J. H. IRWIN.

Lantern.

No. 36,841. Patented Nov. 4, 1862.

Fig. 1

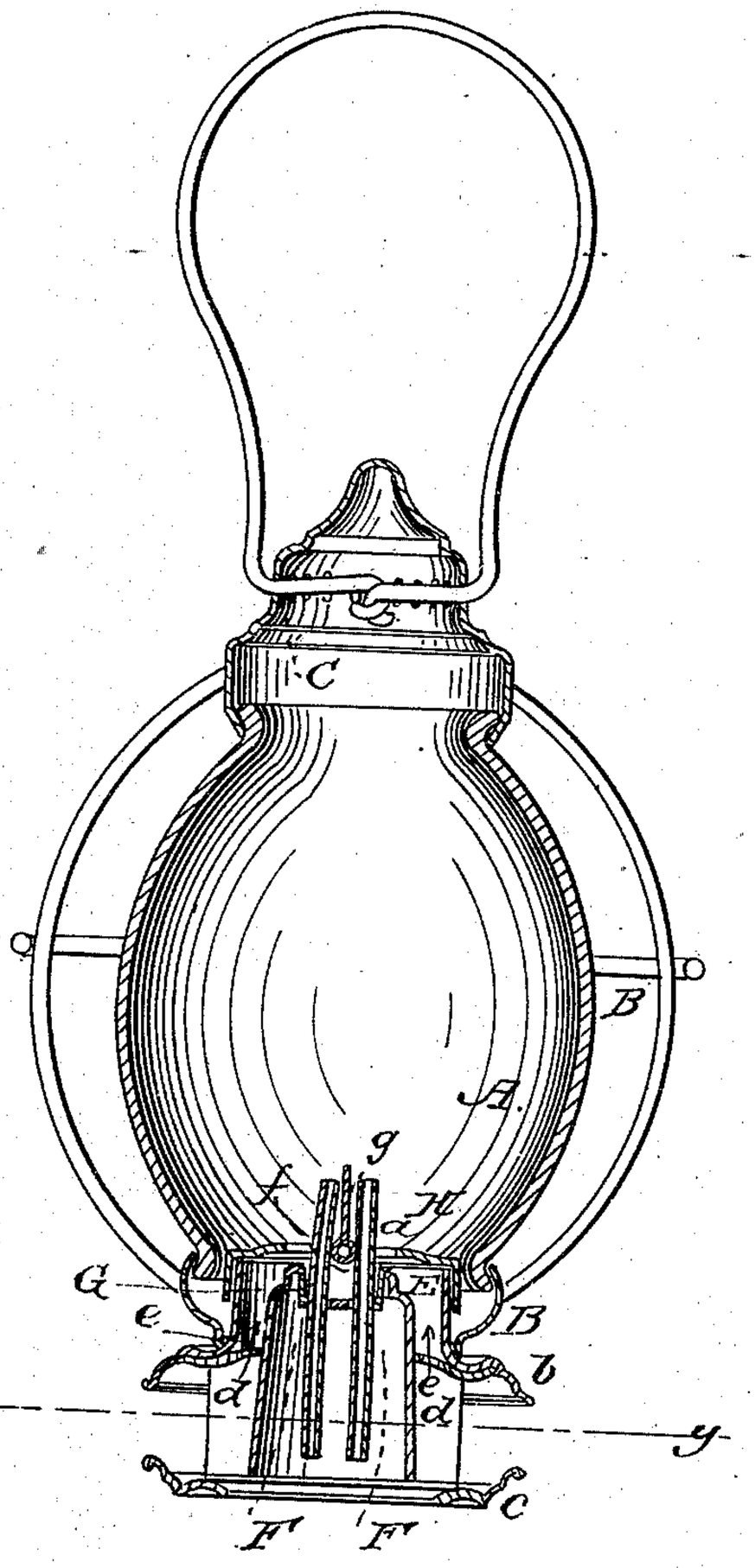
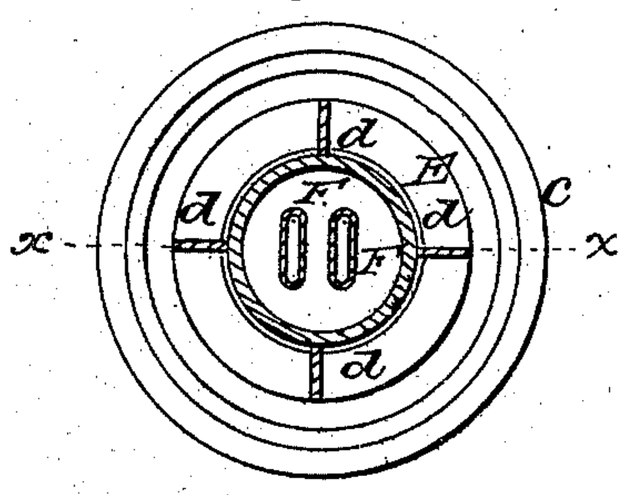


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **36,841**, dated November 4, 1862.

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of Chicago, in the county of Cook and State of Illinois, have invented a new and improved lantern for burning coal-oil and other similar hydro-carbons which require an excess of oxygen to support proper combustion for illuminating purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying 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 produce a lantern which will admit of coal-oil and other similar hydrocarbons being used as a burning material without the usual draft-chimney, and without the liability of the flame being extinguished by the swinging of the lantern or an up-and-down movement of the same, and also without the liability of the oil being unduly heated and vaporized, so as to cause an explosion of the lamp.

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

A represents the glass globe or protector of the lantern; B, the metal base; C, the metal top or cap, and D the wire-guards which protect the glass globe. These parts may be constructed in the usual way, and therefore do not require a particular description.

E represents the lamp, which is provided with two flat wick-tubes, F F, about parallel with each other and extending upward a suitable distance above the top of the lamp.

G is a jacket, which encompasses the upper part of the lamp E, and is provided with a cap, H, which has a circular opening, *a*, at its center, through which the tubes F F pass. The jacket G extends down about half the height of the lamp, and it is provided with a flange, *b*, at its lower end, which projects outward and downward all around the lamp, as shown clearly in Fig. 1.

To the lower end of the lamp E there is attached a flange, *c*, which projects outward and upward all around the lamp, as also shown in Fig. 1. The space between the two flanges *b c* has a series of vertical plates, *d*, placed in it radially with the lamp E, and having their inner edges attached to it. The plates *d* extend the whole length of the space between the flanges *b c*, but need not extend out to the edges of the latter. The inner part of the flange *b* is perforated, as shown at *e*, all around the lamp E.

To the top of the lamp E, and between the two wick-tubes F F there is secured a horizontal tube, *f*, to which a vertical plate, *g*, is attached, said plate extending up to the tops of the wick-tubes, or a trifle above them, as shown clearly in Fig. 1.

The lamp, when burning, has its flame supplied with air, which passes up between the flanges *b c* within the jacket G, and thence up through the opening *a* of the cap H, around and between the wick-tubes F F to the flame. The air has no other ingress into the lantern, and consequently the flame will be supplied with a requisite quantity of oxygen to support proper combustion for illuminating purposes without a draft-chimney.

The flanges *b c* effect important results. The upper one, *b*, gathers or catches the air, if the lantern be moved downward, and causes it to be forced upward into the lantern, while the lower flange, *c*, if the lantern be moved upward, catches the air and prevents a downward draft through the lantern, which would have a tendency to extinguish the flame. The plates *d* prevent a horizontal current of air passing between the flanges *b c* by a horizontal or swinging movement of the lantern. These plates also catch the air by such movement of the lantern and cause it to be forced up to the flame.

The tube *f* and plate *g* should be of brass or copper. These parts serve as heat conductors or retainers, and induce a draft of air between the wick-tubes. They also serve to prevent heat being conducted down to the burning material within the lamp E, and thereby prevent the explosion of the same.

The lamp may be secured in the lower part of the lantern by any suitable fastening.

Having thus described my invention, what

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

1. The combination of the two flanges *b c* and plates *d* with the lamp E, jacket G, and lantern A in the manner herein shown and described.

2. Having the cap H arranged below the upper extremities of the wick-tubes, as herein shown and described.

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