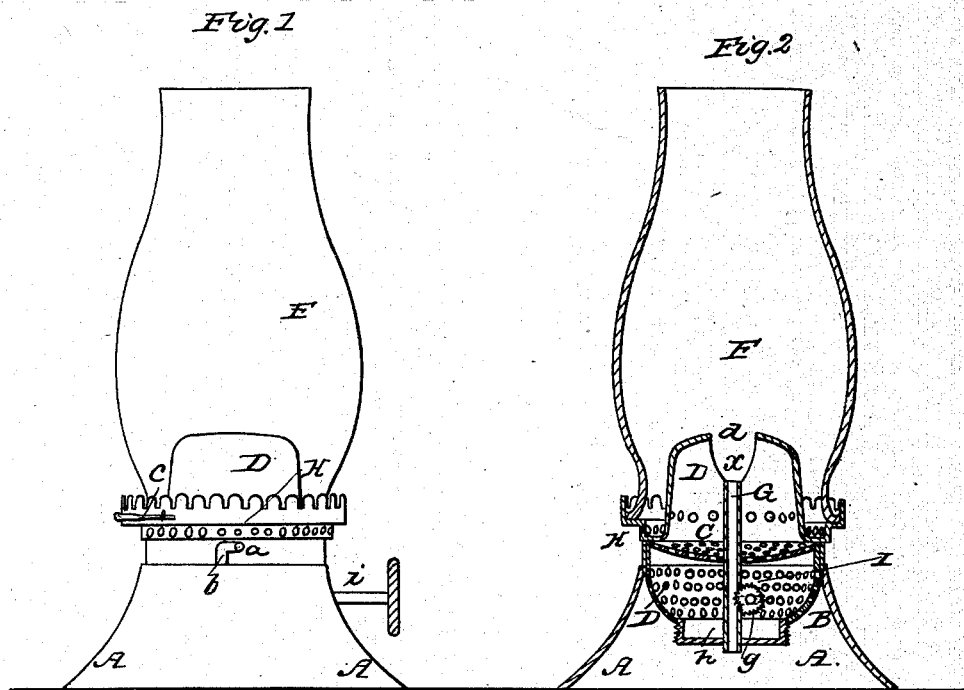


A. H. PLATT.
Coal Oil Lamp.

No. 47,451.

Patented April 25, 1865.



Witnesses
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN COAL-OIL LAMPS.

Specification forming part of Letters Patent No. 47,451, dated April 25, 1865.

To all whom it may concern:

Be it known that I, A. H. PLATT, of Yellow Springs, in the county of Greene and State of Ohio, have invented an Improved Coal-Oil-Lamp Burner; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a side elevation of my improved lamp-burner; Fig. 2, a central vertical section thereof in a plane at right angles to the plane of view in Fig. 1.

Like letters designate corresponding parts in both figures.

My improvements have special adaptation to the purpose of using a very short chimney, F, so as to make a practically "portable" coal-oil lamp; and I use in this invention a flat wick.

The leading desiderata in this case are: An abundant supply of air to support the combustion; the thorough breaking up, mixing, and equalization of the draft-currents, and an increased surface of contact in the immediate act of striking the combustible gases, whereby the flame is produced.

The draft-air is first admitted beneath the lower edge of a bell-shaped or flaring burner-base, A, (like an inverted-funnel mouth,) which surrounds the upper part of the lamp-body at a sufficient distance therefrom to afford the requisite annular space for the purpose. This open base rapidly diminishes in diameter upward substantially as shown in the drawings, so that while it admits a full and free supply of air it rapidly concentrates it within. From the summit of this open base a basilar finely-perforated partition, B, Fig. 2, extends convexly downward and terminates in the screw portion *h'*, by which the burner is secured to the lamp-body. The form and position of this perforated partition in relation to the open base A are such that in a great measure they change the direction of the ascending currents of air and turn them inward toward a common center in a direction more nearly approaching the horizontal. The effect of this is not only to break up the currents coming in on different sides, but to commingle and equalize them within.

The top of the commingling-chamber inclosed by the basilar partition B is covered by a perforated cap, C, also convex downward, but in a much less degree than the basilar partition B. But the convexity or upward concavity is sufficient to direct the air not only upward but inward toward the flame of the burner, thereby both changing the direction of and dividing the currents again, and causing them to impinge more directly upon the sides of the flame. But, in addition to this arrangement of the perforated partitions below the flame to accomplish the results aimed at, the burner-cap D is varied in construction in relation to the wick-tube G. This improvement consists in having the flame-opening *d* therein deeper than usual at the lower ends or corners, which are nearly or exactly on a level with the top of the wick-tube, as shown at *x* in Fig. 2. This arrangement allows the flame to spread edgewise much more than usual, thereby furnishing more surface to supply oxygen to the combustible gases as fast as generated and presenting a broader whiter flame.

The result of these improvements is as set forth at first above, the chimney required for perfect combustion not exceeding the size indicated in the drawings.

For greater convenience in trimming the lamp the chimney and burner cap holder H are removable from the lower part of the burner by fitting over the upper portion of said lower part and securing it thereto by a "bayonet" fastening, *a b*, as shown in Fig. 1, or the equivalent thereof. With this improvement the burner-cap is attached permanently to the holder H. The chimney F is attached thereto by my improved spring sliding fastener *c*, as described in a previous application for Letters Patent.

I also use my improved laterally-movable wick-regulator I, as described in my former application, being here applied to a single wick-tube, instead of two, as in that case. The slot *g*, in which the free end of the regulator-shaft *i* moves, is indicated by dotted lines in Fig. 2.

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

1. The combination of the downwardly-

convex perforated basilar partition B and the perforated cap C, having a degree of convexity downward less than the former, substantially as and for the purpose herein specified.

2. The combination of the flaring open base A, perforated partition B, perforated cap C,

and deep flame-opening *d*, arranged and operating together substantially as and for the purpose herein set forth.

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Witnesses:

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