

J. Mowery
Lamp Burner
N^o 43,953. *Patented Aug. 23, 1864.*

Fig. 1.

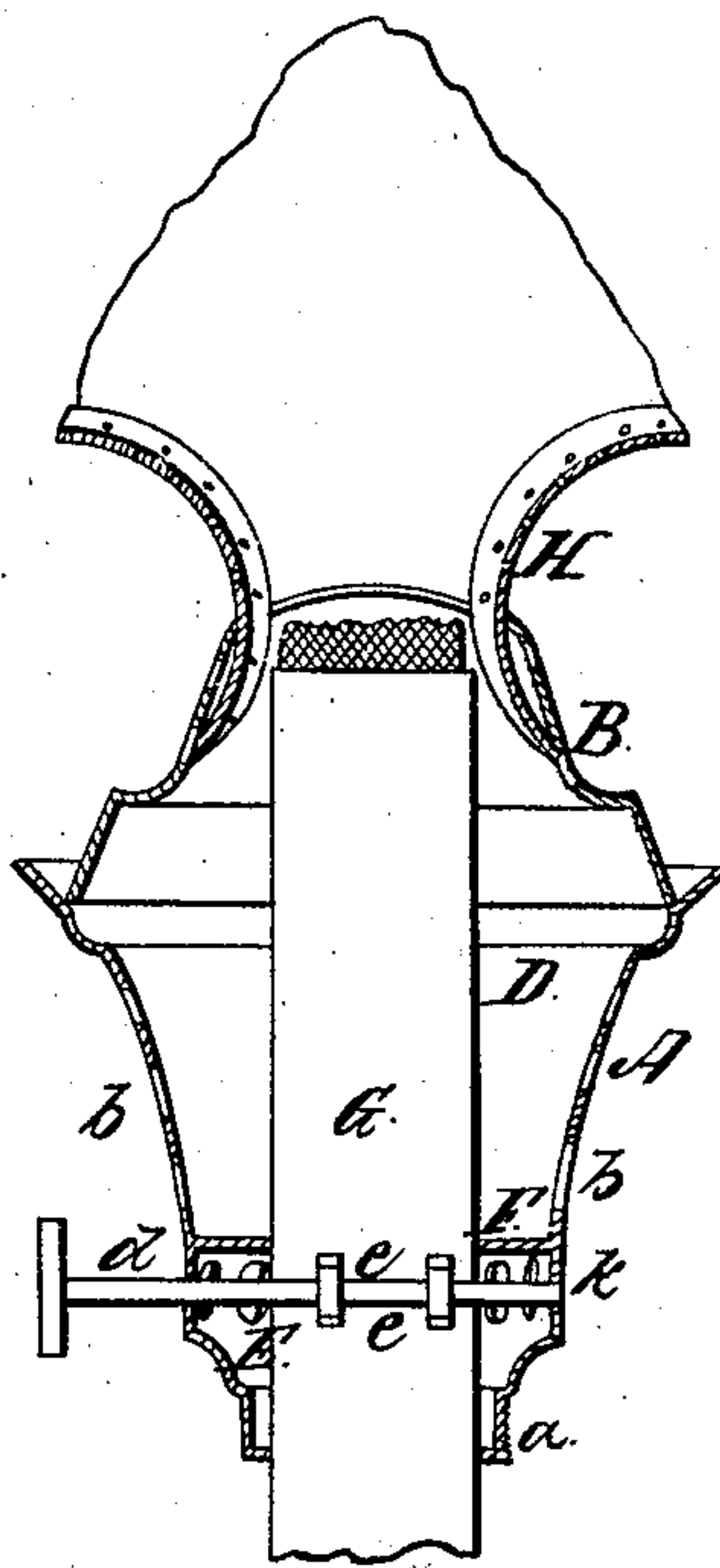


Fig. 3

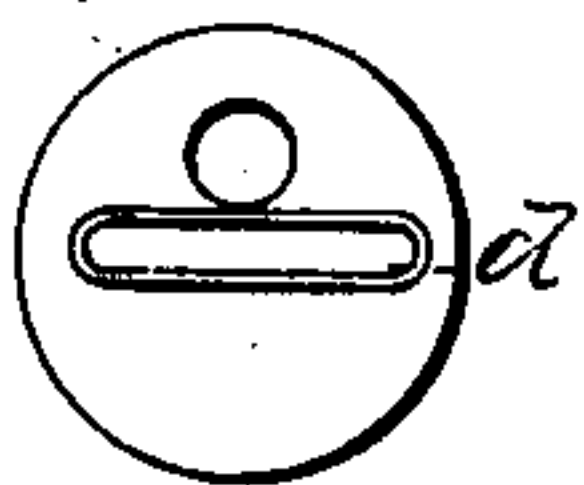
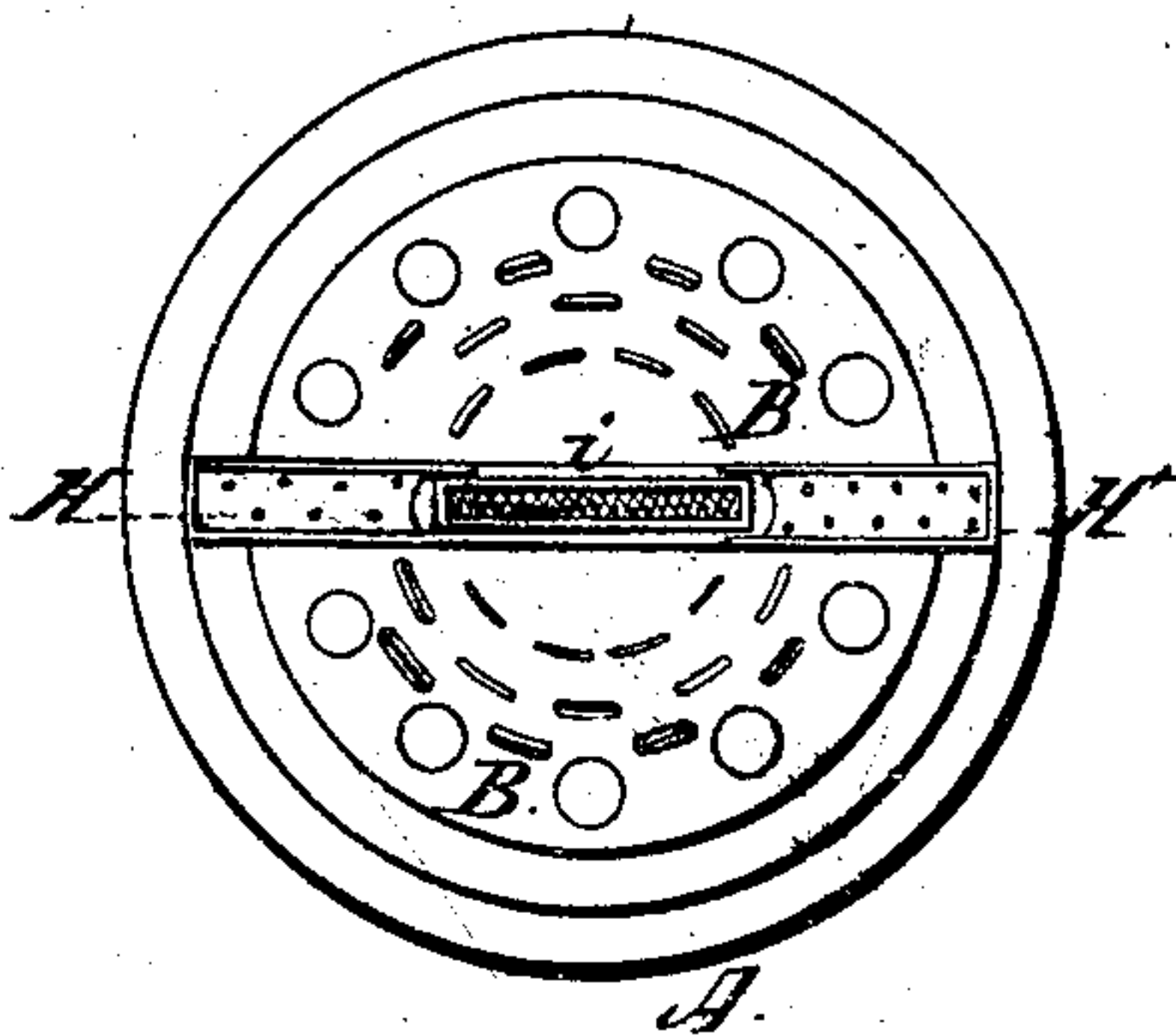


Fig. 4



Fig. 2



Witnesses:
Charles E. Foster
C. Howson

Inventor:
J. Mowery
Henry Howson
Atty

UNITED STATES PATENT OFFICE.

JACOB MOWERY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
HIMSELF AND JAS. H. SPENCER.

IMPROVEMENT IN COAL-OIL LAMPS.

Specification forming part of Letters Patent No. 43,953, dated August 23, 1864; antedated
June 16, 1863.

To all whom it may concern:

Be it known that I, J. MOWERY, of Philadelphia, Pennsylvania, have invented certain Improvements in Coal Oil Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement, fully described hereinafter, in coal-oil lamps, made, first, for the purpose of obtaining an extended attenuated flame, and one of increased brilliancy; secondly, for the prevention of smoke without using the ordinary glass chimney.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of my improved coal oil lamp-burner; Fig. 2, a plan view; Fig. 3, an inverted plan of the base of the burner, and Fig 4 a sectional view of a detached portion of the burner.

Similar letters refer to similar parts throughout the several views.

A is a metal casing, within the flaring upper end of which rests the detachable cap B, the casing being so constructed at the lower end as to be readily attached by a screw or otherwise to the reservoir containing the coal-oil. Two chambers are formed within the casing A—namely, the upper chamber, D, and lower chamber, E—by a partition, F, to which is secured the usual wick-tube, G, and through the chamber E passes the usual spindle, *d*, provided with pinions *e e*, which, projecting through slots in the wick-tube and bearing against the wick, serve to raise or lower the latter according to the direction in which the spindle *d* is turned. The side of the lower chamber is perforated with holes, and an orifice (see Fig. 3) at the bottom of the projection *a* of the casing forms a communication between the lower chamber, E, and the interior of the reservoir containing the oil. A constant circulation of cold air through the chamber E serves to maintain the lower portion of the casing and the wick-tube in that comparatively cool state which is so desirable in all coal-oil

lamps. The dome shaped cap B has on the top the usual oblong opening, *i*, and to the inside of the cap are secured the lower ends of the curved plates H and H', both of which pass through the oblong slot, one bearing against one end, the other against the other end, of the said slot, and both plates being bent outward, as seen in Fig. 1, a plentiful supply of air enters the chamber D through perforations *b*, and, passing upward, impinges against the flame near the wick, thereby consuming a great portion of the carbon. A smoke, however, of more or less density would still accompany the flame in spite of the supply of air introduced into the chamber D, but for the curved plates H and H', by means of which the flame, which would otherwise be thick and contracted in size, is attracted and spread outward in an attenuated sheet of the form represented in the drawings, thereby presenting an extended surface exposed to the air, and, consequently, burning with increased brilliancy and unaccompanied by the usual smoke.

I have found by practical tests that the best shape for the curved plates is that represented in the sectional view, Fig. 4—namely, concave on the inside and convex on the outside—and that the prevention of smoke is rendered more complete and the brilliancy of the flame increased by perforating the plates so that the air passing through these perforations and impinging against the edge of the flame has the tendency of so thoroughly consuming the carbonaceous matter which accompanies the same that there is no necessity for using the usual glass chimney.

I claim as my invention and desire to secure by Letters Patent—

The curved and perforated plates H and H', arranged on the dome or its equivalent of a coal-oil lamp in respect to the wick-tube, substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB MOWERY.

Witnesses:

HENRY HOWSON,
JOHN WHITE.