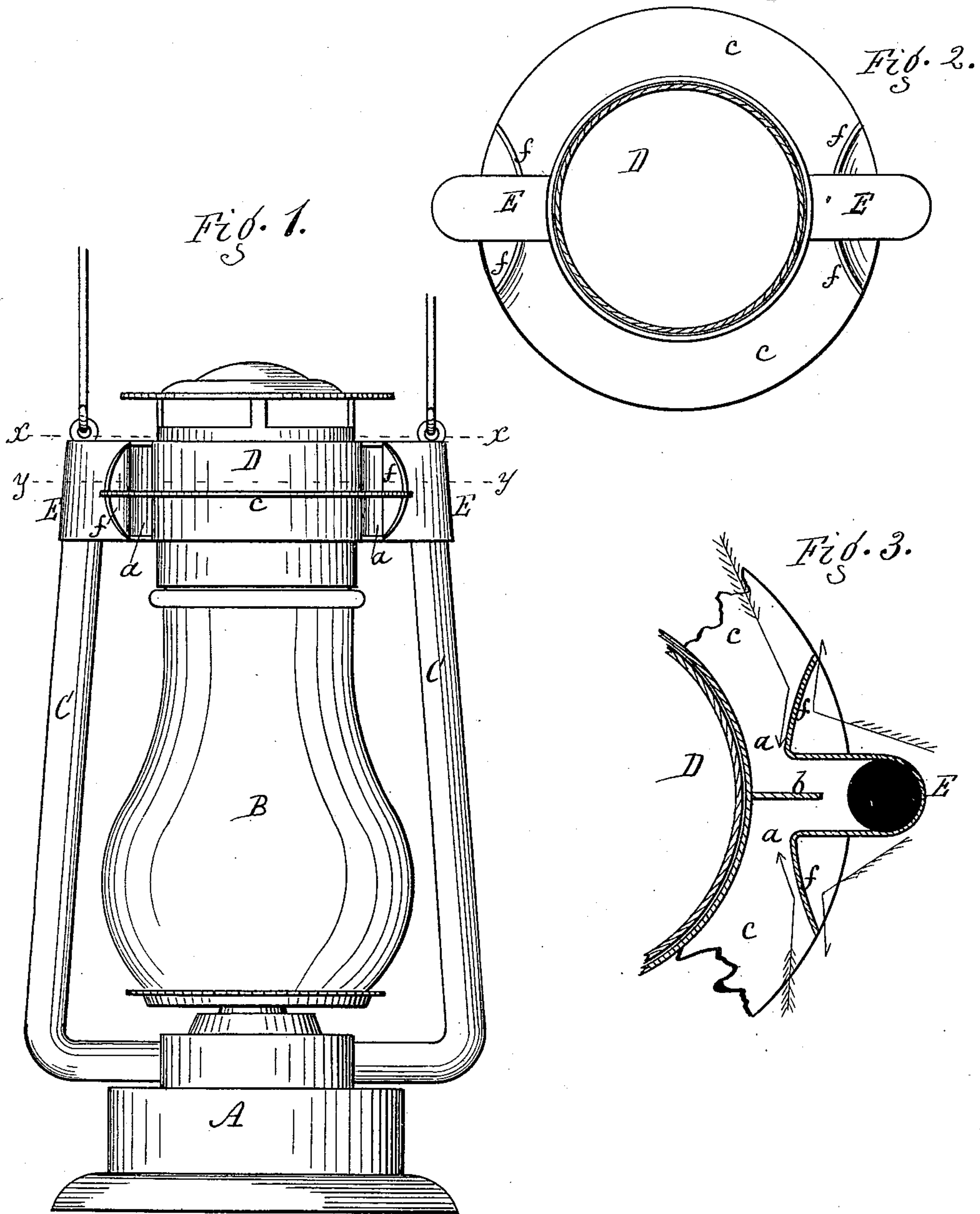


(No Model.)

C. T. HAM.  
Lantern.

No. 230,873.

Patented Aug. 10, 1880.



Attest.

James Chase  
Jacob Spahr

Inventor.

Chas. T. Ham,  
per R. F. Osgood.  
Atty

# UNITED STATES PATENT OFFICE.

CHARLES T. HAM, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF OF  
HIS RIGHT TO F. DE WITT CLARKE, OF SAME PLACE.

## LANTERN.

SPECIFICATION forming part of Letters Patent No. 230,873, dated August 10, 1880.

Application filed June 14, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES T. HAM, a citizen of the United States, residing at Rochester, Monroe county, 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 side elevation of a lantern, showing my improvement. Figs. 2 and 3 are cross-sections, respectively, in lines *x x* and *y y*, and on an enlarged scale.

My improvement relates to side-tube lanterns in which a cold draft is used.

The invention consists in an improved construction of the top of the lantern, whereby the device is rendered more effective, as hereinafter more fully described.

In general features the lantern is of ordinary construction.

A is the lamp. B is the globe or chimney. C C are the side tubes, and D is the dome. On opposite sides of the dome are two cold-air chambers, E E, into which the tops of the side tubes open, and these chambers are fed with cold air through throats *a a*, on two opposite sides of the chamber, the same being separated by a vertical partition, *b*, which extends, however, but part way to the opening of the side tube, the two throats uniting at that point in a common discharge over the opening of the side tube, as clearly shown in Fig. 3.

Whichever way the lantern is moved, forward or back, the air will enter the throats on one side or the other and be fed to the side tube.

The top and bottom of the chamber are both covered, and the only air that enters passes through the throats above described.

*c* is a horizontal rim or disk which rests outside the dome D and divides the air-chamber centrally, extending into the throats *a a* as far as the partition *b*, but not extending across the common discharge at the end of the partition over the air-tube. In the up and down movements of the lantern this rim serves as a stop to the currents of air produced vertically, and deflects the same into the chamber, so that whichever way the lantern is moved, forward or back or up or down, it is sure to obtain a full supply of air.

Heretofore in lanterns of this kind difficulty has been experienced in properly introducing

the currents through the openings in the side, feeding the side tubes, owing to the fact that simple holes were used and the air obtained no positive direction before reaching the holes, and was then cut up by the cross-currents.

Difficulty has also been experienced from counter-currents, or those which came at right angles to the openings, which, blowing across the openings, had a tendency to produce exhaust in the side tubes.

To remedy these difficulties I employ, in combination with the air-chambers E E, the following peculiar arrangement: *f f* are curved wings which form a continuation of the sides of the air-chamber, the same extending out laterally and at some distance till they reach the outer edge of the rim *c*. By this means a funnel shape is given to the throat on the inside and a concave shape is given on the outside, as shown in Fig. 3. In moving the lantern forward and back these wings serve to give direction to the currents and collect or concentrate them into the wedge-shaped throats, obviating the difficulty of introducing the air where a simple hole is made through the side. At the same time such counter-currents as come at right angles, striking the concave outer sides of the wings, are deflected outward and backward, as indicated by the half-arrows, and thereby are prevented from producing exhaust upon the side tubes.

Having thus described my invention I claim—

1. In a side-tube lantern, the combination, with the air-chamber E, provided with the throats *a a*, of the wings *f f*, extending out laterally in an angular direction, serving to direct and concentrate the direct currents into the air-chamber and to deflect and throw off the counter-currents, as herein shown and described.

2. In a lantern, the combination of the air-chamber E, provided with throats *a a*, the wings *f f*, extending laterally from the same, the vertical partition *b*, separating the throats, and the horizontal rim or disk *c*, arranged centrally around the chamber, as herein shown and described.

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

Witnesses: CHARLES T. HAM.

R. F. OSGOOD,  
JACOB SPAHN.