

O. C. EVANS.

Lamp Burner.

No. 31,160.

Patented Jan. 22, 1861.

Fig: 2.

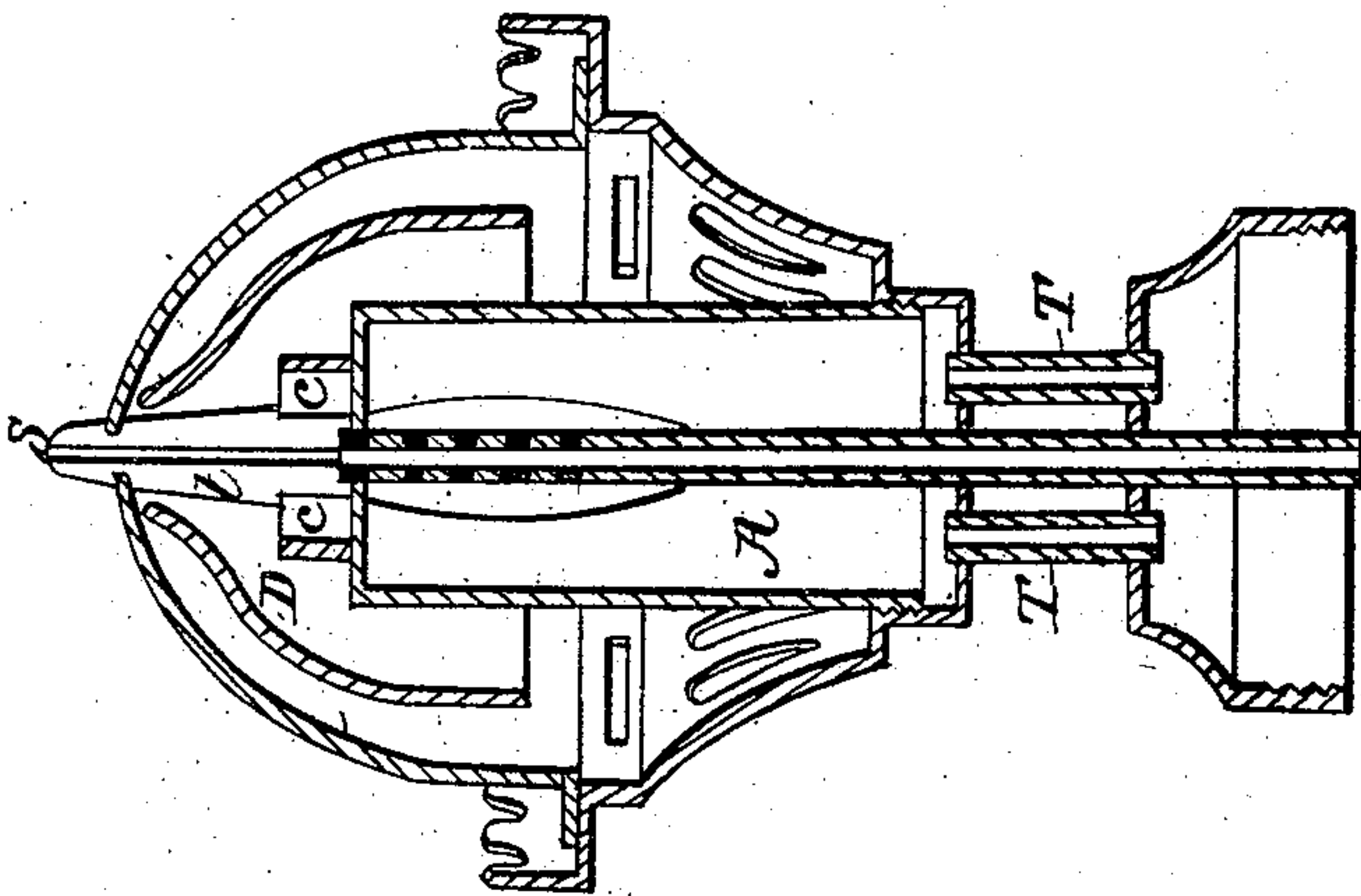
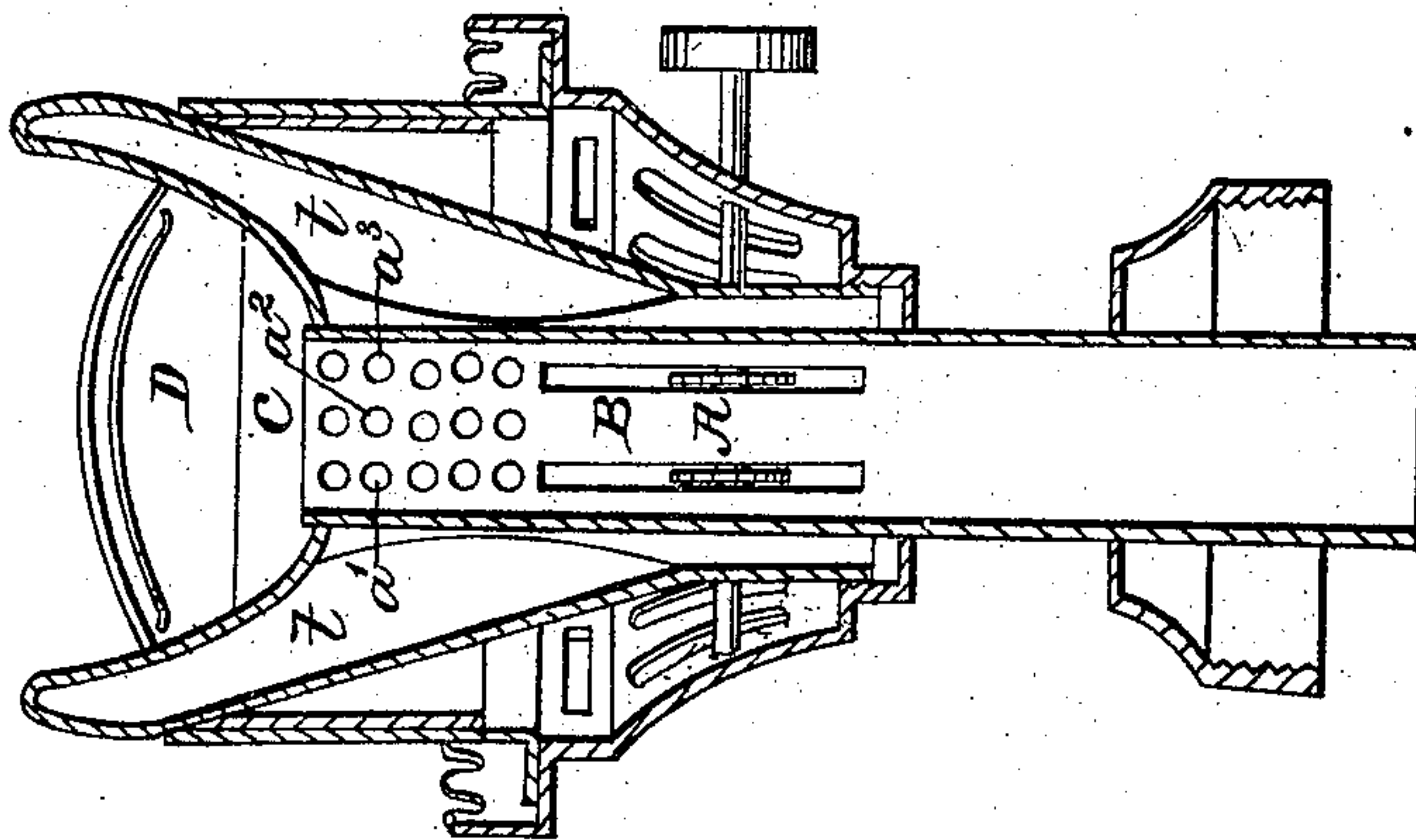


Fig: 1.



Witnesses

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UNITED STATES PATENT OFFICE.

O. C. EVANS, OF NEW YORK, N. Y.

LAMP.

Specification of Letters Patent No. 31,160, dated January 22, 1861.

To all whom it may concern:

Be it known that I, ORMROD C. EVANS, of the city and county of New York and State of New York, have invented new and useful
5 Improvements in Lamps for Burning Coal and other Oils, as Well as Non-Explosive Fluids, Without the Aid of a Chimney.

The nature of my invention consists in constructing in the ordinary coal oil lamp
10 (of which the chimney is an essential) and around the wick tube, a gas chamber. To the upper part of this gas chamber (and which forms a part of the same) are attached horns somewhat in the form of the
15 swallow's tail,—and which horns have, on the upper inner side, each a slit, for the purpose of opening a gas and vapor communication between the gas chamber and the flame.

20 The upper end of the wick tube is perforated with holes or slotted openings for the purpose of allowing the gases and vapors which are liberated from the oil or fluid in the wick, by the heat communicated
25 thereto, to freely pass into the gas chamber,—and from thence out at the slits, or any other equivalent openings.

The object of this invention may be clearly perceived, from the many difficulties
30 heretofore experienced in the burning of coal and other highly carbonized oils, free from smoke, without the aid of a chimney. But which, from this, my construction of lamp, is fully obviated,—and not only this,
35 but a larger flame with slightly diminished intensity of heat only is obtained, and this by converting a portion of the oil or fluid of the wick into gas or vapor, and then collecting and carrying it forward, in the manner described, to feed the wick flame. Non-
40 explosive oils and fluids only can be used.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

45 Reference being had to the accompanying drawings Figure 1, is a vertical sectional view showing the arrangement and construction of the various internal parts. Fig. 2, is a transverse view of the same.

50 Figs. 1 and 2: Letters A, A, represent a

gas chamber—and letters *t, t, t*, are tubes forming a part of the same.

Fig. 2: Letter *s*, is a slit, running the whole length of the upper inner sides of the horns *t, t*, Fig. 1.—and which should be
55 sufficiently open to admit vapor to pass, freely, through.

Holes or parallel slots are perforated in the upper end of the wick tube, and within the gas chamber, Fig. 1, letters B, and *a'*
60 *a'' a'''*, up to any number required.

Guards, to prevent any vaporous fluid from running from the top of the wick tube, next the flame, over and down the sides of the gas chamber, letters C, C, C, Figs. 1 and 2,
65 are placed around the wick tube, and soldered or otherwise fastened to the gas chamber.

A petticoat cone, letters D, D, Figs. 1 and 2, is placed between the gas chamber and
70 the usual cone, which divides the air chamber into two chambers, instead of one.

From this the operation may be clearly traced. The flame communicates to the surrounding parts, heat. From this heat va-
75 pors and gases are liberated, from the oil or fluid in the wick, before it reaches the flame, and which escapes through the holes or slots in the upper end of the wick tube, into the gas chamber and from thence it passes up
80 through the slits in the same, to feed the wick flame, and from the position of these slits in the gas chamber it will be readily perceived how the flame of the wick is widened by the heated gases and vapors as
85 they pass through, without the aid of a cone even. The guards, petticoat cone and cone graduate the current and amount of air to the different parts of the flame, at the bottom least, and where it leaves the outside
90 cone, most. Hence care must be had in adjusting the height of the guards as well as the length, width and position of the petticoat cone;—which should not extend below as far as the outside cone extends, or so far
95 up as to interfere with the blaze below the opening in the outside cone.

Tubes are inserted in the cap of the lamp and extended up into the burner, letters T, T, Fig. 2, for the purpose of ventilating the
100

body of the lamp up through the gas chamber.

What I claim as my invention and desire to secure by Letters Patent of the United States is,

1. The combination and arrangement of the gas-chamber A, constructed with horns t t , and slitted openings as described, with the openings of the wick tube a' a^2 a^3 &c.

2. In combination with the gas chamber 10 and openings in the wick tube, of the guards C C and petticoat cone D, the same being arranged in the manner and for the purposes set forth.

O. C. EVANS.

Witnesses:

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