C. J. SYKES.

Lantern.

No. 166,484. Patented Aug. 10, 1875.

Fig. 1

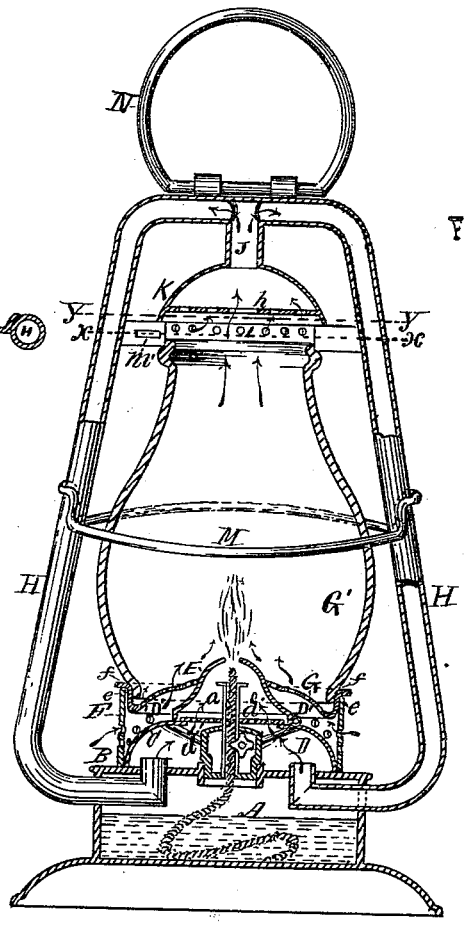


Fig. 2

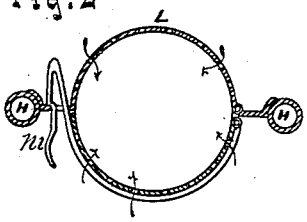
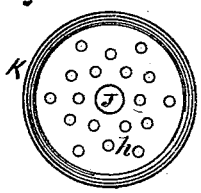


Fig. 3



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UNITED STATES PATENT OFFICE.

CHARLES J. SYKES, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **166,484**, dated August 10, 1875; application filed June 4, 1875.

To all whom it may concern:

Be it known that I, CHARLES J. SYKES, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lanterns; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a vertical central section of a lantern embodying my said invention. Fig. 2 is a diminished sectional plan of the same, taken on the line *x x*, drawn across Fig. 1. Fig. 3 is an inverted plan of the hood, taken on the line *y y*, drawn across Fig. 1.

Similar letters of reference indicate like parts in the several figures of the drawing.

My invention relates to the class known in the art as tubular lanterns; and it consists in the several combinations of parts, as will be more fully understood by the following description and claims:

In the drawing, A represents the oil-pot or base of the lantern, which is made of sheet metal, and provided with a cover, B, within which the burner or wick-tube *a* is secured, in the usual manner. Permanently attached to the base of the burner *a* is a convex cup, C, so arranged as to form an air-chamber, D, between it and the upper surface of the cover. The central portion of this cap is provided with an annular opening, *d*, upon which is fitted a perforated plate, *d'*, through which the burner passes. E is the ordinary cone, which is hinged to the cap at a point near the periphery of plate *d'*, and is provided at its center with the ordinary opening through which the flame passes. F is an annular rim, which is loosely fitted around cap C, and arranged to rest upon cover B of the oil-pot. This rim is so arranged as to admit of being removed at will, and is provided with a series of perforations, through which the air can freely pass. G is a convex annular plate, provided at its center with an opening, through which the upper portion of the cone passes. The periphery of this plate is bent upward, as shown at *e*, and outward, as shown at *f*, forming a flange adapted to rest upon the edge of rim F. The arrangement of this upward-bent portion is such as to fit into the orifice of the rim, and to receive the lower end of the globe G', by which means the latter is secured in position. This plate is also provided with a series of perforations, through which the air can freely pass, and is so arranged as to form a chamber, D', between its lower surface and the upper surface of cap C, into which the air passes through rim F. H H are the tubes, the lower ends of which pass through the wall of the oil-pot, and upward through the cover into chamber D, as shown in Fig. 1. These tubes are connected at their upper ends to a depending tube, J, the cavities of which communicate one with the other and with chamber D. Permanently attached to the lower end of tube J is an inverted hood, K, the greater diameter of which is slightly greater than the area of the upper end of globe G'. This hood is provided at a point slightly above its lower end with a perforated diaphragm, *h*, through which the air can freely pass. L is a perforated sheet-metal ring, which is permanently attached to the tubes H H immediately under hood K. This ring is made in two parts, hinged together, and is so arranged as to fit around the upper end of the globe, by which means the latter is secured in position. The movable portion of this ring is provided on its side opposite to the hinge with a spring-catch, *m*, adapted to pass through a suitable mortise, *m'*, in the adjacent part of the ring, by which means the two parts are firmly connected together, and in such a manner as to admit of being opened or closed at will, consequently allowing the globe to be readily removed when desired. M is the guard, consisting of an annular ring, arranged to encircle the globe. This ring is made solid, and is bent on opposite sides, so as to form a clasp arranged to fit partially around the tubes, and so adjusted as to bear against the same, by which means the ring is secured in position. The arrangement of this ring is such as to admit of being lifted off the tubes when necessary to remove the globe. N is the handle, which is hinged to the upper surface of the tubes, in the usual manner.

The advantages of my invention are several: First, by passing the air-tubes into the oil-pot, and through the cover into chamber D, the

current of air requisite to the proper combustion is caused to pass vertically through the perforated plate, and is equally distributed through the chamber in the cone, producing a steady ascending current of air at the point of combustion. Second, by the arrangement of perforated rim and plate forming chamber D, the current of air requisite to supply the draft in the globe ascends vertically into the latter, and is broken and equally distributed by passing from the chamber through the plate, consequently preventing any cross-current having a tendency to flare or extinguish the flame. Third, by providing the perforated ring at the upper end of the globe in place of an open space, the cross-current of air is broken and equally distributed, so that it is overbalanced by the ascending current in the globe, and carried off through the perforated diaphragm into the hood and air-tubes, thus preventing a descending current having a tendency to extinguish the flame.

Having thus described my invention, I claim—

1. In combination with the tubes H H, arranged to pass into the oil-pot and upward through the cover, the convexed cap C, forming chamber D, the latter communicating with the interior of the cone through the perforated plate *d'*, as specified.

2. In combination with the removable perforated rim F, the plate G, arranged to receive the lower end of the globe, and to form chamber D', the latter communicating with the interior of the globe through the distributing perforations in the plate, as specified.

3. The hinged perforated ring L, in combination with hood K and perforated diaphragm *h*, as specified.

CHARLES J. SYKES.

Witnesses:
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