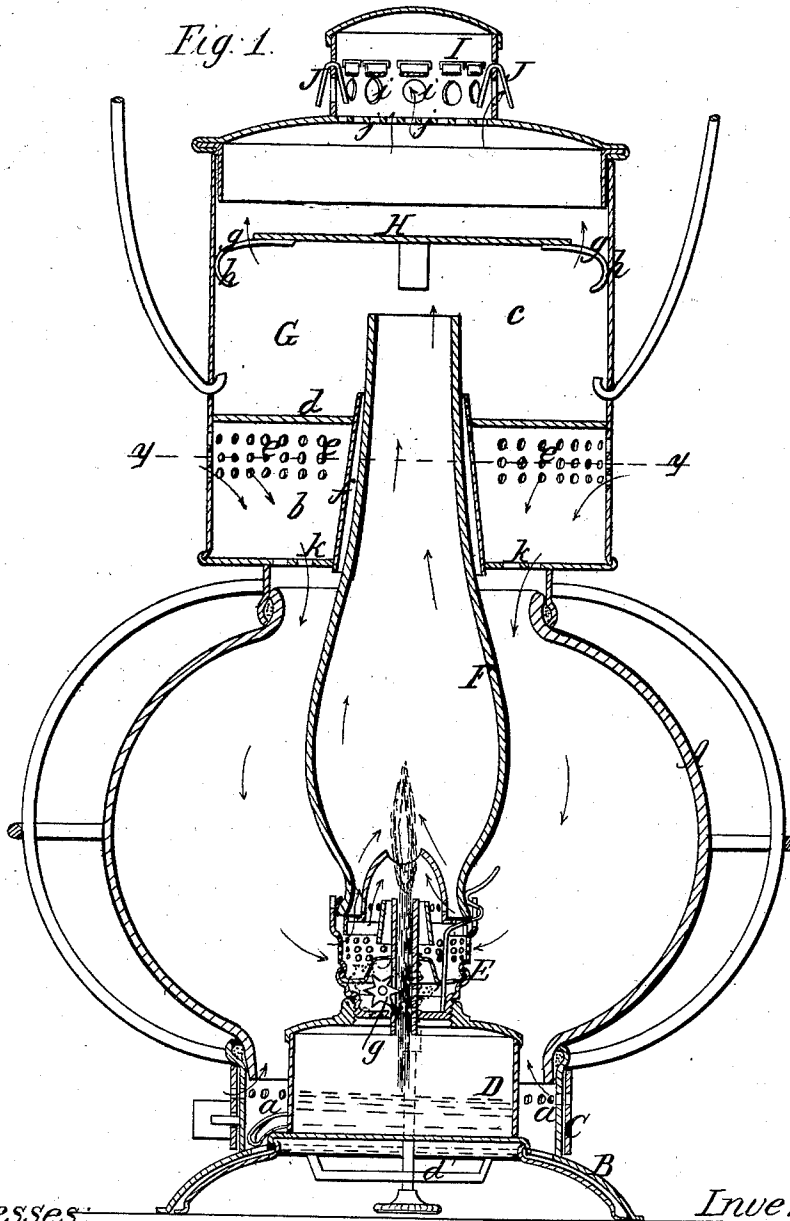


E. B. COFFIN.
LANTERN.

No. 32,161.

Patented Apr. 23, 1861.



Witnesses;
J. W. Coombs
A. S. Spencer

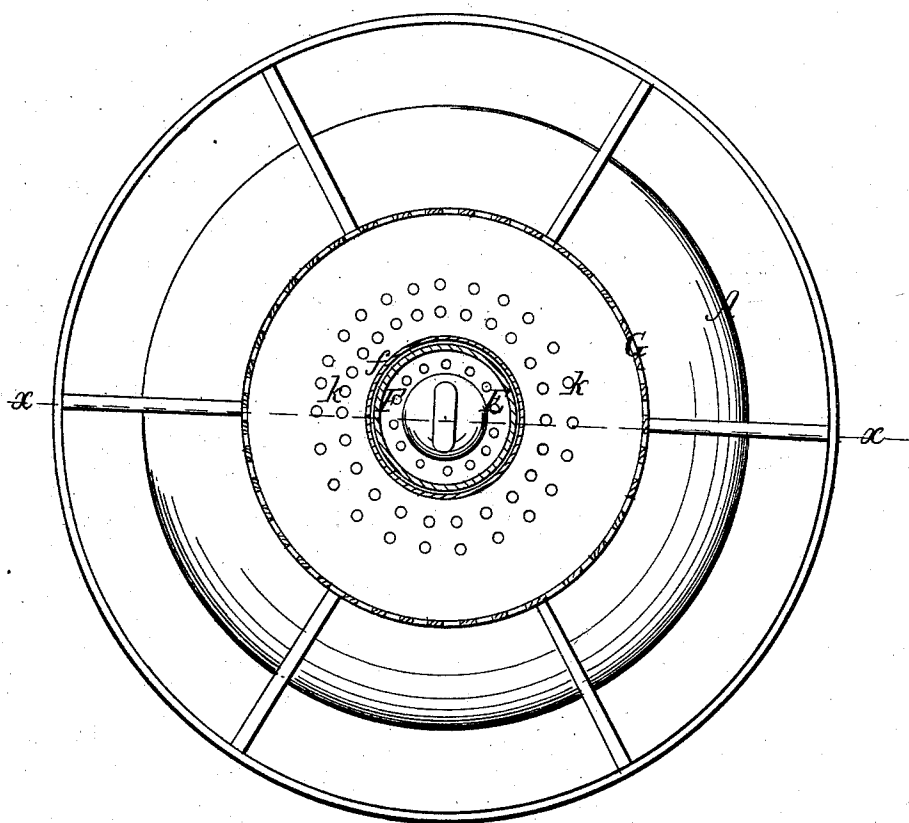
Inventor;
E. B. Coffin
per Munn & Co. Attorneys

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Fig. 2.



Witnesses;
J. W. Coombs
R. S. Spencer

Inventor;
E. B. Coffey
per Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

E. B. COFFIN, OF JOHNSTON, RHODE ISLAND, ASSIGNOR TO HIMSELF AND
A. H. SYLVESTER, OF SAME PLACE.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. 32,161, dated April 23, 1861.

To all whom it may concern:

Be it known that I, E. B. COFFIN, of Johnston, in the county of Providence and State of Rhode Island, have invented a new and Improved Lantern; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to obtain a lantern for burning kerosene or coal oil.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a glass globe, the lower part of which is fitted within a base, B, perforated at its side, as shown at *a*, and encompassed by a perforated band, C, which forms a register to admit more or less air into the lower part of the globe, as may be desired.

D represents the fountain or oil-reservoir of a lamp, which is provided with an ordinary coal-oil burner, E, and glass chimney F. The fountain D is fitted and secured with the base B in the usual or in any proper way, so that it may be readily detached and removed from the globe A when desired. The upper end of the globe A is secured to the bottom of a cylinder, G, which is of metal and divided into two compartments or air-chambers, *b c*, by a partition, *d*. The lower compartment, *b*, has perforated sides, as shown at *e*, and a tube, *f*, runs centrally through compartment *b*, to admit of the glass chimney F passing through into the upper compartment, *c*, of cylinder G, as shown clearly in Fig. 1.

H is a horizontal deflector or plate, which is fitted in the upper compartment, *c*, of cylinder G. This plate is of circular form and of smaller diameter than the cylinder G, in order to allow a space, *g*, all around between its edge and the cylinder. The plate or deflector H is retained in proper position by elastic lugs or projections *h*, which extend from

the edge of plate H and bear against the inner side of the cylinder, as shown in Fig. 1. The upper part of the cylinder is provided with a small dome-shaped chamber, I, the sides of which have apertures *i* in them.

J represents valves, which are simply metal plates bent in V form and fitted in slots over the apertures *i*, said plates or valves being allowed to swing freely in the sides of the dome or chamber I. The lower part of the dome or chamber I communicates with the upper apartment, *c*, of cylinder G by perforations *j*, and the lower part of the compartment *b* of cylinder G communicates with the globe A by perforations *k*.

The wick may be raised and lowered by turning a small shaft, *d*, which extends through the flange at the bottom of the fountain D, the upper part of said shaft being a screw, *e*, which gears into a worm-wheel, *f*, on the end of the shaft *g*, which has the small wheels on it that engage with the wick. (See dotted lines in Fig. 1.)

From the above description it will be seen that the flame is supplied with air which passes through the perforations *e* of the compartment *b* of cylinder G, the air passing down through the perforations *k* at the bottom of said compartment into the globe A, and thence through the perforations of the burner, the warm air passing up the chimney F and through the upper compartment, *c*, of cylinder G into the chamber I, and out through the openings or apertures *i*. The valves J, in connection with the deflector H, prevent any back-draft, the valves closing on the windward side of the dome or chamber I, and the supply of air to the flame is rendered very constant in consequence of its circuitous route and the perforations through which it passes. The lower perforations may be more or less opened, to admit the air in greater or less quantity into the lower part of the globe A, by regulating the register or band C, and in case of the wind blowing strongly, so as to affect the flame, they may be nearly or entirely closed. In cases where the lantern is not exposed to any wind, the register may be fully opened.

Having thus described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

In connection with the cylinder G, coal-oil burner E, and chimney F, the valves J in the dome or chamber I, the deflector or plate H in the cylinder G, and the register C at the base of the lantern, when all are combined and ar-

ranged substantially as and for the purpose specified.

E. B. COFFIN.

Witnesses:

LORENZO D. ARNOLD,
ROBERT WILSON.