E. F. CASH & A. L. BARON.

Lantern.

No. 222,663. Patented Dec. 16, 1879.

Fig. 1.

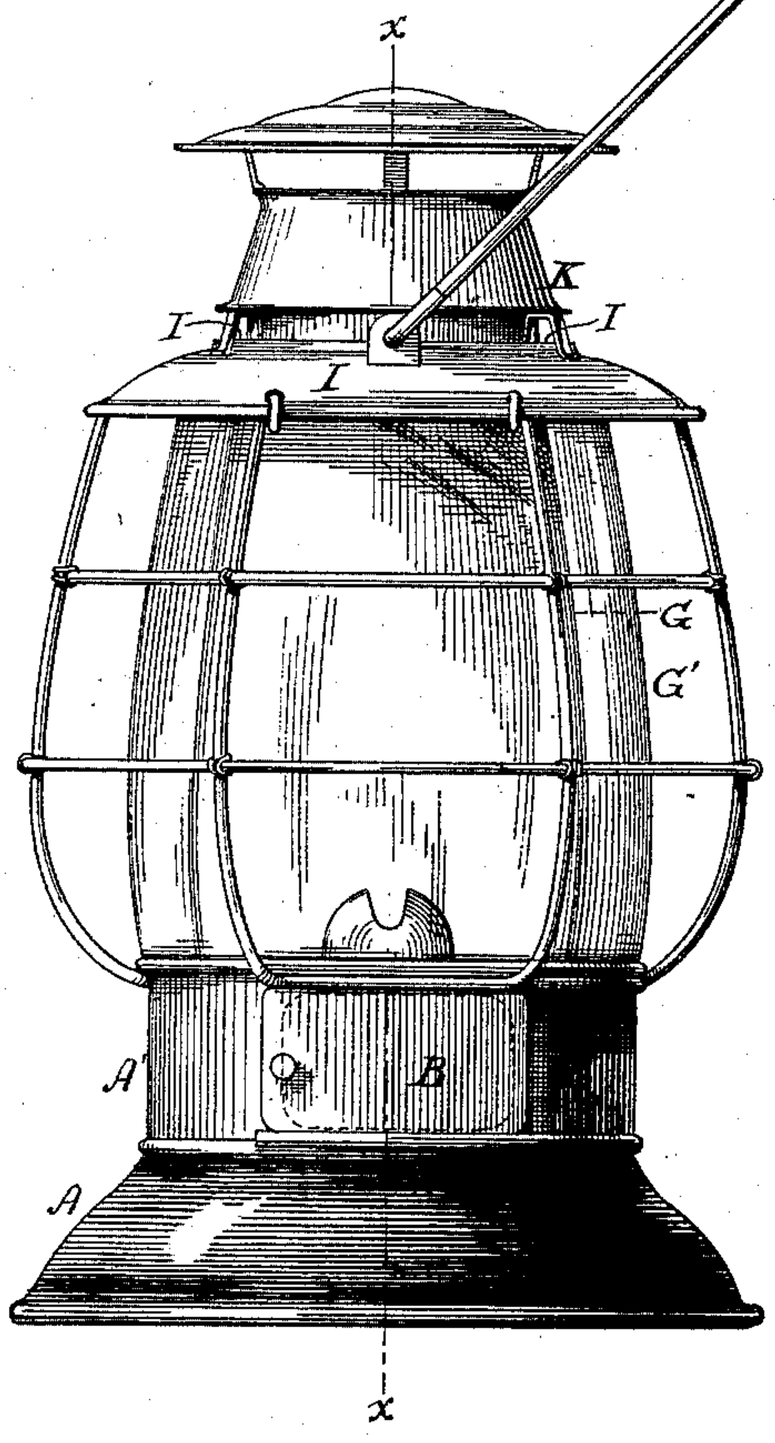
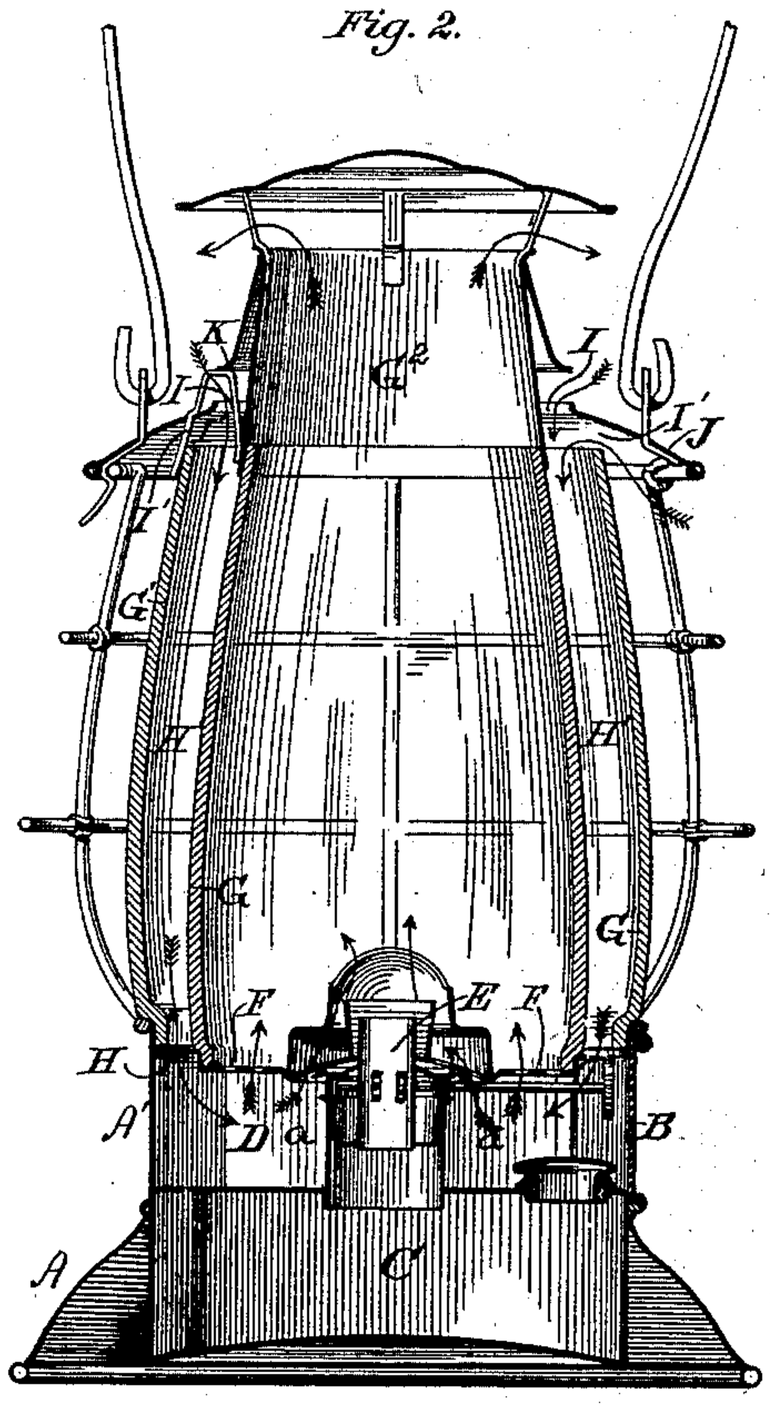


Fig. 2.



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UNITED STATES PATENT OFFICE.

EVAN F. CASH AND ALFRED L. BARON, OF BELLAIRE, OHIO.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **222,663,** dated December 16, 1879; application filed September 21, 1878.

To all whom it may concern:

Be it known that we, EVAN F. CASH and ALFRED L. BARON, both of Bellaire, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Lanterns; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The purpose of our invention is the construction of a coal-oil double-globe lantern especially adapted to retain its light under exposure to air-currents and to violent movements, and employs for that purpose counterbalancing currents. This lantern has a closed base, and takes all the air for combustion in at the top, and discharges the products of combustion at the top also.

The invention in this lantern consists, mainly, in the combination of a clear open air-chamber in the base, an air-chamber between the two globes, and air-inlets at the top, all constructed and arranged as will be presently described.

It also consists in other operative combinations of the principal elementary parts.

In order that those skilled in the art may know how to make our lanterns, we proceed to describe the same, having reference to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of our lantern, and Fig. 2 a vertical central section of the same.

Similar letters denote corresponding parts in each figure.

The general construction and appearance of our lantern is similar to that known in the market as the "Buckeye," and upon which we have received several patents of the United States.

In the drawings, A represents the lower base, preferably made flaring to give a better support to the lantern when standing, and A′ designates the upper base, which is preferably vertical in its side outlines. This base is entirely closed, having no opening for the admission of air, and may be hinged to the lower base, or rigidly secured to it, as shown in the drawings. In the latter instance it may have a closely-fitting door or slide, B, to give access to the filling-nozzle of the oil-reservoir, and to the wick-ratchet, and to the lighting-hole, and will be found convenient in blowing out the light.

The oil-reservoir C is solidly secured on the base, or may be screwed in in any ordinary way. Above the oil-reservoir, and preferably extending from the bottom of the upper base, A′, to the top or near the top of said upper base, is a clear open chamber, D, which occupies the entire interior of said upper base, except the central portion, through which a communication is had between the oil-reservoir and the burner E. In the drawings are shown supports *a a* in this chamber D, upon which the perforated disk F rests; but we do not wish to be confined to the use of such supports, as any mode of support will be equally efficacious.

The perforated disk F, which is perforated not only within the area of the burner-cone, but outside of it, forms the upper portion of the chamber D, but does not extend entirely across it, but only such width as will enable its outer flanged edge to support the inner globe, G, while the outer globe, G′, rests upon the top of the upper base, A′, and it follows, therefore, that there is a clear open space, H, entirely around the interior of the base between the exterior edges of the disk and the inner walls of the upper base, A′.

The two globes G and G′ extend about the same height, forming between them the air-chamber H′; but the top of the inner globe fits quite tightly into a metallic chimney, G^2.

The whole top of the lantern is preferably hinged, so that the globes may be conveniently removed for any purpose, and this top is composed of a reflector, J, between which and the exterior of the metallic chimney G^2 is a clear open space, I. The outer globe, G, does not extend quite to the bottom of the reflector, and between the two is a clear open space, I′. These two spaces I and I′ are the air-inlets which supply all the air for combustion to the lantern.

Above the open space I is any convenient flange, K, extending out from the exterior of the metallic chimney, and serving to prevent rain or water from entering the air-chamber H′. Raised above the top of the metallic chimney is an ordinary protecting-cap.

In operation, air for combustion enters the air spaces or inlets I I′, and passes down be-

tween the globes, through the air-chamber H′, (being induced by the heat generated in the interior of the inner globe,) and down into the chamber D. Thence a portion of it rises into the interior of the burner and the remaining portion outside the burner, but into the interior of the inner globe. The products of combustion pass up the inner globe and out through the metallic chimney.

By a mode of operation frequently described, and now familiar to those skilled in the art, the currents of air which pass into the interior of the burner are balanced by those passing around its exterior and within the inner globe, so that whatever winds strike the lantern, or whatever motion may be imparted to it, the light will not be extinguished. The air-inlets I and I′, one above and the other below the reflector, are essential in this operation, and act together, for, although the lantern would burn when in a state of rest, or in a calm, were the reflector wholly removed and the clear open space between the globes entirely uncovered, yet in this construction the light would be easily extinguished by any breeze or violent motion.

Having thus described our invention, what we claim as new therein is—

1. In a double-globe lantern, the combination, with the exterior globe and the base, of a ring or cylinder connecting the globe and the base, and adapted to direct all the air from the space between the globes to the interior of the inner globe, and to exclude air not passing through said space, substantially as and for the purposes set forth.

2. In a double-globe lantern, the combination of an outer and an inner globe supported in substantially the same horizontal plane, an air-space between the globes, an air-chamber beneath the burner which communicates with the air-space between the globes, and also with the interior and the exterior of the burner, the outer walls of which air-chamber extend from the top of the lower base to the bottom of the lower globe, and air-inlets above and below the reflector, substantially as and for the purposes described.

This specification signed and witnessed this 18th day of September, 1878.

EVAN F. CASH.
ALFRED L. BARON.

Witnesses:
L. W. SEELY,
JAS. A. PAYNE.