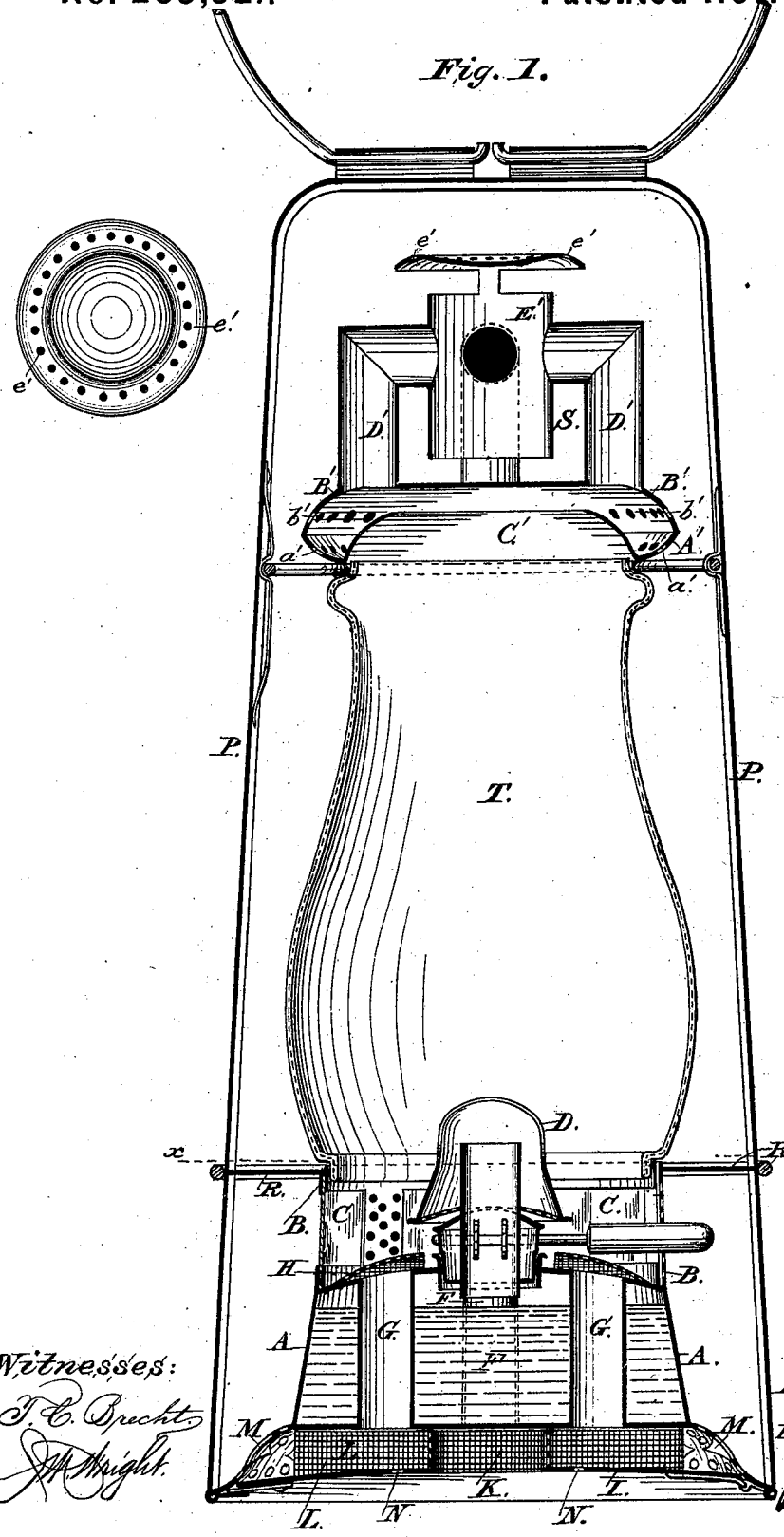
2 Sheets—Sheet 1.

E. B. REQUA.

Lantern.

No. 209,921. Patented Nov. 12, 1878.

Fig. 1.



Witnesses:
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J. H. Wright.

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Lantern.

No. 209,921. Patented Nov. 12, 1878.

Fig. 2.

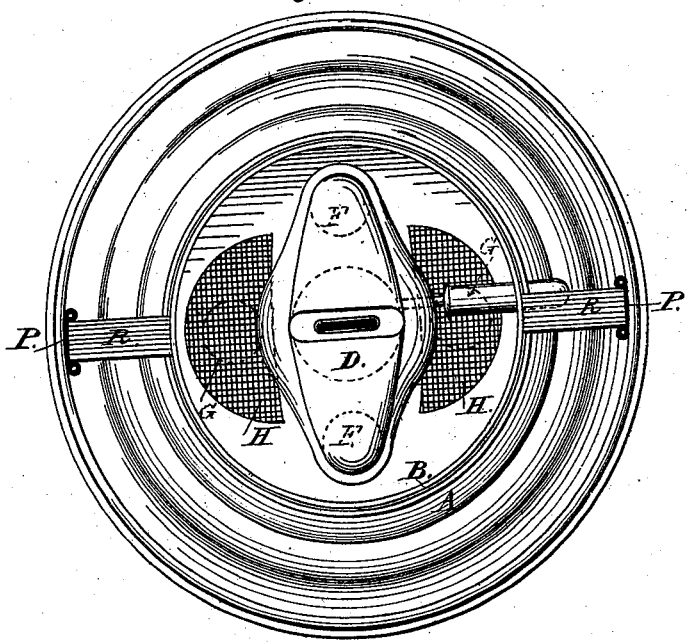


Fig. 3.

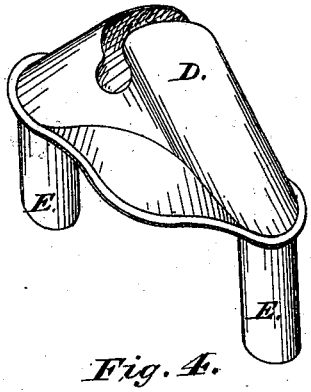
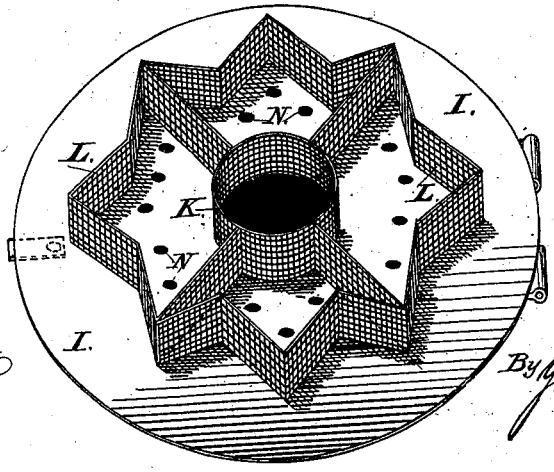


Fig. 4.



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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. **209,921**, dated November 12, 1878; application filed October 25, 1878.

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 Lanterns, of which the following is a specification:

This invention relates to certain improvements in lanterns; and it has for its object to economize material in the construction of the same, to provide for the better transmission of the light from the lamp, to facilitate the cleaning of the interior portions of the body of the lantern, and guard against the entrance of downward currents at the top of the lantern, and obviate the tendency of the upper portion of the lantern to become heated, as more fully hereinafter set forth.

To this end my invention consists, first, in a lantern-fount having its wall extended upward to form a globe-holder, and provided with translucent or transparent windows, separated by perforated panels, whereby provision is made for diffusion of light from the base of the frame and for a lateral supply of air to the flame, all as hereinafter more particularly described; second, in the combination, with a lamp-fount, of a tubular deflector, connected with draft-passages extending through the lamp-fount, and two foraminous partitions, secured to the top of the lamp-fount, whereby air is supplied to the flame both on the inside and outside of the deflector; third, in the combination, with the air-passages, of a space below the lamp-fount, having foraminous walls, and provided with a hinged perforated bottom, having a central aperture, and provided with a series of foraminous partitions, forming chambers, communicating with the upward air-passages, whereby the air is diffused and conducted to the flame of the lamp, as more fully hereinafter specified; fourth, in the combination, with a lantern-globe and globe-holder, of an upper section, consisting of a concavo-convex perforated annulus, adapted to rest upon the upper edge of the globe, concavo-convex top, secured to the annulus, the two concave portions being face to face, an inner concavo-convex annulus, secured to the perforated annulus, and a series of bent flues, leading to a central escape-flue, whereby all downward currents into the lamp are obviated; fifth, in a novel construction and combination of vertical and bent flues for the escape of the products of combustion from the lantern, and a concavo-convex disk, located above the exit-opening, with its convex surface downward, and having a downwardly-turned lip, at the inner terminus of which is an annular row of perforations, through which the products of combustion are permitted to pass freely upward and escape, thus preventing undue heating of the upper part of the lantern and scattering of the smoke laterally.

In the drawings, Figure 1 represents a vertical transverse section of my improved lantern; Fig. 2, a horizontal section on line *x x* of Fig. 1. Fig. 3 represents a detached perspective view of the deflector; Fig. 4, a detached view of the hinged bottom.

The letter A represents the lamp-fount of the lantern, and B the globe-holder of the same, which is a continuation of the walls of said lamp-fount. Said globe-holder is pierced at intervals, and is provided with translucent or transparent windows C, in order to transmit the light from the lamp.

The letter D represents a pyramidal deflector, provided with short tubes E at each end, which are adapted to fit into upwardly-extending air-passages F in the lamp-fount A. The letter G represents two similar air-passages extending through the lamp-fount, above each of which is located a perforated disseminating or diffusing plate, H. The letter I represents a false bottom, hinged to the base of the lantern below the bottom of the lamp-fount, and provided with a central aperture, K. Said false bottom has secured to its upper side the foraminous partitions L, forming compartments N, communicating respectively with the upright air-passages. Said false bottom is also provided with perforations N, leading to said compartments.

The base of the lantern is perforated, as shown at M, the perforations serving to admit air to the lamp to support combustion when the lantern is at rest.

The letter P represents the upright standards of the lantern, and R the guards of the same, secured to said standards. To one of said standards is hinged the upper section, S, of the lantern, the opposite guard being pro-

vided with a spring-catch, by means of which the globe T can be clamped down upon its seat. Said upper section consists of a concavo-convex annulus, A′, provided with perforations *a′*, and a concavo-convex disk, B′, provided with perforations *b′*, the annulus and disk being united at their edges, with the concave sides facing each other, the inner edge of the annulus forming a seat for the upper edge of the globe. On the inside of the chamber formed by the annulus and disk is located a concavo-convex annular deflector, C′, which deflects the air entering through the perforations *a′ b′* upwardly, preventing any downward currents toward the flame. From the disk B′, and in a circle directly over the annulus C′, extend upwardly a series of bent tubes, D′, communicating at their upper ends with a vertical tube, E′, open at both ends, above the upper end of which is located a concavo-convex plate, the concave side up, said plate having a downwardly-turned edge and being provided with a series of perforations, *e′*, whereby the escape of the heated products of combustion is facilitated.

The operation of my invention is as follows: When the lamp is lighted, the air to support combustion enters at the central aperture in the hinged bottom and through the apertures in the base. It then passes through the foraminous diffusing-partitions and passes up through the upwardly-extending air-passages to the interior of the deflector and the interior of the globe-holder. The heated products of combustion ascend in the globe and pass out through the bent tubes into the central escape-flue. The current thus created draws in cold air through the apertures in the upper section, which, mixing with the heated production, abstracts a portion of the heat, thus preventing the upper section from becoming unduly and injuriously heated.

What I claim is—

1. The lantern-fount A, having its wall extended upward to form the globe-holder B, and provided with the translucent or transparent windows C, separated by the perforated panels, substantially as described, and for the purpose set forth.

2. In combination with a lamp-fount, a pyramidal deflector, connected with draft-passages extending through the body of the lamp, and one or more foraminous diffusers, secured to the top of the lamp-fount directly above one or more air-passages extending through said fount, whereby air is supplied to the flame both inside and outside of the deflector, substantially as and for the purposes specified.

3. In combination with the air-passages extending through the lamp-fount, a space below said fount, having foraminous walls, and a hinged bottom, having a central aperture and a series of foraminous partitions, forming chambers, communicating with the upward air-passages, substantially as and for the purpose specified.

4. In combination with the globe and globe-holder of a lantern, an upper section consisting of a concavo-convex perforated annulus, a concavo-convex perforated disk, united at its edge to the outer edge of the annulus, an internal concavo-convex deflector, and a series of bent exit-tubes, communicating with a central exit-flue, whereby a current of cold air is established through the upper flue to prevent heating, substantially as specified.

5. The combination, with the exit-flue E′ and bent tubes D′ D′, of the concavo-convex disk located above said exit-flue, with its convex surface downward, and having a downwardly-turned lip, at the inner terminus of which is an annular row of perforations, substantially as described, and for the purpose 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:
JOHN A. LEWIS,
WALTER L. CARR.