

G. A. BEIDLER.
Burner for Lamps and Lanterns.

No. 227,474.

Patented May 11, 1880.

Fig. 1.

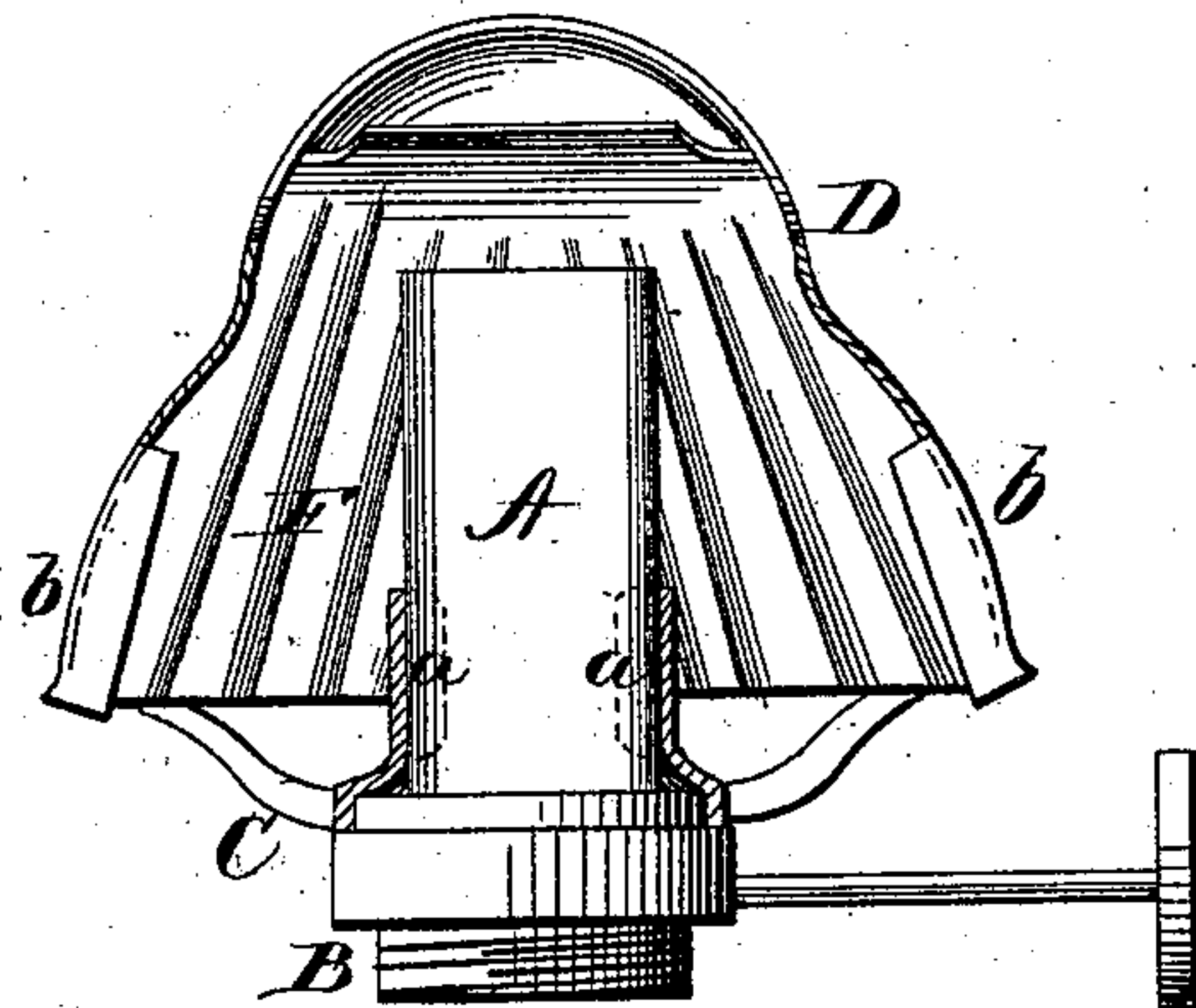


Fig. 2.

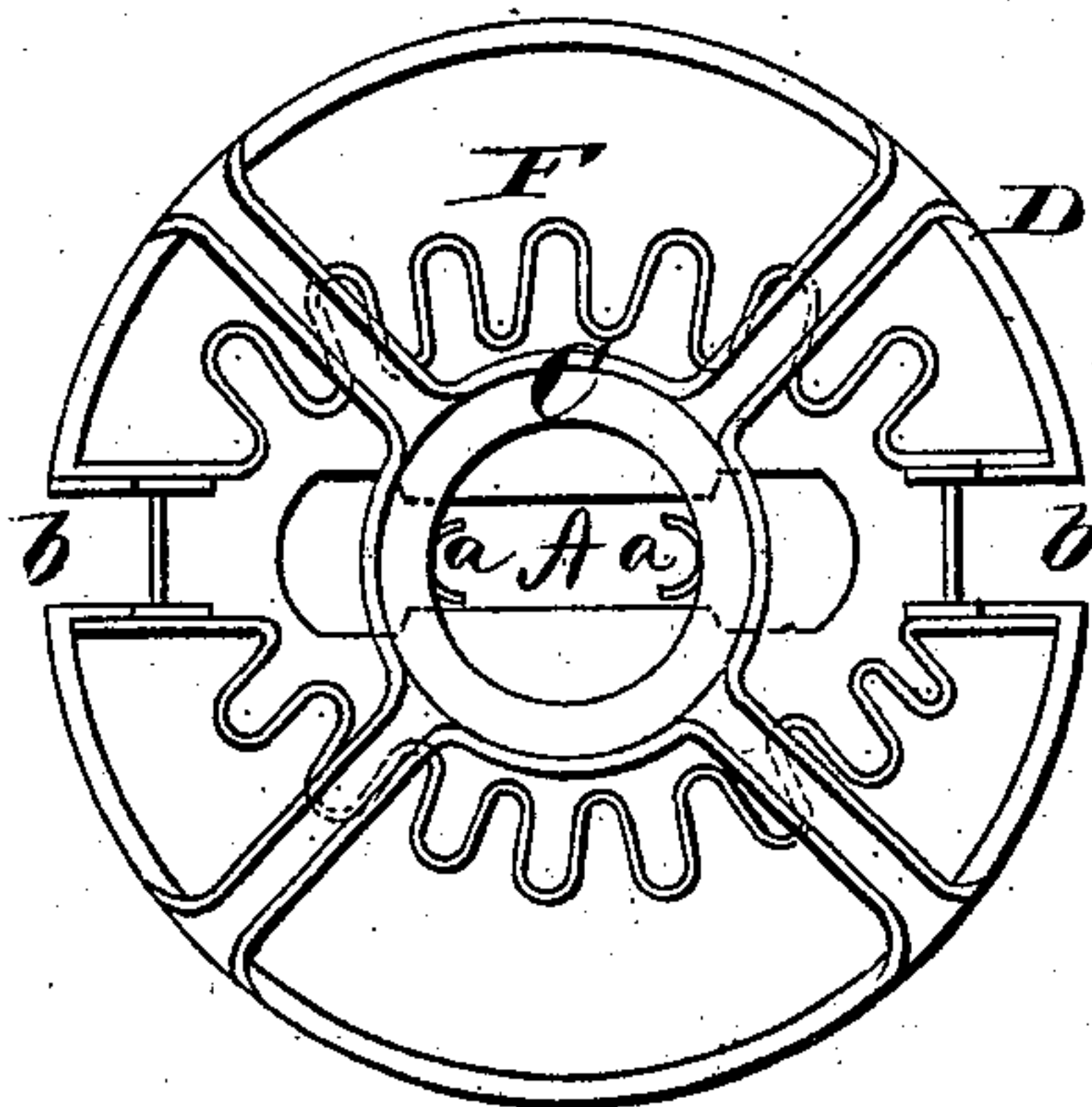
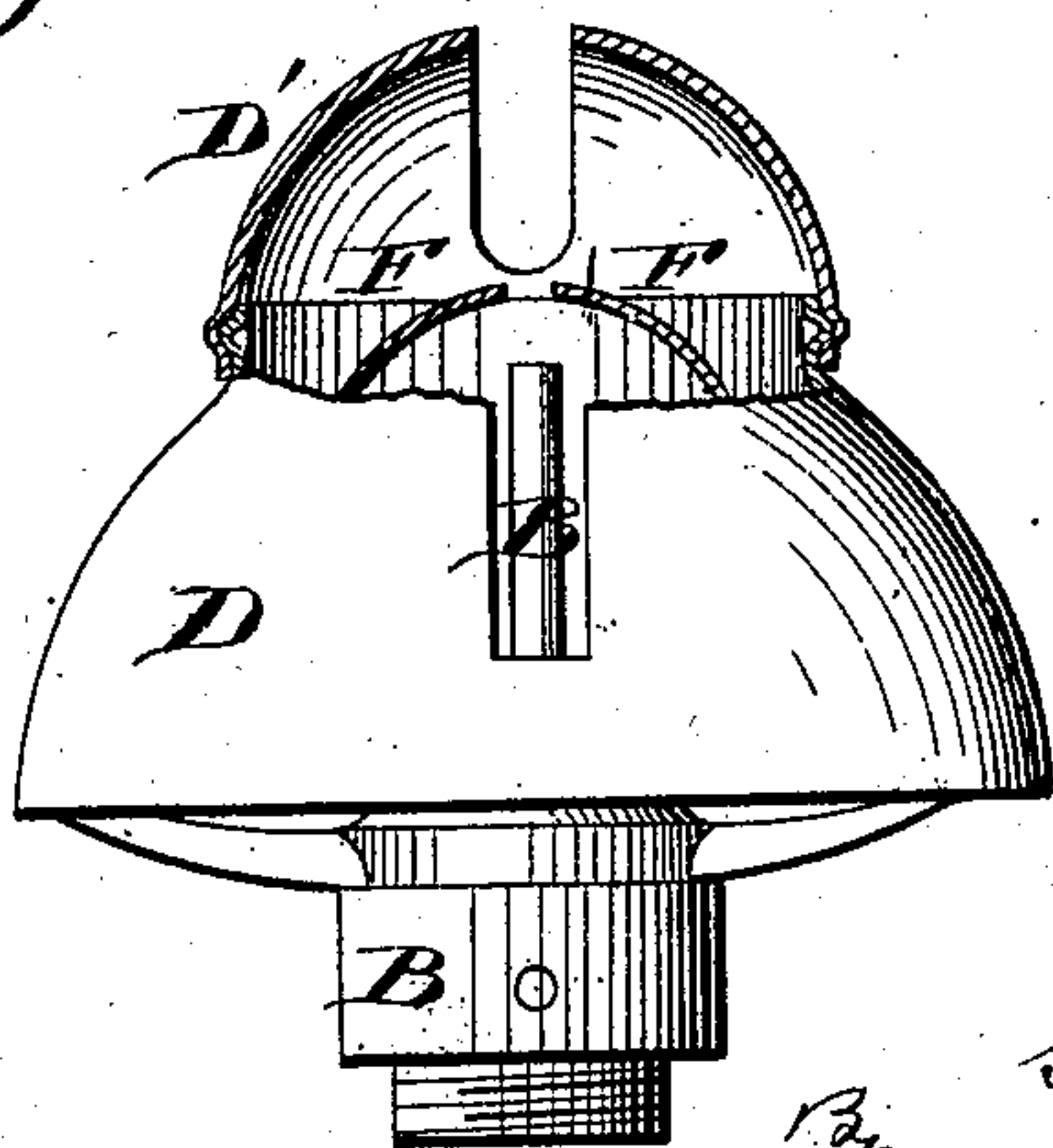


Fig. 3.



Witnesses:
Frank L. O'Rand
J. J. Mc Carthy.

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att.

UNITED STATES PATENT OFFICE.

GEORGE A. BEIDLER, OF MIDDLETOWN, PENNSYLVANIA.

BURNER FOR LAMPS AND LANTERNS.

SPECIFICATION forming part of Letters Patent No. 227,474, dated May 11, 1880.

Application filed February 28, 1880.

To all whom it may concern:

Be it known that I, GEORGE A. BEIDLER, of Middletown, in the county of Dauphin, and in the State of Pennsylvania, have invented certain new and useful Improvements in Burners for Lamps and Lanterns; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a no-chimney burner for lamps and lanterns, as will be hereinafter more fully set forth, and pointed out in the claim.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a central vertical section of my improved burner. Fig. 2 is a bottom view thereof. Fig. 3 is a side view, partly in section, showing the upper part of the cone removable.

A represents the wick-tube, with the usual screw, B, for attachment to the oil-reservoir.

C is a four-armed spider, resting upon the top of the screw or box-screw B, and provided with upwardly-projecting grooved guides *a a*, which fit around the edges of the wick-tube, so as to hold the entire top in place thereon, and yet admit its being easily taken off when required.

D is the cone, which is secured to and supported by the arms of the spider C. This cone has the usual central opening for the flame; and below said opening, on each side, are one or more slots, *b b*, directly opposite the edges of the wick-tube.

The cone D may be stamped or spun out of one piece of metal, or it may be entirely divided vertically and the two parts connected at a suitable point on each side by a cross-piece or bridge, only so as to leave one or more openings opposite each edge of the wick-tube.

I also make the upper part of the cone separate from the lower part, as shown in Fig. 3. The upper part, D', may then be made of

metal or glass, and is to have suitable catches to hold it on the main part of the cone.

By making the upper removable part, D', of the cone of glass, the light is diffused to the sides better and without shadows.

Within the cone, on each side of the wick-tube, is a fluted or corrugated air-rarefier, F, extending from the bottom upward over and above the wick-tube, and having lips to conduct the heated or rarefied air directly to the flame. These air-rarefiers may be attached to the cone itself, or to the spider, in any convenient manner. They increase the heating-surface for the air that passes both on the inside and outside of them, thus aiding the combustion and obviating the necessity of using a chimney.

It is well known that the air, before it reaches the flame, should be heated or rarefied to a certain extent to produce proper combustion, and this is just what I have accomplished by my invention. At the same time the heat should not be allowed to communicate to too great an extent through the wick-tube and screw to the oil-reservoir, as then gas would be generated therein and explosions follow. This is prevented by the openings *b* in the sides of the cone opposite the edges of the wick-tube, which admit sufficient amount of cold air to keep the lower part of the wick-tube comparatively cool.

In some cases I may make the rarefiers concavo-convex, without any flutes or corrugations.

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

In a burner for lamps and lanterns, the combination of the cone D, having one or more openings, *b*, in each side opposite the edges of the wick-tube, and the interior air-rarefiers, F F, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of February, 1880.

GEORGE A. BEIDLER.

Witnesses:

J. J. MCCARTHY,

H. AUBREY TOULMIN.