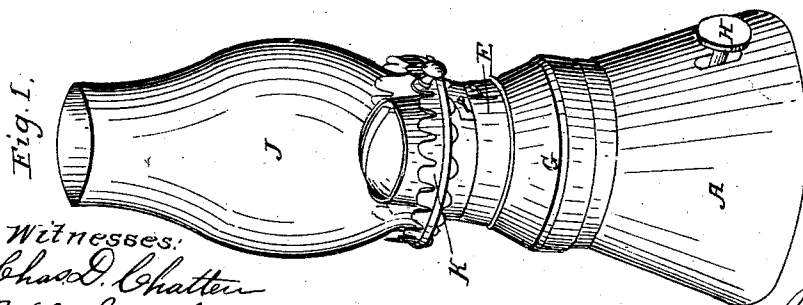
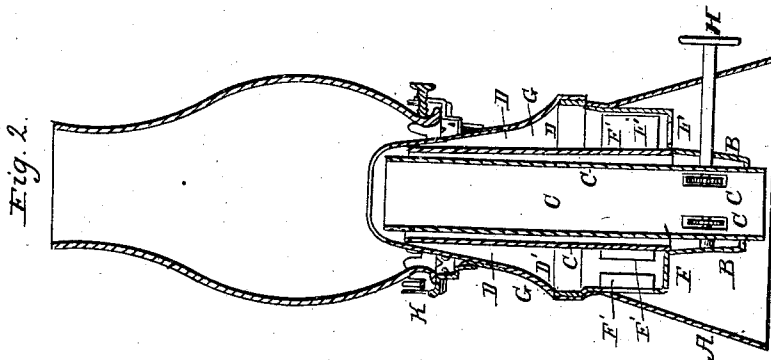
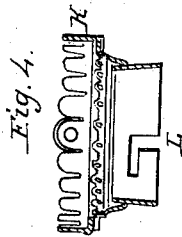
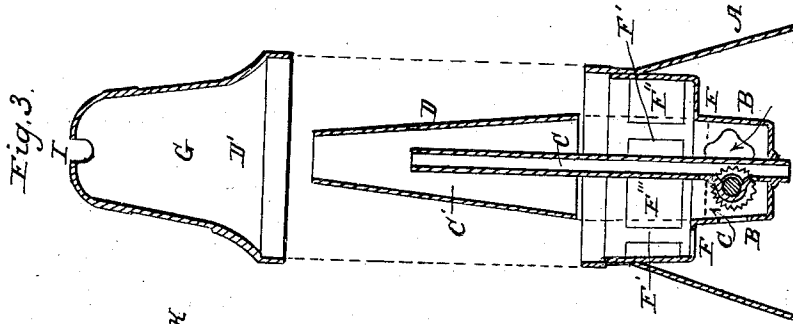


J. G. HUNT,
Lamp.

No. 41,300.

Patented Jan. 19, 1864.



Witnesses:
Chas. D. Chatter
W. C. Leech

Inventor:
J. G. Hunt

UNITED STATES PATENT OFFICE.

JAMES G. HUNT, OF CINCINNATI, OHIO.

IMPROVEMENT IN COAL-OIL LAMPS.

Specification forming part of Letters Patent No. **41,300**, dated January 19, 1864.

To all whom it may concern :

Be it known that I, JAMES G. HUNT, of Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Oil Lamps; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section, and Figs. 3 and 4 are detached parts.

My invention relates to such a construction of lamps that a perfect combustion of mineral oil can be obtained without the use of a chimney projecting above the flame; also, to such a construction that a chimney may be used, if desirable, but which is detachable at pleasure by means of removing the chimney-holder, and in this manner rendering the lamp, as a whole, more portable.

A in Figs. 1, 2, and 3 represents a circular conical-shaped base, in form like an inverted funnel, surrounding both the top B that screws into the bowl of the lamp, and also a portion of the bowl itself, leaving a space of about half an inch between the body of the lamp and the conical base A. The cap B is designed to fit any of the mineral oil lamp-bowls, whether of glass or metal.

The wick-tube C is attached to the cap B in the usual manner—that is, by passing through the floor of the cap—and to which it is secured by soldering. The wick is also raised and lowered in the usual manner by means of the toothed wheels *cc* on the small shaft H. The wick-tube C projects into the bowl of the lamp only about an inch, while it extends upward above the bowl some three or four inches.

Inclosing the wick-tube C is an air-tube, D, the base of which fits the middle portion of the cap B, which, at this point, expands and forms the diaphragm F F. (Seen in Figs. 2 and 3.) This diaphragm is perforated to admit air into the outer air-chamber, hereinafter to be described. Below the point of contact, between the tube D and cap B, the upright walls of the cap are perforated for the admission of air into the air-tube D, as shown at B' in Fig. 3.

From the outer margin of the diaphragm the walls of the cap extend upward, and are joined to the upper part of the conical base A, this circular wall being perforated, leaving only the narrow strip F', with the large openings F'', for the admission of air into the outer chamber, which surrounds the walls C of the inner chamber, C'.

I form the outer air-chamber, D, by placing upon or permanently attaching to the upper end of the conical base A the cone-shaped top G, the top of which is curved inward toward the upper end of the wick-tube C, and having an opening corresponding in shape thereto, the lip I being situated about one-quarter of an inch above the top of the wick-tube C, the greater portion of the flame being above the lip. By means of this in-curving lip two objects are accomplished, first, the cone-shaped top G becomes heated at the top by the flame, and, in consequence of the good conducting property of the metal, the heat is conveyed downward to or below the top of the conical base A, and hence the air in the outer chamber, D, becomes rarefied; second, thereby causing a strong upward current which is deflected by the lips I directly against the side of the flame.

The wick-tube C, being likewise a good conductor of heat, and being surrounded by the air-tube D, causes the air within the tube D and space C' also to become heated, giving it a tendency to ascend, and thus increasing the draft, and inducing an upward current of air within the base A, which surrounds the upper portion of the body of the lamp and cone G, which surrounds the wick and inner chamber. The conical-shaped top G is so formed at the top, as seen at I, and above described, that the ascending currents of air are deflected inward and directly upon the flame, by which means a most perfect combustion is produced, even without the aid of a chimney.

A glass chimney, J, can be attached when desirable. This is done by means of the chimney-holder K, which fits over the cone G, and is secured by the right-angled slot on pin L; but the addition of this chimney makes very little difference with the combustion, for the upward current of air is sufficiently strong without it to insure a good combustion.

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

The inner air-passage, C', surrounding the flat wick-tube C, in combination with an outer conical air-conductor, A G, extending from the flame of the lamp downward around the bowl of the lamp, as specified, when these

several parts are constructed, arranged, and operated as and for the purpose set forth.

JAS. G. HUNT.

Witnesses:

CHAS. D. CHATTEN,
W. C. LEECH.