A. L. BARON.

Lantern.

No. 208,142. Patented Sept. 17, 1878.

Fig. 1.

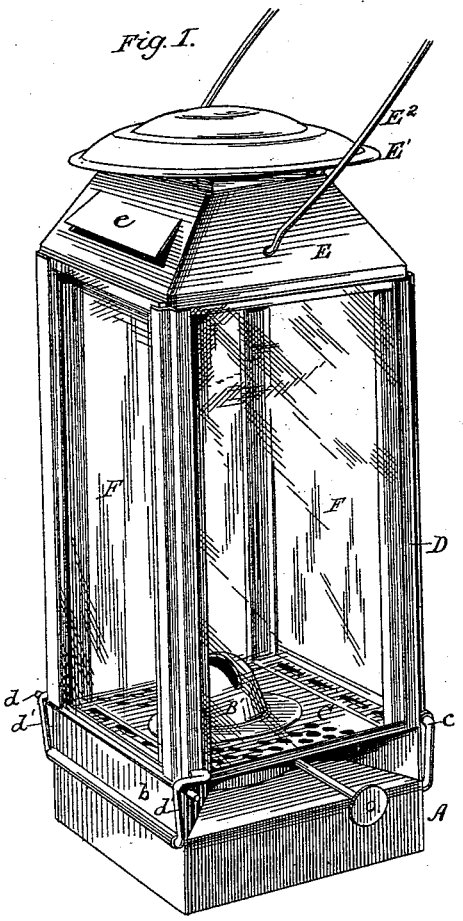


Fig. 2.

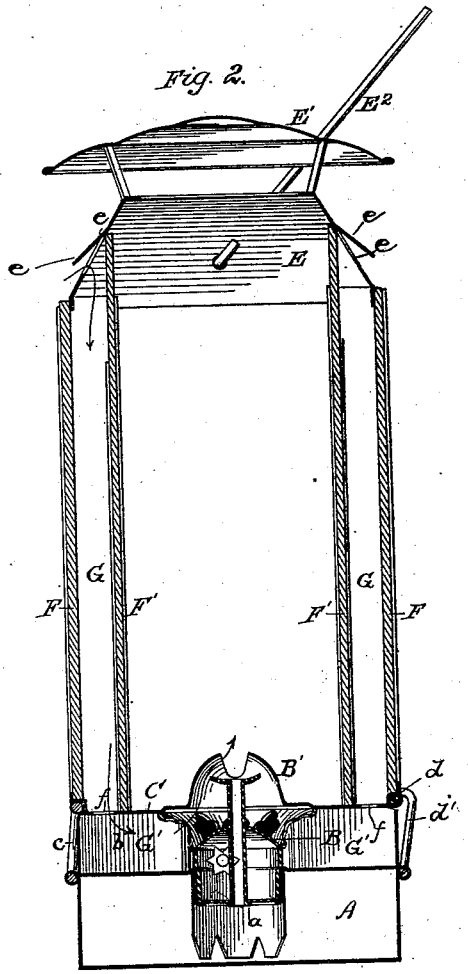


Fig. 3.

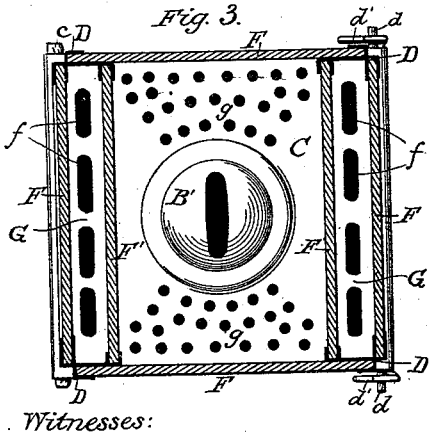
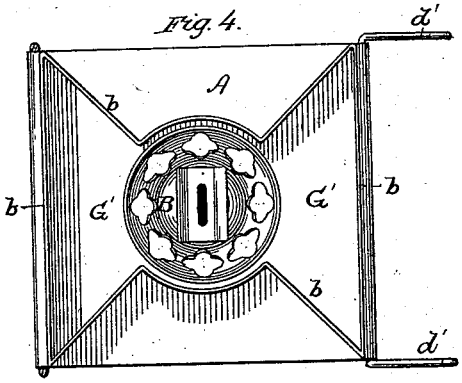


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALFRED L. BARON, OF BELLAIRE, OHIO, ASSIGNOR TO HIMSELF, EVAN F. CASH, AND DAVID RANKIN, OF SAME PLACE.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **208,142**, dated September 17, 1878; application filed August 19, 1878.

To all whom it may concern:

Be it known that I, ALFRED L. BARON, of Bellaire, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Lanterns; and I 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 object I have in view is to apply to the square lantern with flat glass sides held in a frame, or to any flat-sided lantern, the principle of feeding air to the flame and counterbalancing the air-currents employed in the "Buckeye" lanterns, and covered by Patent No. 191,401, granted May 29, 1877, to Evan F. Cash and myself, such principle being to admit fresh air taken from the top of the lantern through connecting chambers exclusively into the cone, and other fresh air through the sides of the base around and outside of the cone, the two currents being kept separate and apart till they reach the flame.

My object is, further, to produce a lantern possessing all the advantages of the Buckeye lantern in the way of a steady light, protected so that it cannot be put out by wind or rain, or by any sudden movement of the lantern, but which will be much simpler in construction and very cheap to manufacture.

My invention therein consists in the construction of the square or flat-sided lantern to feed air to the flame and secure a perfect counterbalance of the currents, and in the various combinations of parts for effecting this purpose; and, further, in the means for holding the burner in position, which permit ready access to the same for lighting or trimming, as fully hereinafter explained.

In the drawings, Figure 1 is a perspective view; Fig. 2, a central vertical section; Fig. 3, a cross-section, looking downwardly; and Fig. 4, a top view of the oil-reservoir removed from the body of the lantern.

Like letters denote corresponding parts.

A is the oil-reservoir, of rectangular form, as shown, and having a central opening in its top, in which is set the burner B without screw-threads, and which is also used for filling the reservoir with oil. Around this opening, inside the reservoir, is placed a tube, *a*, extending nearly or quite to the bottom of the reservoir, and slotted upwardly from its lower edge, so as to confine the loose end of the wick in the center of the reservoir, the wick nearly filling the tube, and, while allowing the oil to flow freely into the wick, preventing the same from being forced up around the burner by any movement of the lantern.

C is the square supporting-plate, carrying the body of the lantern and resting over the oil-reservoir upon the vertical plate *b*, which incloses and forms the walls of the air-chamber leading to the burner.

The wick-raising stem rests in a slot in one side of this plate, and projects outwardly far enough to be turned conveniently by the fingers.

The supporting-plate is hinged to the upper edge of the plate *b* by means of a wire, *c*, which is soldered to the overturned edge of the top plate of the oil-reservoir. At the opposite side of the supporting-plate a straight wire, *d*, is held in the overturned edge of the plate, and soldered, with its ends projecting beyond the sides of the lantern.

The bent ends of a wire, *d'*, pivoted to the oil-reservoir, engage with the projecting ends of the wire *d*, forming a catch, and holding the body of the lantern and the oil-reservoir securely and rigidly together, but allowing the body to be thrown back on the hinge for filling the reservoir or trimming or lighting the wick.

The cone B' is permanently attached to the upper side of the supporting-plate over a central opening, and around this opening the supporting-plate presses upon the case of the burner when locked to the oil-reservoir, and holds such burner securely in position.

To the corners of the supporting-plate is rigidly attached the vertical frame D, and upon this frame is mounted the top E, with inclined sides, and having a deflecting-cap, E^1. The bail E^2 is pivoted in the sides of the top.

The frame D has its plates bent to form vertical channels, in which slide the flat glass plates F, extending from the top D to the supporting-plate C. On two sides of the lantern are placed inner plates, F', forming an air-

space, G, between the outer and inner glass plates.

The plates F′ extend up inside the top, back of air-openings *e* in the top, which have deflectors *e′*, so as to prevent the air entering such openings *e* from gaining admittance to the central space of the lantern and directing the same down through the air-chambers G between the glass plates.

The supporting-plate at the bottom of each air-chamber G has one large or a number of small openings, *f*, through which the air passes into the air-chamber G′ on top of the oil-reservoir. The supporting-plate resting on the walls *b* completes the air-chamber G′, and makes a connection between the air-chambers G and the interior of the cone.

The walls *b*, or plate, on two opposite sides of the lantern extend inwardly on radial lines close to the burner, so as to leave spaces open to the surrounding air between portions of the supporting-plate and the top of the oil-reservoir. These parts of the supporting-plate so exposed are perforated, as shown at *g*, and through these perforations air passes up into the lantern around the outside of the cone, the direction of such currents being shown in Fig. 2. By this construction, when the wick is lighted the air is caused to circulate, and the currents counterbalanced the same as in the Buckeye lanterns, and upon precisely the same principle. The flame is also protected from being blown or put out by the elements or by any violent movement of the lantern.

This lantern is very cheap, a great saving being effected by substituting the glass plates, which cost very little, for the globes, and all the other parts of the lantern being formed and secured together by easy and rapid operations.

It is evident that this square lantern could be made with double plates, having air-chambers between them on all four sides of the lantern or only on one side; that the lantern could be constructed with three, four, five, or more flat sides; and that the air-chamber G′ could be made quite differently—as, for instance, secured to either the upper or lower sides of the supporting-plate, or extended in tubes through the oil-reservoir, without departing from the spirit of my invention.

What I claim as my invention is—

1. In a square or other flat-sided lantern having double glass plates, the combination of one or more air-chambers between such plates conducting air to the interior of the cone, and openings to admit air to the flame outside of the cone, the two currents being kept separate and apart till they reach the flame, substantially as described and shown.

2. In a square or other flat-sided lantern, the combination of the double plates F F′, forming air-chambers G, the air-chamber G′ on top of the oil-reservoir, and the openings *g* in the supporting-plate, substantially as described and shown.

3. In a square or other flat-sided lantern, the combination of the plate *b*, forming the walls of the air-chamber on top of the oil-reservoir, with the hinged supporting-plate resting on such plate and completing the air-chamber, substantially as described and shown.

4. In a square or other flat-sided lantern, the combination, with the top D, having air-openings *e*, of the outer glass plates, F, terminating below such openings, and the inner plates, F′, extended upwardly behind such openings, substantially as described and shown.

5. The combination, with the oil-reservoir, of the burner B, set into an opening in the same, and the hinged supporting-plate holding such burner in position, substantially as described and shown.

This specification signed and witnessed this 5th day of August, 1878.

ALFRED L. BARON.

Witnesses:
CHAS. C. CRUTTY,
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