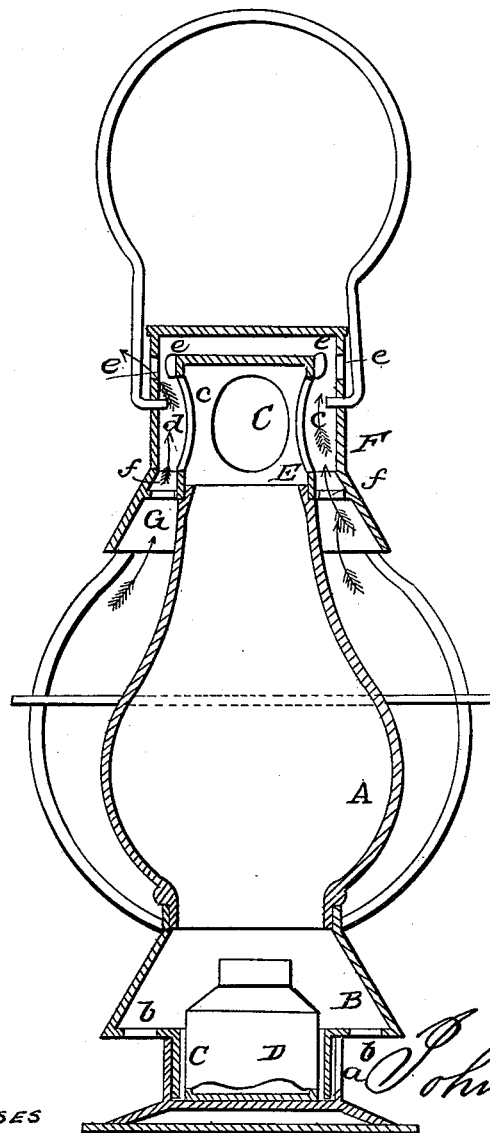


J. O. HARRIS.

Lantern.

No. 53,819.

Patented April 10, 1866.



WITNESSES  
*J. B. Conington*  
*Wm. Frewin*

INVENTOR  
*J. O. Harris*  
per *Munn & Co.*  
attys

# UNITED STATES PATENT OFFICE.

JOHN O. HARRIS, OF READING, PENNSYLVANIA.

## IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. 53,819, dated April 10, 1866.

*To all whom it may concern:*

Be it known that I, JOHN O. HARRIS, of Reading, Berks county, State of Pennsylvania, have invented a new and Improved Coal-Oil Lantern; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a vertical central section of my invention.

This invention has for its object the constructing of a lantern in such a manner that coal-oil may be burned in it without emitting smoke and an unpleasant odor, and which will admit of being carried and swung around, and also raised and lowered suddenly, without extinguishing the light. The invention is more especially designed for conductors, brakemen, and other railroad employes who give signals at night by swinging a lantern, a practice which has hitherto prevented coal-oil from being burned in such lanterns.

The invention consists in a novel construction of the base of the lantern, through which base the air is admitted into the former, and providing the top of the lantern with a jacket constructed and arranged in such a manner as to increase the draft through the lantern and cause the flame to be supplied with a requisite amount of oxygen to support proper combustion.

A represents the glass globe of the lantern having a sheet-metal base, B, secured to it. This base B is of the form of a frustum of a cone, so as to project downward and outward from the lower end of the globe A, and said base has a pendent cylinder, C, attached concentrically to its lower end, on which a cylindrical curb, *a*, attached to the base of the lamp D, is fitted and secured by any proper fastening.

The bottom of the base B, the part between its lower edge and the curb *a*, is perforated with holes *b*, to admit air into the lantern to feed the flame.

On the top of the globe A there is fitted a sheet-metal cap, E, which may be of cylindrical form, closed at the top and having its sides perforated with holes *c*. This cap E is encompassed by a jacket, F, which may also be of cylindrical form, corresponding with the shape of the cap E, but sufficiently larger

in diameter to allow a space, *d*, between them of requisite width. The top of the jacket F is closed, but its sides, just below the top, is perforated with holes *e*, and the lower edge of the jacket has a conical or flaring flange, G, attached, provided with a horizontal partition, which is perforated with holes *f*.

When the lantern is in use the air passes through the perforations *b* in the bottom of the base B, the vent or outlet being through the holes *c* in the sides of the cap E, and thence through the perforations *e* in the upper part of the jacket. The heat at the upper part of the lantern rarefies the air in the space *d*, between the jacket and cap, and a draft is induced through said space, as indicated by the red arrows. This draft through the jacket greatly increases the draft through the lantern and insures a requisite supply of air to the flame to support proper combustion.

The conical or flame base B insures air passing into the lantern by a downward movement, and the conical flange G, at the lower end of the jacket F, also aids this result, and also admits of the lantern being swung around without extinguishing the light.

The perforations *b* *f* in the base and jacket regulate or equalize the draft through the lantern and jacket, obviating in an eminent degree sudden gusts and puffs, which greatly affect the steady burning of a flame from coal-oil.

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

1. The cap E, on the top of the globe A of the lantern, closed at its upper end, and provided with lateral openings *c*, in combination with the jacket F, closed at its upper end and provided with lateral openings *e* and also provided with a conical flange, G, at its lower end, having a perforated partition-plate, substantially as and for the purpose set forth.

2. The conical base B, provided with perforations *b* in its bottom, in combination with the jacket F and cap E at the upper part of the lantern, substantially as and for the purpose specified.

The above specification of my invention signed by me this 4th day of January, 1866.  
JNO. O. HARRIS.

Witnesses:

M. M. LIVINGSTON,  
ALEX. F. ROBERTS.