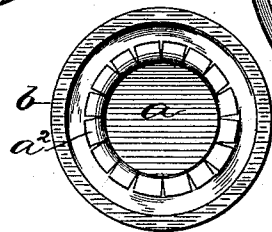
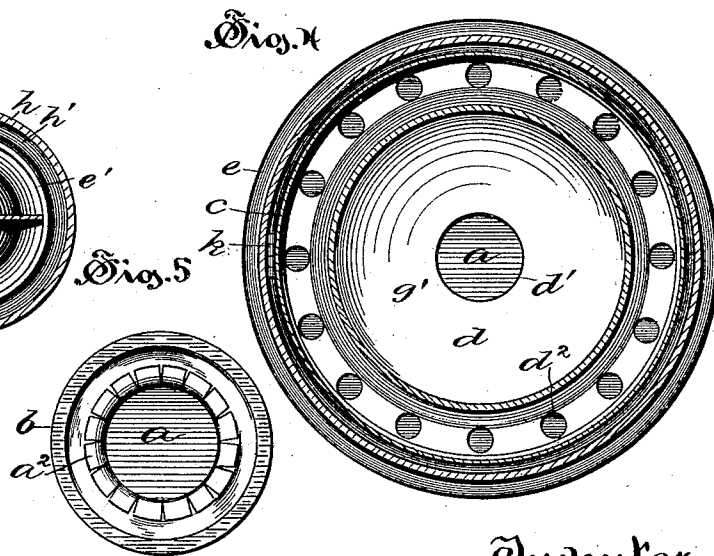
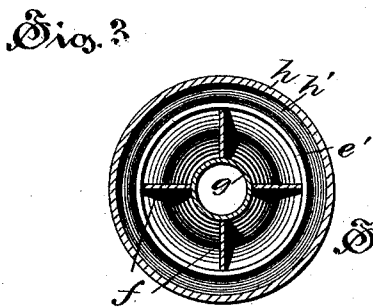
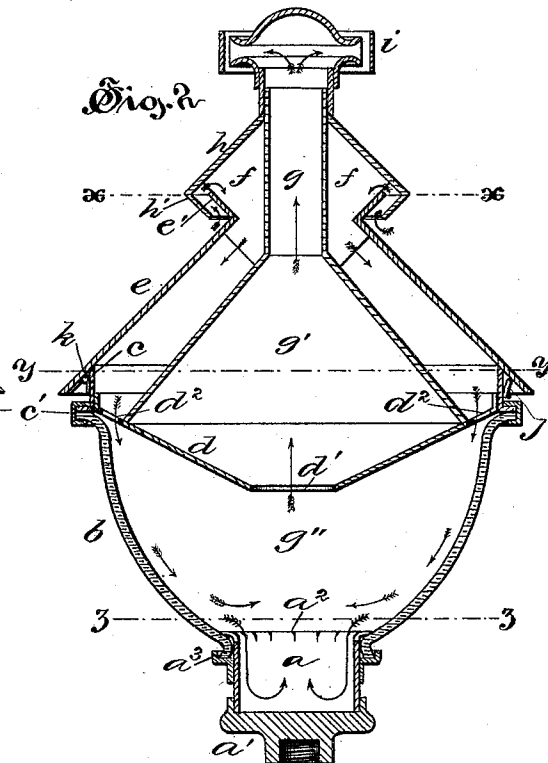
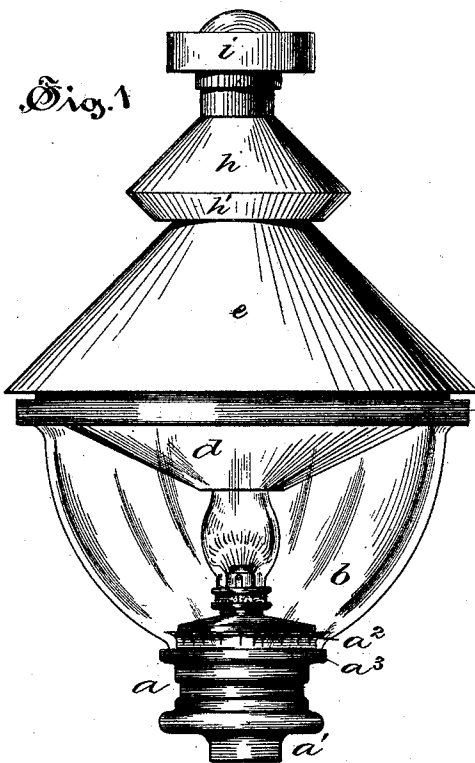


(No Model.)

J. A. MILLER.
LANTERN.

No. 439,672.

Patented Nov. 4, 1890.



Witnesses:

A. F. Langdon
A. L. Sears

Inventor,

James A. Miller, by
Harry R. Williams
att'y.

UNITED STATES PATENT OFFICE.

JAMES ACTON MILLER, OF HARTFORD, CONNECTICUT.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 439,672, dated November 4, 1890.

Application filed January 20, 1890. Serial No. 337,420. (No model.)

To all whom it may concern:

Be it known that I, JAMES ACTON MILLER, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Lanterns, of which the following is a full, clear, and exact specification.

The invention relates to the class of lanterns using gas or oil lights intended to be erected on posts or brackets for lighting streets, driveways, lawns, and similar out-of-door places.

The object of the improvement is to so construct a lantern of the above described class that the light-giving flame will not be disturbed by violent blasts or strong currents of air, to so regulate the draft of incoming air that the flame will always burn with a steady brilliancy, and to so direct the current of air which supports the combustion of the flame that it will pass down near the sides of the globe and keep the temperature of the glass low, which, however, is so held that it is free to expand and contract without danger of cracking under varying temperatures.

Referring to the accompanying drawings, Figure 1 is a side view of the lantern. Fig. 2 is a view in central vertical section of the same. Fig. 3 is a view in horizontal section on plane denoted by the broken line xx of Fig. 2. Fig. 4 is a view in horizontal section on plane denoted by the broken line yy of Fig. 2. Fig. 5 is a view in horizontal section on plane denoted by the broken line zz of Fig. 2.

In the views, the letter a denotes the tubular metal base, the lower end of which is provided with a cap a' , adapted to be attached to the top of a post or bracket, while the upper end is provided with spring-fingers a^2 , that fit and press outward and downward against the inside of the foot of the glass globe b , that is supported by a flange a^3 , of thin metal, attached to the exterior of the base, the outer edge of which is provided with an upturned rim that receives and holds the foot of the globe. The upper edge of the globe flares outwardly and supports a sheet-metal ring c , to the lower flanged edge of which is attached a strip c' of soft metal, as lead, that is folded around the edge of the globe to hold the parts

together. A convex reflector d , with a central opening d' for the chimney of the lamp and openings d^2 around its periphery for the passage of air, placed within the ring c so as to project into the globe and properly disperse the rays from the light, divides the interior of the lantern into two chambers. The upper edge e of the conical sheet-metal cover e , that is hinged at one side to the ring c , turns outward, and in the top of the cover are secured a number of sheet-metal diaphragms f , that project radially to a central draft-tube g , to which they are also secured. The outwardly-expanding lower walls of this tube g extend down until they come in contact with the back of the reflector d , forming a funnel-shaped chamber g' above the reflector over the chamber g'' . A conical cap h , with an inturnd base h' , slightly larger in diameter than the top of the cover, is set upon and secured to the tops of the radial diaphragms f , and any desired form of ventilator i is placed above the cap h upon the top of the draft-tube g to permit the escape of the products of combustion and prevent the inflow of blasts of air.

A lamp set in the opening in the base is reached for lighting by unfastening the catch j and turning the cover over on the hinge k , the central funnel-shaped draft-tube and the ventilator moving with the cover, and removing the chimney of the lamp through the opening in the reflector. As the reflector is not fastened in place, it may be readily removed for cleaning when the cover is turned up. The combustion of the flame heats the air in the funnel-shaped draft-chamber g' above the reflector, which rises and causes a strong draft through the tube g . This air is replenished from the chamber g'' by fresh air, which enters under the inturnd base h' of the cap h and the outturned top e' of the cover e , passes between the diaphragms f down between the cover and the funnel-shaped bottom of the tube g , through the openings d^2 in the reflector d , and then to the base of the burner, if it is of common form, or to the base of the lamp if it is a central-draft burner, as shown by the arrows in Fig. 2. As the air can only enter the chamber g'' through the openings d^2 in the reflector, which are near the glass, and as the most of it escapes through

the chimney of the lamp, which nearly fills the central opening in the reflector, the cool incoming air is drawn down close to the glass, so that the temperature of the globe is kept
 5 down, and a large burner may be used in the lamp without danger of cracking the glass. Should any gust or blast of air pass under the base of the cap *h* into the interior it is checked in its passage across the top by the radial
 10 diaphragms *f*, and any tendency to blow down the inside of the cover will be checked by the air already there, which cannot pass rapidly through the small openings *d*² in the reflector, and should any strong current possibly get
 15 into the lower air-chamber it cannot effect the light, as the air cannot reach the flame without passing through the chimney and the burner. With these checks no sudden gusts or blasts of air can possibly disturb the light
 20 or cause it to flicker. If the globe becomes cracked, it can be easily removed by turning out the metal strips *a*³ at the base and *c*¹ at the top and a new globe substituted without difficulty. As the globe is held near the bot-
 25 tom on the inside by the spring-fingers *a*² and on the bottom by the metal holder only, it is free to expand or contract under changes of temperature without danger of becoming cracked; but the spring-fingers hold it firmly
 30 and do not permit it to shake with the wind.

I claim as my invention—

1. In combination, in a lantern, a base, a globe supported by the base, a cover the top of which is provided with inwardly-projecting
 35 diaphragms, a cap resting upon these diaphragms, and a central draft-tube supported by these diaphragms, substantially as specified.

2. In combination, in a lantern, a base, a globe supported by the base, a cover, a cap 40 projecting over the top of the cover, a central funnel-shaped tube, and a reflector projecting inward from the base of the funnel-shaped tube, substantially as specified.

3. In combination, in a lantern, a base, a 45 globe supported by the base, a cover the top of which is provided with inwardly-projecting radial diaphragms, a cap resting upon these diaphragms, a central tube supported by these diaphragms, and a convex reflector depend- 50 ing into the globe and having a central opening for the products of combustion and smaller openings for the ingress of air, substantially as specified.

4. In combination, in a lantern, a base the 55 upward edge of which is provided with outwardly-projecting spring-fingers and a metal flange projecting from the exterior of the base, a globe supported by the flange, a cover, a 60 cap supported over the cover, a central draft-tube, and a reflector, substantially as specified.

5. In combination, in a lantern, a base, a globe supported by the base, a cover resting upon the globe, a cap supported over the cover, 65 an inwardly-projecting reflector provided with small perforations near its periphery and a central opening, a central tube resting on the back of the reflector, whereby an air-chamber is formed above the reflector, and a 70 ventilator on the top of the draft-tube, substantially as specified.

JAMES ACTON MILLER.

Witnesses:

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 H. E. BACHARACH.