into the upper part of the lantern, to assist in driving out the products of combustion through the escape-apertures E′ above when the lantern is suddenly depressed, and prevent the upper part of the lamp from heating.

The operation of my invention will be fully understood in connection with the above description, for which reason further explanation is deemed unnecessary.

The advantages of my improvement will be apparent. It will be observed that the lamp is ordinarily supplied with air while in a stationary position through the tubular deflectors, which conduct the air from the bottom of the lantern through the annular space around the lamp directly to the burner, serving to supply a uniform current, which serves the additional purpose of keeping the lantern-fount cool, while, by reason of the foraminous diaphragms, the tendency to reverse currents of air on suddenly elevating the lanterns is greatly diminished.

Upon any sudden elevation or depression of the lantern the deflecting-plates come in play, catching the air and directing it into the lantern, so as to counteract such reverse currents, if such should be established, and supply the necessary fresh air to support combustion. By reason also of said deflecting-plates the various parts of the lantern are kept from heating, enabling it to be handled with ease when burning, and, owing to the peculiar construction of the frame, a strong, light, and durable lantern is produced, while the globe is effectually protected against accidental blows.

What I claim, and desire to secure by Letters Patent, is—

1. In combination with the tubular deflectors, the foraminous disks and partitions, whereby the currents of air admitted to the burners are rendered steady and uniform and back-drafts are prevented, substantially as set forth.

2. In combination with the lantern-body, the reversely-set concavo-convex annular deflectors, located below the globe-holder, and adapted to deflect fresh air into the lantern when the same is suddenly shifted in a vertical direction, substantially as set forth.

3. In combination with the lamp-fount and lantern-body, an annular chamber communicating with the atmosphere below the lantern and with the lantern above the burner by means of the tubular deflectors and the apertures in the dividing-diaphragm, substantially as set forth.

4. In combination with the arch-connecting piece, a tubular socket with an opening between the two ends for receiving the bail, the ends of said bail being inserted in said socket and bent upward through the opening to prevent removal, substantially as set forth.

5. In combination with the tubular standard, the hinged cross-piece for supporting the upper metallic section of the lantern, said cross-piece being hinged to one standard and adapted to be engaged and held by a locking device on the other, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

ELIAS B. REQUA.

Witnesses:

BANN HIGHAM,

PHILLIP ABBOTT.