L. HENKLE.
Lantern.

No. 218,966. Patented Aug. 26, 1879.

Fig. 1.

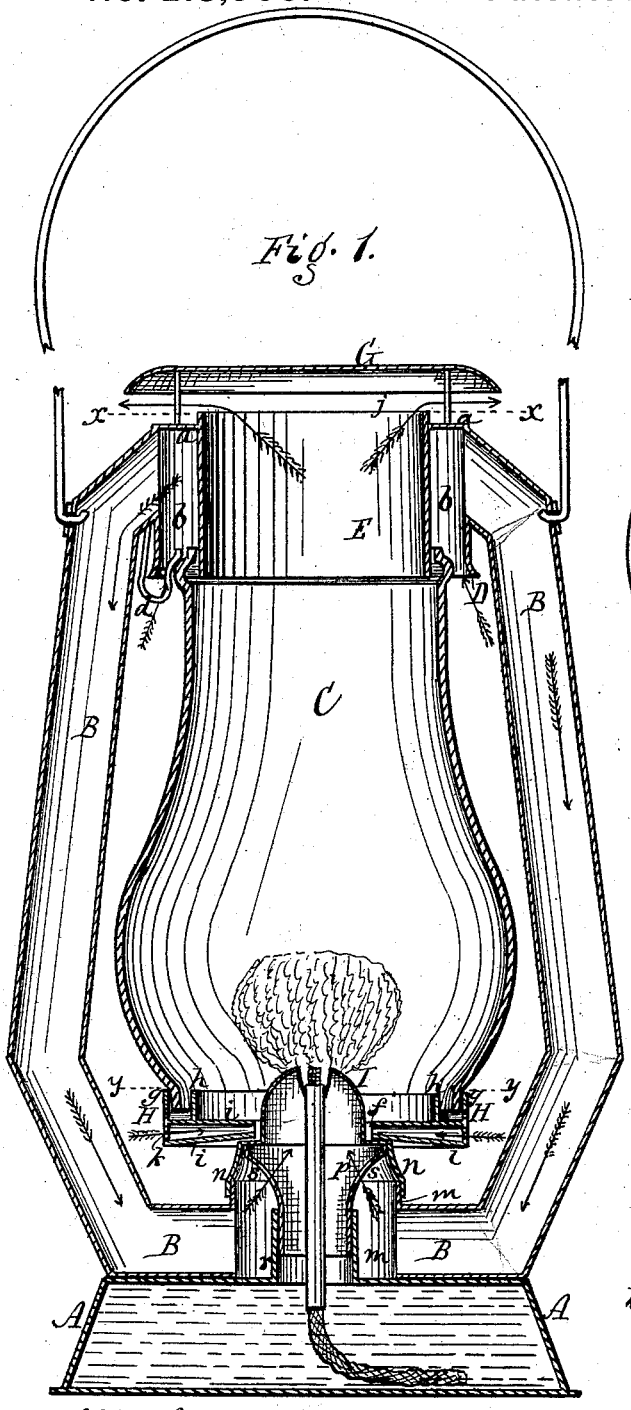


Fig. 2.

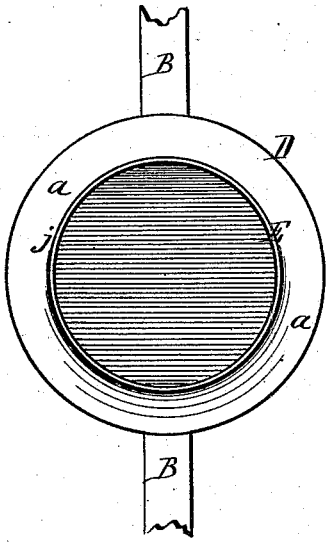
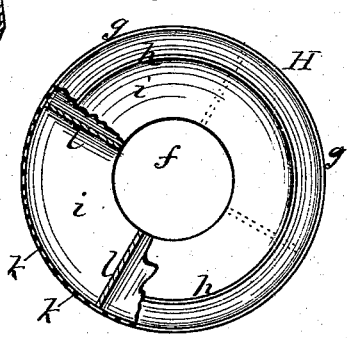


Fig. 3.



Attest.
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UNITED STATES PATENT OFFICE.

LEONARD HENKLE, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **218,966**, dated August 26, 1879; application filed February 4, 1879.

To all whom it may concern.

Be it known that I, LEONARD HENKLE, of the city of Rochester, county of Monroe and State of New York, have invented a certain new and useful Improvement in Lanterns; 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, in which—

Figure 1 is a central vertical section of the lantern. Fig. 2 is a plan looking down from line *x x* of Fig. 1. Fig. 3 is a plan of the globe-base, looking down from line *y y* of Fig. 1.

My improvement relates to side-tube lanterns.

The invention consists in an improved construction of the top of the lantern, and also of the base piece or plate which holds the bottom of the globe, all as hereinafter more fully described.

In the drawings, A represents the oil-fount. B B are the side tubes which convey the heated air down to the burner. C is the ordinary glass globe.

Ordinary side-tube lanterns now in use have a funnel over the top of the globe which takes the heated air from the globe and conveys it around through the side tubes to the blaze. In place of such an arrangement I employ the following: D is a drum or short cylinder at the top of the lantern, which is open at the bottom, but closed at the top, as shown at *a*. E is an interior tube or thimble, which is open at both ends and forms the pipe over the top of the globe for the escape of the draft. Over the top of this tube is a cap, G, which forms simply a cover or guard. It will be seen that a jacket-space, *b*, is left between drum D and tube E, closed at the top and communicating directly with the side tubes B B. This jacket-space also receives the top of the globe and allows the latter to slide up and down therein to considerable extent, said globe fitting closely to the inner tube, and not closing or cutting off the air-space outside of it. The globe has a bead in its top, over which catches a spring, to hold the globe in place. By drawing back said spring the globe can be inserted at any time.

H is the base for supporting the bottom of the globe. It is of circular form, as shown, and has a central opening, *f*, which fits over the top of cone I, leaving a small space between the edges of the opening and the cone. It consists of an outer vertical rim, *g*, an inner rim, *h*, and two horizontal plates, *i i*, the bottom one of which, however, is slightly inclined upward at the inner edge. The inner rim, *h*, simply projects up from the top of the upper plate, *i*, and the end of the globe rests between the outer and the inner rings, leaving an open space on the inside which communicates with the interior of the globe. The outer rim is provided with small perforations *k k*, which communicate with the passage between the two plates *i i*, and, as this passage is open at the inner edge, the air which enters through said perforations has a clear passage to the blaze outside of the cone, and by striking the blaze at that point it greatly assists the combustion. A portion of the air which enters the perforations in the rim, above the upper plate, *i*, has also a free passage around the lower edge of the globe to the blaze. The inner closed rim, *h*, is simply for breaking and warding off sudden gusts of air from the light. Between the plates *i i* are radial partitions *l l*, which stiffen said plates and also serve to direct the air from any given direction to the interior.

The side tubes B B at the bottom open into a chamber, *m*, on top of which is fitted the flange *n* of cone I, so as to make a closed space. Inside of this chamber rests a cap, *p*, whose neck enters a tube, *r*, leading to the oil-fount. Holes *s s* are made through the sides of the cap, so that the air from the side tubes can pass through to the inside of the cone, and thus supply the flame.

The base-piece H, above described, while it serves the ordinary purpose of supporting the globe, also furnishes means for introducing pure air to the interior of the globe and around the cone, above and outside the cone, which, in addition to the air supplied within the cone by the side tubes, produces a superior combustion and prevents smoke.

The drum D and tube E, while they produce heating of the air in the jacket-space *b*, and cause a circulation of the same through the side tubes, also facilitate the insertion and re-

moval of the globe. The top of the globe slides up and down in the jacket-space, and is guided in doing so by the interior tube, E, which fits within the top of the globe. To insert the globe in place, the top is simply placed over said tube and slid up, when the base of the globe can be fitted in its seat, and the whole is secure.

I prefer to make the side tubes square or rectangular in cross-section, as shown, instead of the ordinary cylindrical form; also, to arrange them in angular form, as indicated.

j is a flange projecting upward from the top of the tube E, above the drum D, and beneath the cap G, the object of which is to break and ward off the currents of air which otherwise would pass down into the globe and extinguish the light.

Having thus described my invention, I claim—

1. In a lantern, the combination, with the globe C and side tubes B B, of the exterior drum, D, and interior tube or thimble, E, arranged to receive the top of the globe directly between said parts, and forming a guideway for the top of the globe in being inserted or removed, said globe being fitted directly to said parts without intermediate connections, as herein shown and described.

2. The base or support H, consisting of the exterior and interior rims, *g h*, the horizontal plates *i i*, with center opening, *f*, and the radial partitions *l l*, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LEONARD HENKLE.

Witnesses:
R. F. OSGOOD,
JACOB SPAHN.