

H. J. WHITE.

Lantern.

No. 109,856.

Patented Aug. 6, 1870.

Fig. 1

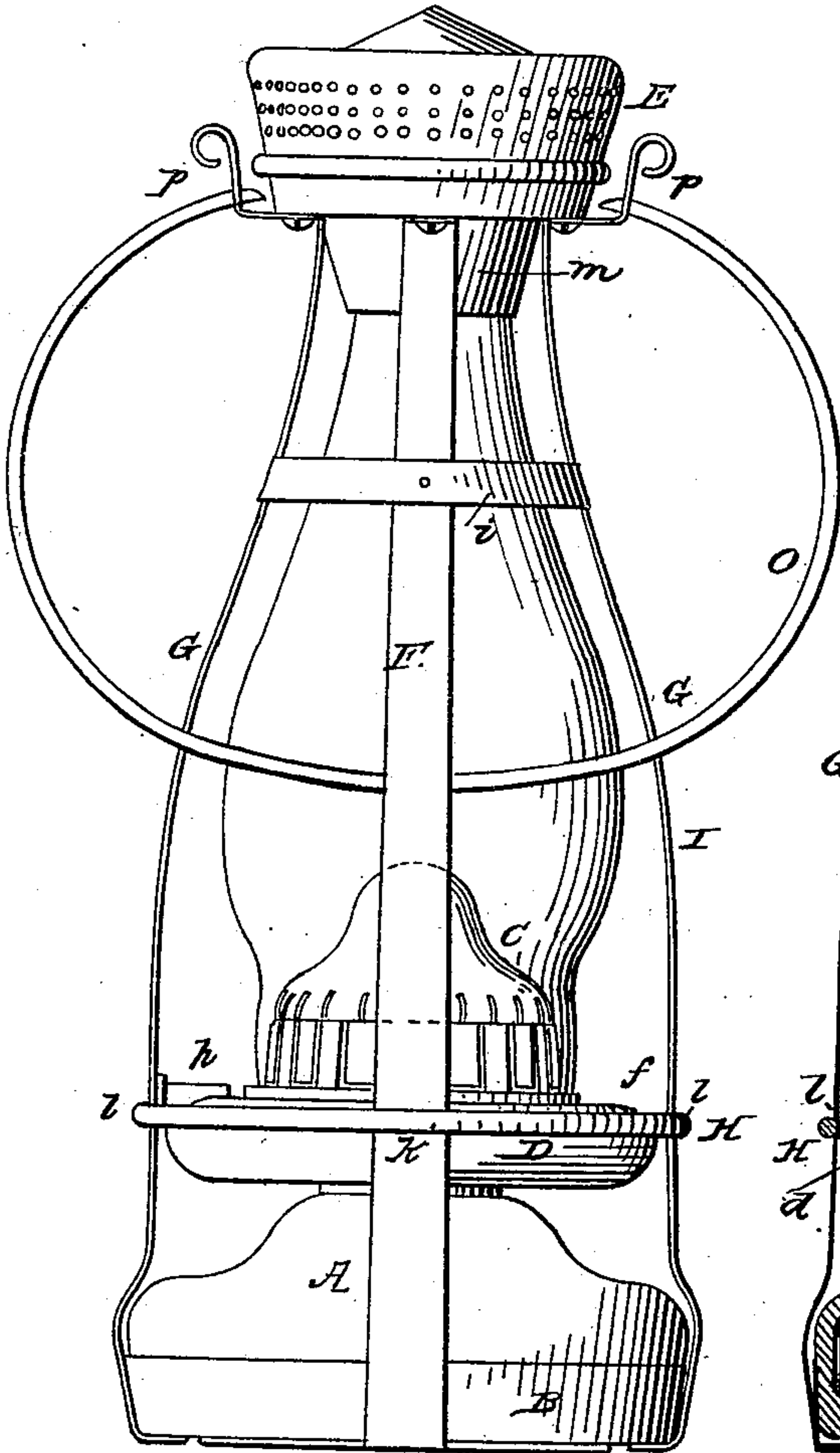


Fig. 2

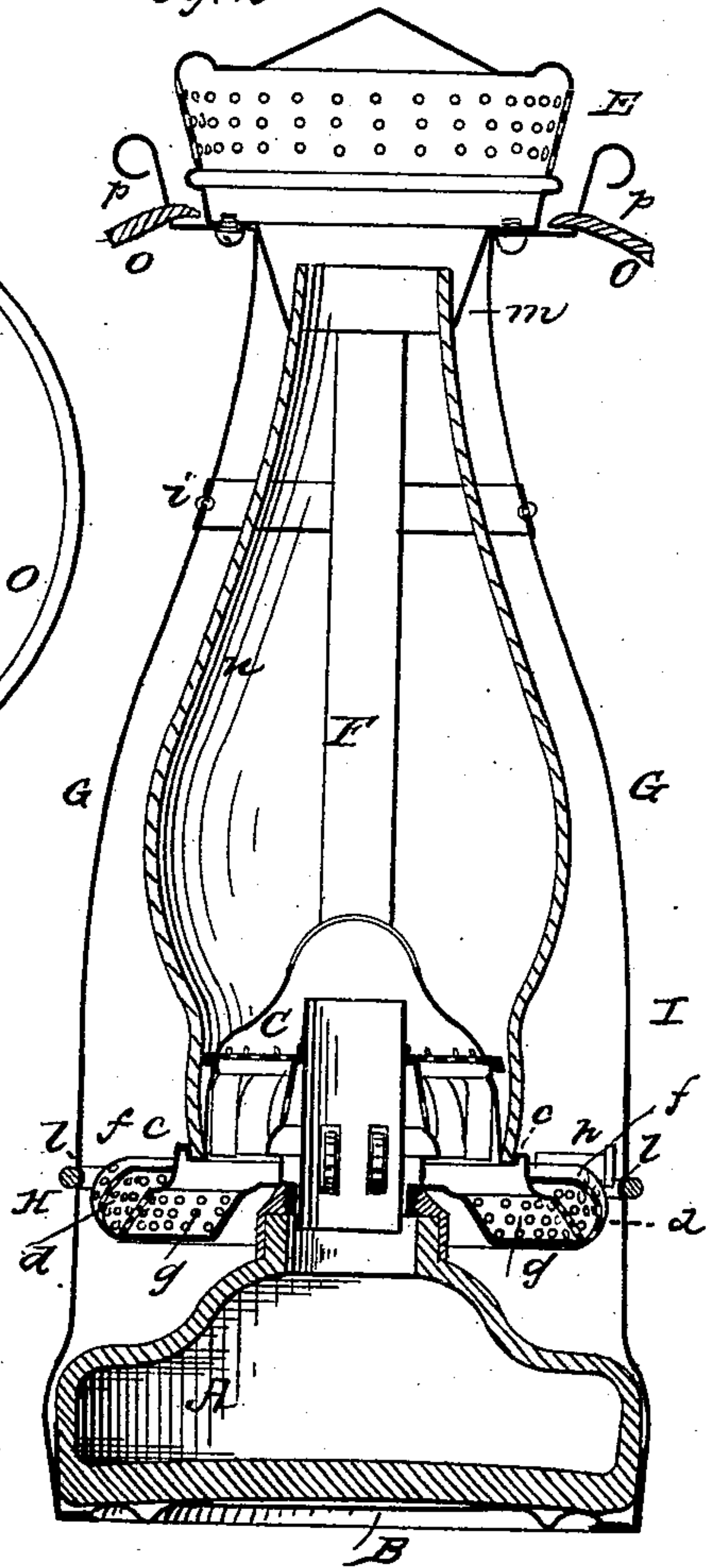


Fig. 4

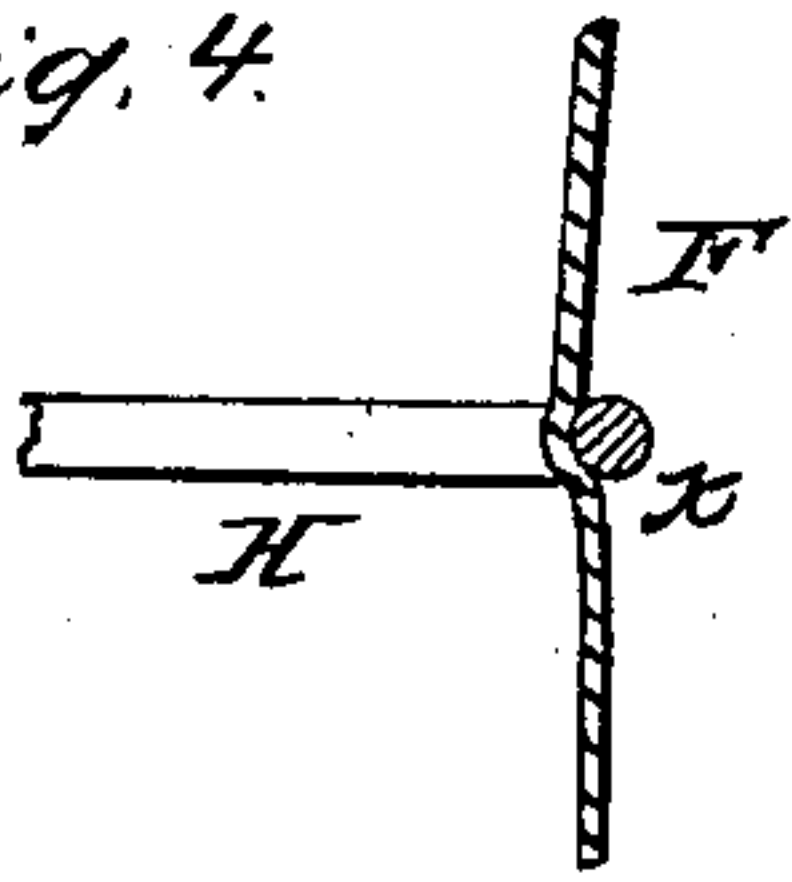


Fig. 3

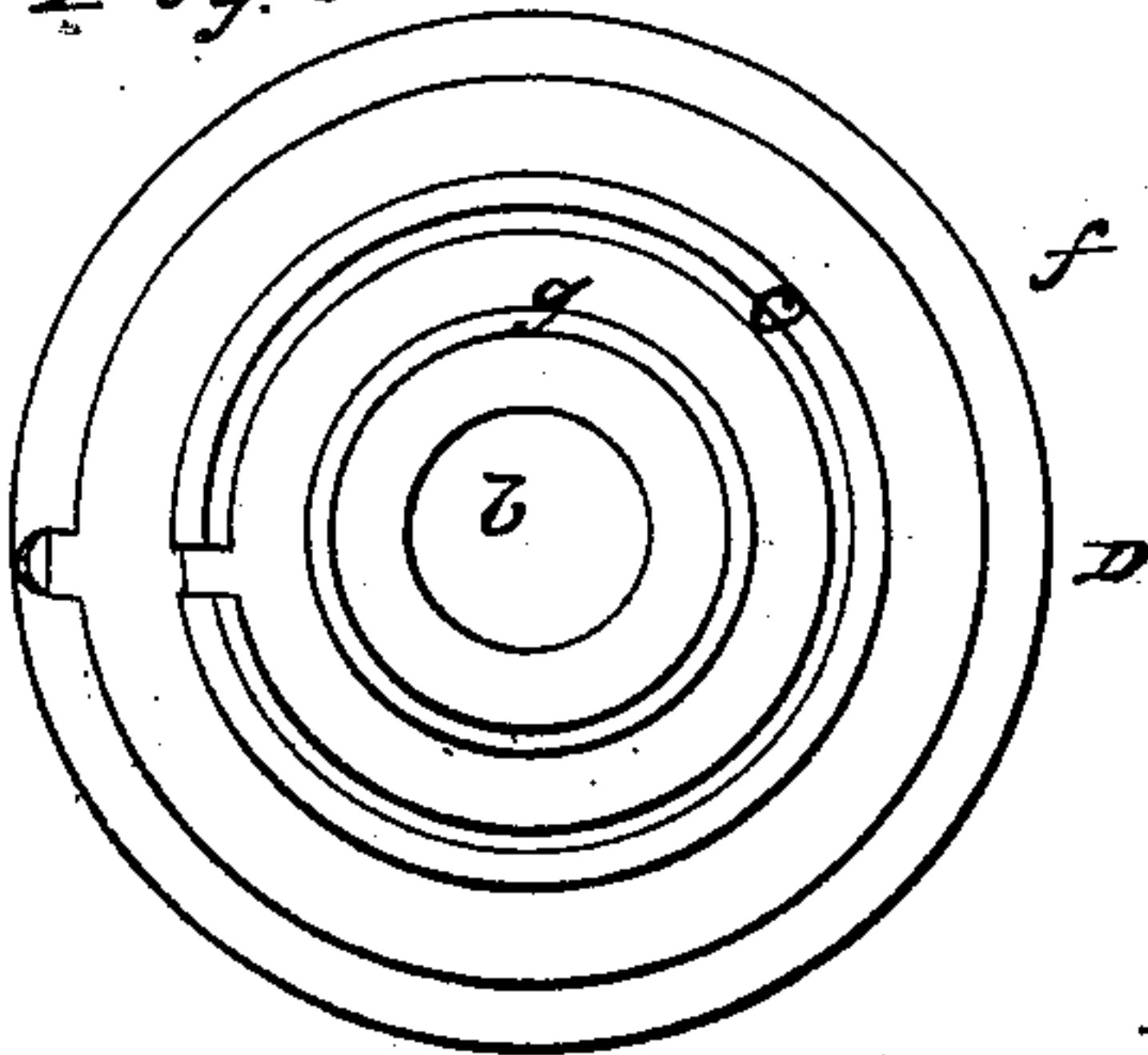
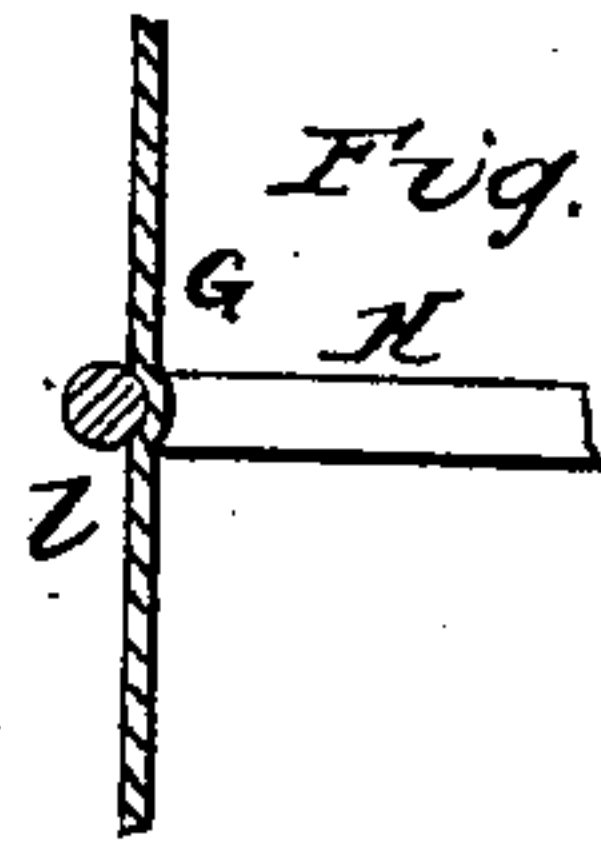


Fig. 5



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HIRAM JACOB WHITE, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 109,856, dated December 6, 1870.

## IMPROVEMENT IN LANTERNS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all persons to whom these presents may come:*

Be it known that I, HIRAM JACOB WHITE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Lanterns; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 denotes a front elevation, and

Figure 2, a vertical section of one of my improved lanterns.

Figure 3 is a top view of its air-supplying guard as separated from the lamp and burner.

Figure 4 is a vertical section of the closing ring and portions of one pair of the frame springs.

Figure 5 is a vertical section of the said ring and portions of the other pair of the frame springs.

The frame of this lantern, the bottom dish, and the air-supplying guard are intended for application to an ordinary kerosine lamp and chimney of the kind represented, or any other substantially the same.

In the drawing—

A denotes the glass body or reservoir of the lamp as placed within a metallic dish, B.

Previous to screwing the burner C to the neck of the lamp-body the air-supplying guard D is placed on such neck, or arranged therein, in the manner as shown, the burner being next screwed to the neck, so as to hold the guard thereto.

The said air-supplying guard is of a circular form, and has within it a conical chamber, *g*, provided with a dome-shaped bottom, having a circular opening, *b*, at its center, there being a circular mouth or socket, *c*, at the top of the said chamber.

The chamber *g* is surrounded by an annular and concentric chamber, *d*, having numerous perforations or holes, *e e*, in its walls or opposite sides.

A curved deflector or mouth-piece, *f*, encircles the annular chamber *d*, and is attached to its bottom, there being a space between the exterior surface of the annulus *d* and the said deflector *f*, all as represented.

If necessary, the upper part of the guard D may be notched or recessed, to receive the shank *h* of the wick elevator.

The air for supply of the burner first passes into the deflector *f*, and thence it goes through the outer range of holes *e* into the chamber *d*, out of which it escapes through the inner series of holes *e* and enters the chamber *g*.

The purpose of the air-supplying guard, made as described, is not only to supply air to the burner, but to prevent the flame of the wick from being either extinguished or disturbed by aerial currents, when the lantern may be suddenly elevated or depressed, or moved or swung laterally.

The metallic dish B serves to prevent breakage of the lamp-body, such as would be liable to take place in case of the lantern being dropped or set down quickly upon a hard body or surface.

The frame of the lantern shown at I is composed of a smoke-dome, E, and a series of flexile or spring bars, F F G G, arranged together as represented.

The said flexile bars are formed to hook underneath the bottom and outer edge of the guard dish.

At their upper ends they are fastened to the smoke-box or dome, and at a short distance below it they are encompassed by and fastened to a flat annulus, *i*.

Two of the bars, viz., F F, are formed or provided with shoulders *k k*, and the other two, G G, with grooves *l l*, extending across them close to the air-supplying guard D, and where they are to be encircled by a clamping ring or clasp, H.

The said clasp, when in place, rests in the grooves and on the shoulders. The purpose of having two of the bars made with shoulders and the other two with grooves, as described, is to facilitate the raising of the clasp-ring, which can be effected when the grooved bars are clasped by the hand of a person, so as to spring them inward. Were the four bars grooved it would be difficult or inconvenient to detach the clasp ring from them, one hand being required in effecting its elevation, and the other for detaching it from the catcher or grooves of the springs. By raising the clasp-ring on the springs, the latter will spring outward beyond the dished base, so as to enable the frame to be detached from the lamp.

The dome, at bottom, has a mouth-piece, *m*, to receive and fit to the upper part of the glass chimney *n* of the lamp. The sides of the upper portion of the dome are perforated with holes for the escape of smoke and air, beveled, or have a downward inclination, as represented, the dome at such part being in shape like an inverted conic frustum.

A bale or handle, *o*, is pivoted to ears *p p*, projecting from the dome, and such dome may have a conical top, as represented, or it may have a flat top.

The manner in which the perforated sides of the dome are flared operates to prevent air, when the lantern may be in the act of being suddenly raised from passing into the holes of such sides to the detriment of the draught of air up the chimney and out of the dome.

In the above-described lantern,

I claim, as of my invention, the following, viz:

1. The air-supplying guard D, as composed of the foraminous sided annular chamber *d*, the mouth-piece *f*, and the chamber *g*, constructed and arranged substantially as specified.

2. The combination and arrangement of the guard

D, substantially as described, with the lamp-body or reservoir A, and the burner C, applied together, as set forth.

3. The combination of the metallic dished guard B and the elastic lantern frame, as explained, with the glass lamp-body A, the burner C, and its chimney, as described.

4. The lantern frame I, as made, with shoulders *h* to two of its elastic hooked bars, F F, and grooves

*l l* to the other two, G G, such being for receiving the ring H, as set forth.

5. The dome, as made, with the chimney-receiver or mouth *m*, and also with the foraminous sides, arranged to flare in manner as explained and represented.

Witnesses:      HIRAM JACOB WHITE.  
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