

(No Model.)

F. BILLINGHAM.
REFLECTOR AND LANTERN.

No. 390,835.

Patented Oct. 9, 1888.

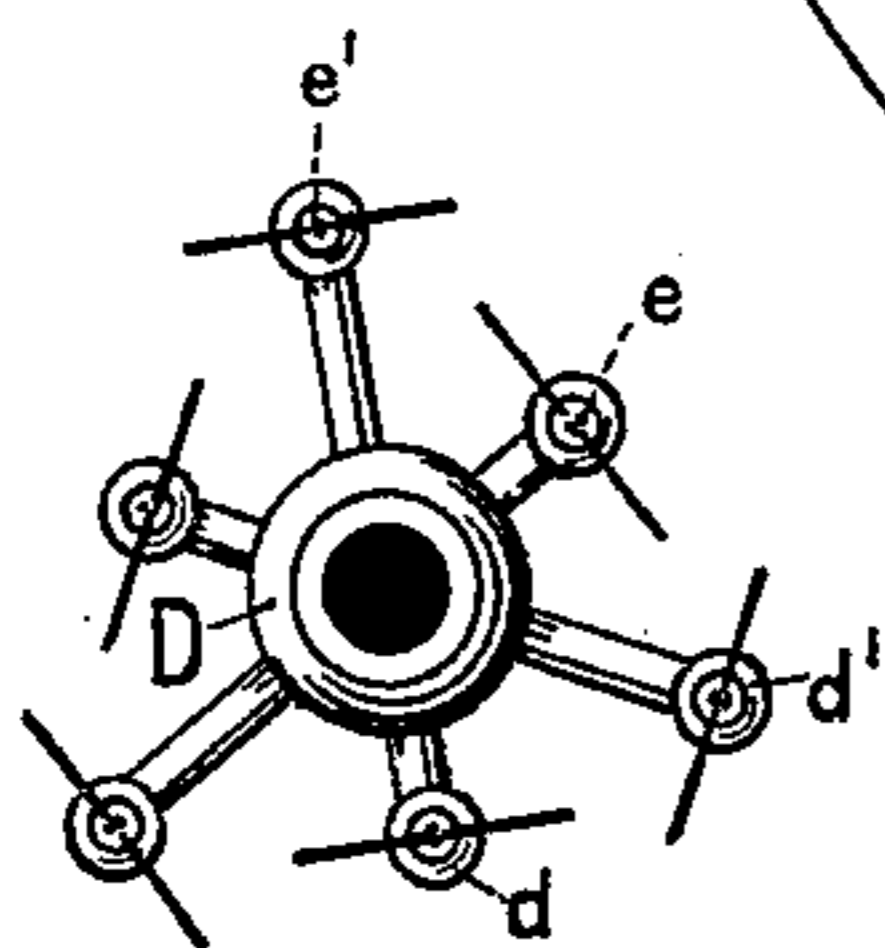
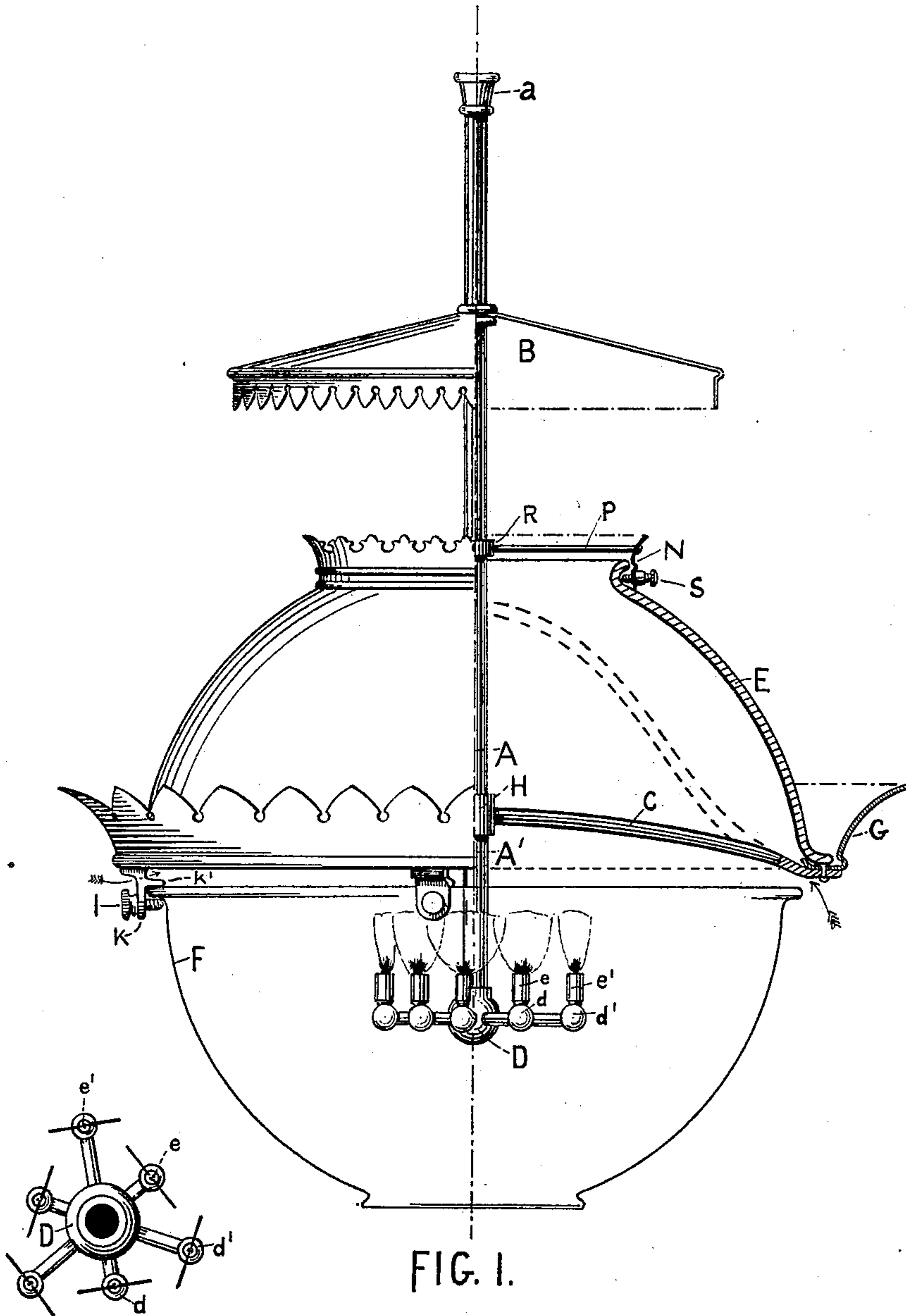


FIG. 2.

WITNESSES:

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REFLECTOR AND LANTERN.

SPECIFICATION forming part of Letters Patent No. 390,835, dated October 9, 1888.

Application filed February 10, 1887. Serial No. 227,161. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS BILLINGHAM, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Reflectors and Lanterns, of which the following is a specification.

My invention relates to reflectors and lanterns for gas-lighting of that class which are suspended from drop-pipes or brackets, the object being a construction well adapted for the employment of a gas-reheating device and the production of a simple, efficient, and inexpensive device for holding and supporting two hemispherical globes, and is an improved mode of arranging and holding two spherical globes in such a way that ventilation is provided to prevent undue heating; in so positioning the burner-tips that the several flames will appear to be but one large flame, while, in fact, they do not conjoin or mingle together; also, in the arrangement and combination of the parts. How I accomplish these objects will more fully appear, reference being had to the accompanying drawings, forming part of the specification, in which—

Figure 1 is a vertical side view partly cut away to show the leading parts in section. Fig. 2 is a horizontal view of the arrangement of the burner-tips.

A, Fig. 1, is a vertical tube-conduit for gas, the lower portion of which, A', serves as a heating retort for the gas. On the upper end is a fitting, *a*, adapted for attachment to a bracket-support or gas-pipe. At a suitable distance below this fitting and surrounding the tube A a canopy, B, preferably of sheet metal, is secured in any suitable manner, the tube A continuing to extend downward to socket-center H of the globe-holder G, which is joined to it by radial arms C. At a suitable distance below the tube A' terminates in a hollow boss, D, from which radiate horizontally short tubes *d d'*, on the outer ends of which the burner-tips *e e'* are so mounted that their jet-orifices will be in planes at right angles to the axis of said tubes and discharge the gas in jets parallel to planes at right angles thereto. These tubes differ in length, the shorter ones, *d*, connecting their respective burner-tips in close proximity to the tube A' alternate with the larger ones, *d'*, which are sufficiently longer

to connect and position their respective burner-tips *e'* outside and beyond the range of the jets of gas or flames issuing from the burner-tips *e* on the shorter tubes, *d*. When flames produced from jets arranged in this manner are viewed from a little distance, they will look like one large undivided flame.

Crown N is a metallic band, preferably embossed, scalloped, or otherwise ornamented, which surmounts dome E. The crown has radial arms P, center ring, R, and set-screws S, its objects being to keep the tube in the center of upper opening of the dome. The outer ring or globe-holder, G, is adapted to hold two globes at the same time. One globe on its top surface is secured in place by the ordinary means of an upturned flange or lugs provided with thumb-screws. The other globe is suspended from its under surface preferably by means of three or more two pronged lugs or clamps, which are fixed on the under side of the holder G and extend downward and inward. The inner prongs, K', being horizontal, are designed to limit the upward passage of the globe. The outer prongs, K, being provided with thumb-screws I, are designed to project on the outside of the globe-rim and far enough below its flange to allow the thumb-screws I to be screwed in under said flange, thus providing a supporting-bearing and securing the under globe in place.

The downward extension of prongs K K' below the line of the lower edge of shade-ring G and the consequent position of semi-globe F afford a free entry of the air to interior of the globe.

The globes E and F, in the form of a hemispherical shell with circular openings in each at the top and bottom, respectively, and with outward-turned flanges at their rims, are of the ordinary form; but I make the upper one, E, larger in diameter at its rim than the under one, F, is at its rim, the object being to secure or allow an annular space for the passage of air-currents between them when they are arranged in place on the holder G. Thus I secure an efficient means of preventing undue heating, by which the danger of cracking the upper globe is very much avoided, as will be seen. The cooling air-currents pass through in the course shown by the arrow.

I prefer to make the upper globe, E, of opa-

lescent glass or porcelain and the under one of crystal or lucent colored glass. This, however, is but a matter of taste, as any suitable material may be used.

5 The tube A' becomes very hot when the gas is burning, because of the nearness of the flames. Therefore it serves as a preheating-retort, the use of which I in no wise claim to be new, except in the novelty of its combination
10 with other parts.

A modification of this reflecting-lamp would be made if the globe-holder arms were bent or curved still more, as shown by dotted lines, so that they would be invisible when used in
15 a porcelain dome and when seen at an angle. The lower half of globe F, if clear, might be dispensed with, if the other combined parts are used, without materially altering the effectiveness of the invention when used indoors. It
20 is also obvious that when a comparatively small light is required—for instance, such as in a small show-window—arms d' may be dispensed with and the short arms d used only in combination with the other parts shown.

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

1. In reflector-lanterns for gas-lighting, the combination of a ring globe-holder having a
30 central supporting-socket and radiating connecting arms, an outer ring or holder and pronged lugs or clamps secured thereto, and two hemispherical globe-sections supported by said ring and clamps and forming a sphere in-

closing the central supporting-socket and the
35 radiating arms, substantially as shown and described.

2. In reflector-lanterns for gas-lighting, the combination of a globe holder consisting of a central socket, radiating arms, a ring or holder,
40 downwardly-extending lugs or clamps secured thereto, and two hemispherical globe-sections supported one below the other, for the purpose substantially as herein shown and described.

3. In reflectors and lanterns for gas-lighting, a vertical tube or conduit for gas and a central ring situated near its upper extremity, arms radiating therefrom, and a crown and set-screw, in combination with a globe-holder
50 having a central supporting-socket and radiating connecting arms, an outer ring or holder and lugs or clamps secured thereto, and two hemispherical globe sections, constructed as described, whereby the vertical tube will be
55 kept in position within the center of the globe-sections, and one of the said globe sections will be supported and the other suspended by the said ring-holder.

In testimony that I claim the foregoing as
60 my invention I have signed my name, in presence of two witnesses, this 8th day of February, 1887.

FRANCIS BILLINGHAM.

Witnesses:

E. F. GENNERT,
E. WHITNEY.