G. A. BEIDLER.

Lantern.

No. 164,253. Patented June 8, 1875.

Fig. 1.

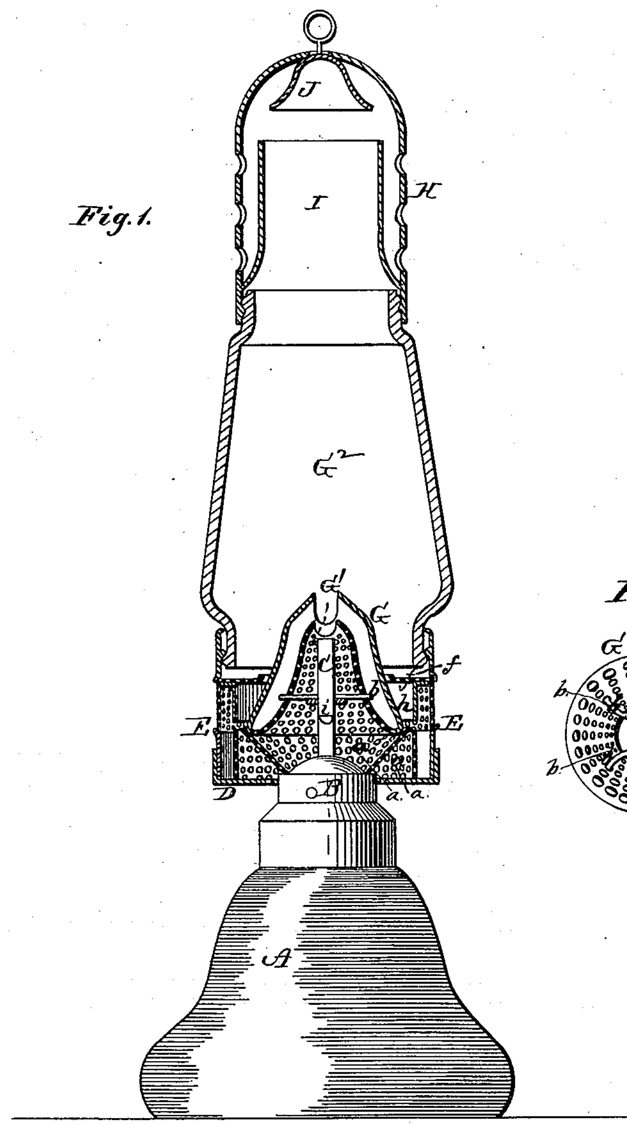
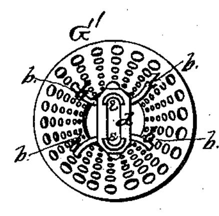


Fig. 2.



WITNESSES

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GEORGE A. BEIDLER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LANTERNS.

Specification forming part of Letters Patent No. **164,253**, dated June 8, 1875; application filed April 9, 1875.

To all whom it may concern:

Be it known that I, GEORGE A. BEIDLER, of Philadelphia, in the county of Philadelphia and in the State of Pennsylvania, have invented certain new and useful Improvements in No-Chimney Burners and Lanterns; and 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 and lantern, as will be hereinafter more fully set forth.

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 drawing, in which—

Figure 1 is a longitudinal section of my lantern and burner. Fig. 2 is a bottom view of the burner.

A represents the bowl or oil-reservoir of an ordinary hand-lamp, in the top of which is screwed the usual screw B, with wick-tube C passing through it. To the screw B is permanently attached the flanged disk D, to receive the rim or collar E, with bayonet joint or catch, in the upper end of which the globe G^2 is secured by screws or lugs. A portion of this rim or collar is perforated, as shown, and around the lower portion of the wick-tube C are arranged perforated air-breakers *a a*. The burner is composed of an exterior cone or shell, G, made of sheet metal or other suitable material, and an interior perforated cone, G^1, the lower edge of which may be connected to the lower edge of the exterior cone or shell, or above said lower edge by a series of short arms, or the two edges may be fastened together all around, as may be deemed most convenient. The interior cone G^1 is perforated with numerous holes, allowing the air to commingle together equally inside of the outside deflector or cone G, until it reaches the flame, and thereby preventing too great heat on the wick-tube, and also insures equalization of the current of air to the flame, and acts as an air-sifter. The outer shell and inner perforated piece are connected by arms *b b* to a collar, *d*, which surrounds the wick-tube, or by a perforated plate, and at each end of this collar is a downwardly-projecting semi-tube, *e*, to surround the edge of the wick-tube, and these semi-tubes rest upon lugs or bulges *i i* formed on or attached to the wick-tube. Between these lugs and the tubes *e* some suitable non-conducting substance may be interposed to prevent too much heat being communicated to the wick-tube. Near the upper end of the rim or collar E is an interior perforated flange or diaphragm, *f*, extending inward to the outer cone G of the burner. From this diaphragm depends an annular solid air-breaker, *h*, which causes the air admitted through the perforated part of the rim E to pass downward and then upward again, admitting a steady continuous supply of air to the flame, while at the same time the current is so broken that there is no perceptible flickering of the flame. On the contrary, it will burn with a steady and brilliant light.

At the upper end of the globe G^1 is attached the ordinary perforated dome H, within which is arranged an air-breaker, formed in two sections, I and J. The lower section I is permanently attached to the dome, is of cylindrical form, and extends up above the perforations in the dome. The upper section J is made in bell-form, and suspended from the top of the dome, so as to leave an aperture between it and the lower section I.

The air admitted through the perforations in the dome must pass up around the outside of the air-breaker section I, over the upper edge thereof, and down on the inside before it can reach and have any effect on the flame, and thus prevent its being blown out.

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

1. In the burner described, the combination of the exterior cone G and the interior perforated shell G^1, surrounding the entire interior of the cone G, and extended above the wick-tube, for the purpose of creating a single current of air to the flame, and to prevent an excess of heat on the wick-tube, substantially as set forth.

2. The combination, with the burner G G′, of the arms *b b*, collar *d*, with the semi-tubu-

lar projections *e e*, and the lugs or bulges *i i* on the wick-tube C, substantially as and for the purposes herein set forth.

3. The combination, with the perforated rim E and interior perforated air-breakers *a a* and *f*, of the annular solid air-breaker *h*, depending from the perforated diaphragm *f*, substantially as and for the purposes herein set forth.

4. An air-breaker, consisting of the cylindrical section I and the bell-shaped section J, arranged within the dome of a lantern, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of April, 1875.

GEO. A. BEIDLER.

Witnesses:
C. L. EVERT,
W. A. SKINKLE.