

L. HENKLE.
Lantern.

No. 221,409.

Patented Nov. 11, 1879.

Fig. 1.

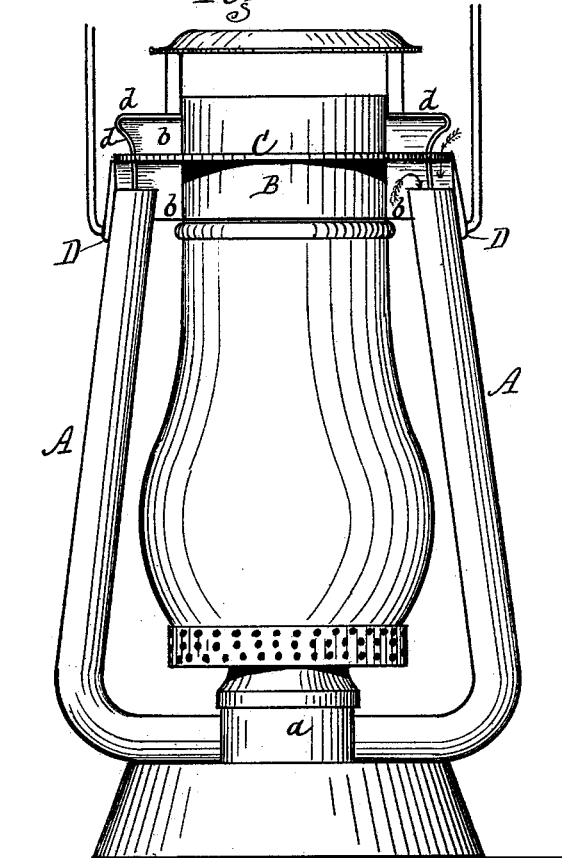


Fig. 2.

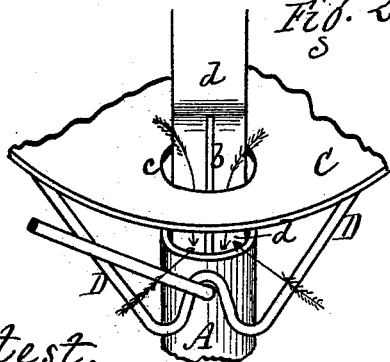


Fig. 3.



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. **221,409**, dated November 11, 1879; application filed June 7, 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 front elevation. Figs. 2 and 3 are detail views.

My improvement relates to side-tube lanterns.

The invention consists in the combination, with the side tubes having open tops, of a dividing-plate provided with holes, vertical plates connecting the side tubes with the dome, and curved flanges extending from the top of the tubes upward through the holes in the dividing-plate and extending to the dome, all as hereinafter described.

A A represent the side tubes, which may be either circular or square in cross-section. They extend from the air-chamber *a* beneath the burner around the lantern, as shown, and are attached to the dome B by thin vertical plates *b b*. The tops of the tubes are left entirely open to admit cold air, and do not enter the dome, as usual.

The plates *b b* rest over the open tops of the tubes centrally, and divide the opening into the tubes into two parts; but they preferably do not extend down into the tubes.

C is a horizontal disk or plate, which forms a dividing-plate, situated midway of the dome and surrounding the same, as shown. In this plate are two holes, *c*, located above and coinciding with the openings in the tops of the tubes.

d d are flanges, which cross the openings in the tubes and divide them centrally at right angles to the plates *b b*, and preferably extend some little distance down into the tubes. The openings of the tubes are therefore divided into quarters, as shown in Fig. 3.

The flanges or tubes *d d* pass up vertically through the holes *c c* in the dividing-plate C, curving outward at the same time, as shown in Fig. 1, and when at suitable height they are

turned inward horizontally, and are attached to the sides of the dome.

The object of the arrangement above described is to furnish a full supply of air to the burner through the side tubes and feed the flame from the top, so as to avoid the gusts and currents which occur and extinguish the blaze when fed wholly at the bottom. The arrangement is such as to force a full volume of air down the open-topped tubes in whatever direction the lantern is carried or moved. If the current strikes on top the dividing-plate C, it is arrested and carried down through the holes *c c*. If it strikes beneath the dividing-plate, it is also concentrated to the tops of the tubes. If it strikes horizontally, it is caught by the horizontal portion of the flanges or tubes *d d* and deflected downward by the vertical plates *b b*, which arrest the current.

A more special feature of novelty in this application, however, is the vertical flanges or tubes *d d*, which, from their curved form, serve as guides or deflectors to direct the air into the tops of the tubes when the current comes laterally, or at right angles to the position shown in Fig. 1. By this means the air, which would otherwise blow across the tubes and exhaust the same, is forced into them to support the combustion.

D D are braces, made either of wire or strap metal, connecting the tops of the tubes with the dividing-plate, for the purpose of stiffening the parts and forming a bearing for the bail or handle.

What I claim as new is—

In a lantern, the combination, with the open-topped side tubes, A A, of the dividing-plate C, provided with the holes *c c*, the vertical plates *b b*, connecting the side tubes with the dome, and the curved flanges *d d*, extending from the top of the tubes upward through the holes *c c* in the dividing-plate, and extending horizontally to the dome, as described.

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

Witnesses: LEONARD HENKLE.

R. F. OSGOOD,

R. E. WHITE.