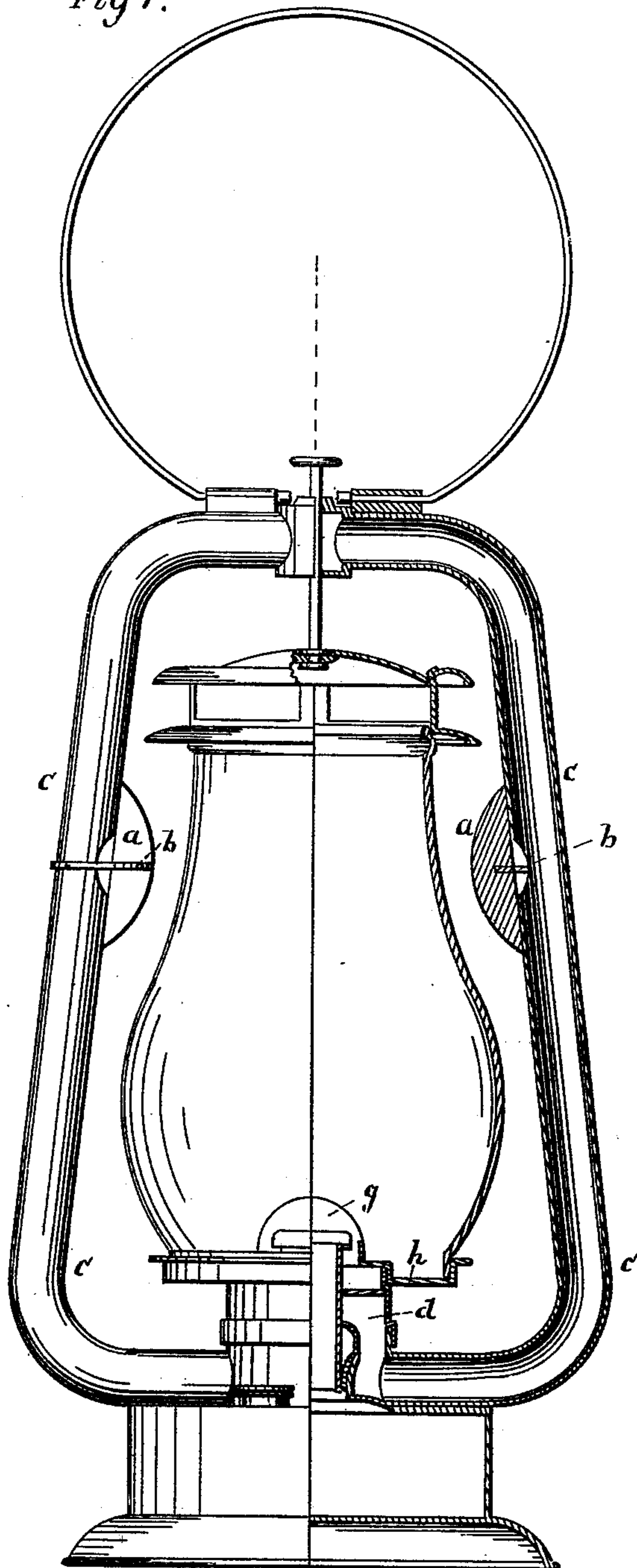


H. C. ALEXANDER.  
Tubular Lantern.

No. 233,390.

Patented Oct. 19, 1880.

*Fig 1.*



*Witnesses:*

*H. Sanders.*  
*G. W. Phillips*

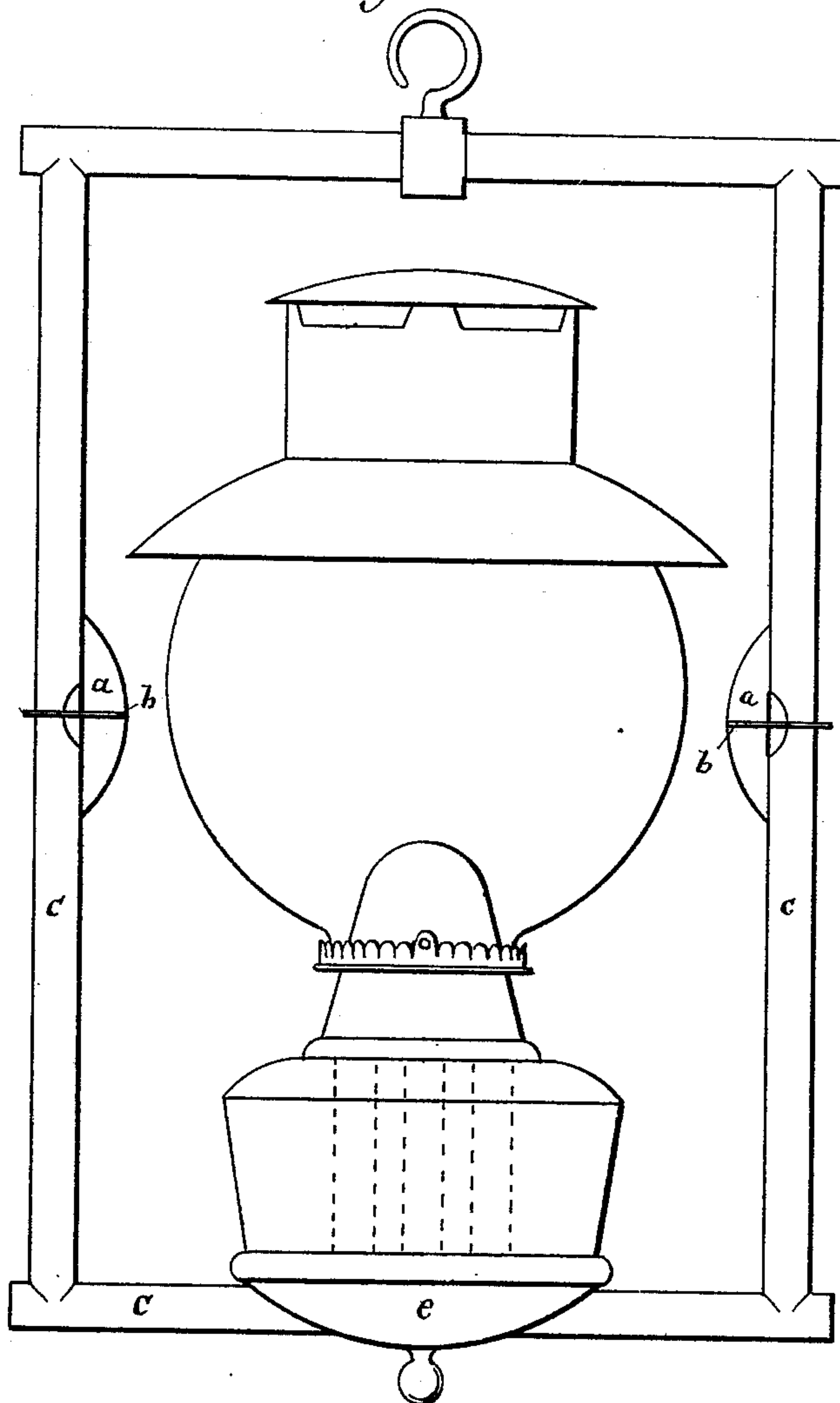
*Horace C. Alexander, Inventor:*  
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H. C. ALEXANDER.  
Tubular Lantern.

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*Fig 2.*



*Witnesses:*

*W. Davidson,*

*C. M. Phillips*

*Horace C. Alexander, Inventor:*  
*By Inahton & Ladd,*  
*Attorneys.*



# UNITED STATES PATENT OFFICE.

HORACE C. ALEXANDER, OF NEW YORK, N. Y.

## TUBULAR LANTERN.

SPECIFICATION forming part of Letters Patent No. 233,390, dated October 19, 1880.

Application filed December 9, 1879.

*To all whom it may concern:*

Be it known that I, HORACE C. ALEXANDER, of New York, in the county and State of New York, have invented certain new and useful Improvements in Tubular Lanterns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The invention relates to the construction and arrangement of the air-tubes and deflecting-plates of tubular lanterns.

Heretofore tubular lanterns have been made with the ends of the tubes open and provided with deflecting-plates placed across the ends of the tubes. They have also been made with a section of the tube removed and in its place several conical ring-deflectors.

The first arrangement requires the tubes to terminate outside of the lantern. They cannot be connected with the top of the lantern, or with the heating-chamber surrounding the body of the lantern, or with each other, while with the conical ring-deflector the tube is open on all sides.

The object of my invention is to improve and perfect the construction of tubular lanterns; and the invention consists in locating the opening of the tubes at the side, in combination with a pair of deflecting-plates crossing the opening, one of which is longitudinal with and the other transverse to the axis of the tube, the tubes on either side of the lantern being connected with each other at some point above these openings. The opening is located at the side of the tube next to the lantern, where it is protected from a gust of wind which might blow directly into it and be too strong for it; and for the further reason that lateral currents of air are to some extent deflected by the globe of the lantern toward the openings. This arrangement permits the tubes to be extended above or beyond the openings and to connect across with each other.

Figure 1 is a side elevation of a lantern which embodies my invention, one-half of it being shown in section. Fig. 2 illustrates the application of my invention to a hall-lamp.

The openings are located on the inner side of the tubes *c*, and at points midway between

the top and bottom, so that the tubes can be continued above and beyond the openings and connected with each other above the top of the lantern, and also so that the openings may be protected from direct gusts by the globe.

*a* is a vertical plate crossing an opening in the air-tube *c*. The plate projects out from the tube, and it may extend into the tube some little distance, and even divide it at that point into two channels.

*b* is a horizontal plate crossing each opening and intersecting the vertical plate *a*. These do not extend into the tube at all, but are entirely outside. The plates extend far enough vertically and horizontally to afford considerable surface for the wind to strike against. The air is conducted by the tubes to the space under the air-cone and around the wick-tube.

In Fig. 1 the air-tubes *c* are shown as opening into a shallow chamber, *d*, on the top of the oil-fount, and the chamber opens at its center directly into the space around the wick-tube.

In Fig. 2 the air-tubes *c* open into a cup, *e*, in which the fount of the lamp rests. When the fount is placed in the cup *e* an open space is left underneath it, and the air-tubes (shown dotted in Fig. 2) conduct the air up through the fount to the space beneath the air-cone.

It makes no difference how much or how rapidly the lantern is swung in the air or from which direction the wind blows, some air will always be deflected into one or the other of the tubes, and the supply will be more steady and uniform than has heretofore been the case.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A tubular lantern or lamp having the side tubes, *c*, with openings in their sides, and the longitudinal and transverse deflecting-plates *a* and *b*, and the tubes *c*, continued above the openings and connected with each other, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of December, 1879.

HORACE C. ALEXANDER.

Witnesses:

A. J. BAILEY,  
D. B. HARRISON.