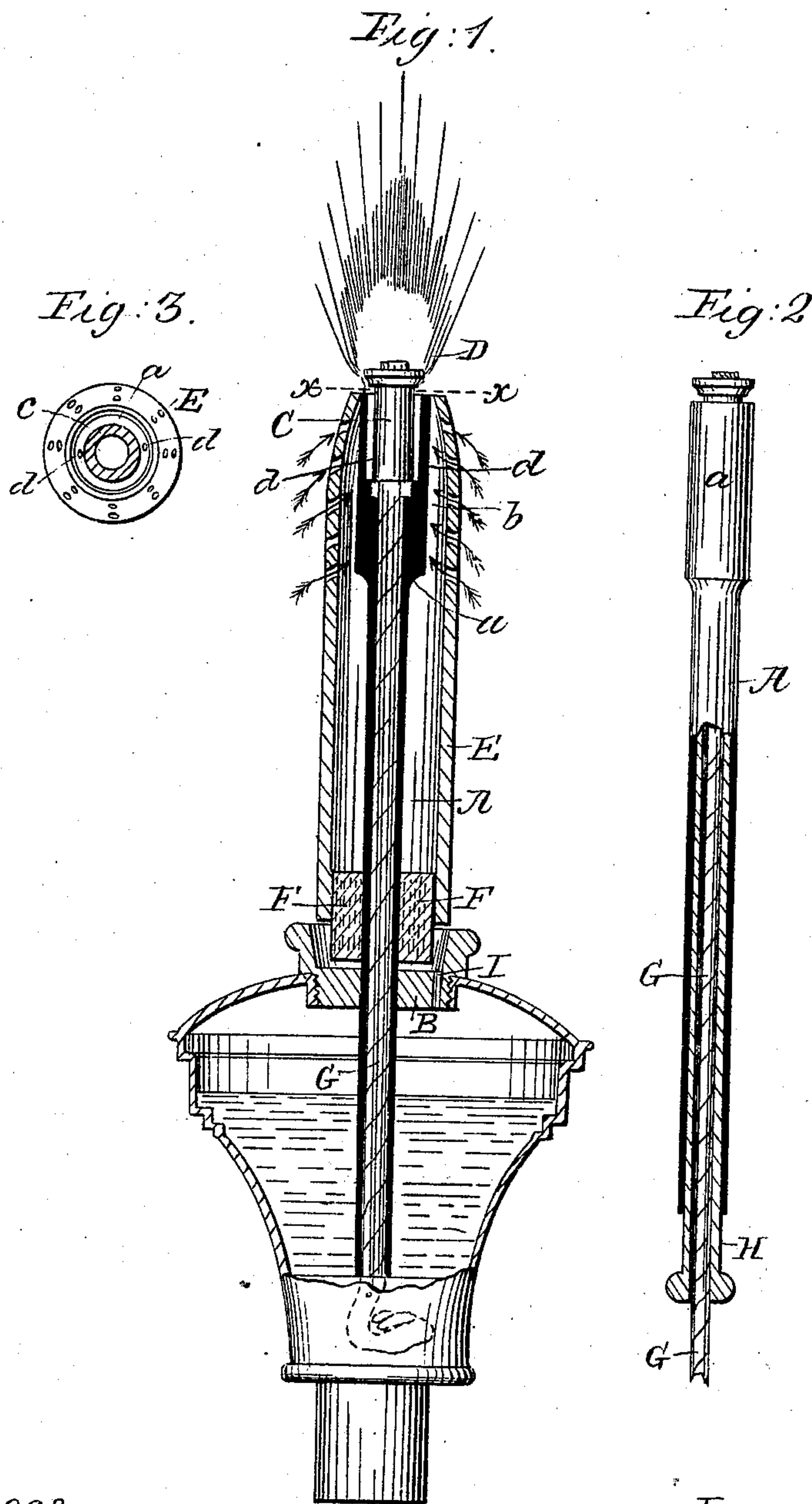


L. CHANDOR.

Vapor Burner.

No. 93,674.

Patented Aug. 17, 1869.



Witnesses.

Guaravé Dietrich
Geo. W. Mabley

Inventor

Lasslo Chandor.
PER *Wm. V. Co.*
Attorneys

United States Patent Office.

LASSLO CHANDOR, OF ST. PETERSBURG, RUSSIA, ASSIGNOR TO
CASSIUS M. CLAY.

Letters Patent No. 93,674, dated August 17, 1869.

IMPROVEMENT IN VAPOR-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, LASSLO CHANDOR, of the city of St. Petersburg, Russia, have invented a new and useful Improvement in Gas-Generating Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of lamps which will self-actingly generate gas from hydrocarbon-oils, namely, petroleum, kerosene, naphtha, benzine, turpentine, singly or in any way mixed, and all combustible fluids whatever, and burn the same without the aid of the glass chimneys now commonly used with lamps for burning these substances.

The invention consists in the combination, construction, and arrangement of parts, as will be hereinafter set forth.

Figure 1 represents a sectional elevation of a lamp provided with my improvements, when only one wick-tube is used;

Figure 2 represents the arrangement of the tubes when two are used, the inner one being shown in red; and

Figure 3 represents a top view of my improved attachment with the flange of the cap removed.

Similar letters of reference indicate corresponding parts.

A represents a wick-tube, rigidly connected to and supported by the cap B, which screws into the top of the lamp.

This tube is extended above the top of the reservoir a considerable distance, to prevent the heat from being conveyed to the reservoir. This distance may be varied according to the nature of the oil used.

Near the top, the tube A is considerably enlarged, both on the shell and in the bore, as indicated by *a b*.

The enlargement of the bore at *b* is intended for the reception of a tubular or solid cap, C, having a flange, D, at the top.

This cap is intended to fit so loosely in the enlargement *b* of the tube A, that the gas may escape between the two.

For the purpose of adjusting the cap up or down, I have provided it with vertical ribs, *d*, which fit in corresponding grooves, formed in the tube A, the friction of the parts sufficing to hold the cap in the desired position.

E represents a porcelain or other non-conducting tube, tapered at the top, and provided with numerous perforations for a short distance from the top downward.

This tube, which is considerably larger than the wick-tube, and is preferably made to resemble in appearance a candle, is placed over the wick-tube, and

so connected to it by a cork, F, or other device, as to be adjusted for arranging the top relatively to the top of the tube A. It is designed to be slightly larger in the opening at the top than the exterior of the tube A.

The wick G is designed to extend only to the bottom of the cap C, and the latter is filled, when made hollow, with cotton or other substance.

The oil rising by capillary attraction through the wick to the bottom of the cap, is here heated, gaseated, and separated and passes up between the surfaces of the cap and the chamber *b*, to the grooves *d*, by which it is divided and delivered up to the flame at the top under the spreading flange D, where it encounters the air in sufficient quantity coming in through the perforations in the cone E, to burn with perfect combustion without odor or smoke.

The air is admitted to the tube A sufficiently below the flame to become considerably heated as it comes up to it; also preventing the heat from being conducted downward by the tube.

The upper part of the tube A and the cap thus furnish sufficient heated surface to gaseate the oil after leaving the wick and before encountering the flame.

The wick is also so protected from the flame that it carbonizes very slowly, and seldom requires trimming. When it does, by taking out the cap it may be drawn up for trimming, and then be gently pressed back again.

In fig. 2, I have represented in red an inner tube, H, rising up to the bottom of the cap, which facilitates the removal of the wick for trimming by sliding the tube A off from it, the cap B being unscrewed. The top of this tube H should be serrated or notched, to permit the free passage of the oil or gas between it and the bottom of the cap to the space between the cap and wall of the enlargement *d*.

When the cap C is made hollow, and filled with cotton or other similar substance, I find that the flame is greatly steadied thereby.

By adjusting the cap C in the top of the tube A up or down, the flow of gas may be controlled, and the flame regulated as required when burning oils of different gravities.

The hole I in the cap B is for the admission of air to supply the place of the oil taken up.

Instead of using the cork for supporting and adjusting the cone E, a metal seat may be provided for it on the lamp-top B, and for supporting it, so as to insure an equal space at the top around the top of the tube A. A metal tube may extend from the lamp-top up, say about half the length of the cone E, fitting snugly in it, so as to control the same.

To light the lamp, the cone E is taken off, and the top of the tube A exposed to the flame of a match for a few seconds, whereby sufficient gas is generated to

make a small flame. The cone is then put on again. This puts out the flame, which must be again ignited by a match, after which it will burn indefinitely, no apparent diminution occurring, on account of carbonization of the wick, for a great length of time.

I may in some cases dispense entirely with the cone E with good results, and this I propose to do when found best.

Having thus described my invention,

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

1. In combination with the wick-tube A, having the enlargement *a*, and either with or without the tube H,

the cap C, when constructed as shown, whereby it is adapted to be adjusted to regulate the discharge of gas between itself and the tube A to the flame at the top, substantially as specified.

2. The combination, with the flanged cap C and tube A, of the perforated non-conducting tube E, when arranged substantially as specified.

The above specification of my invention signed by me, this 19th day of March, 1869.

L. CHANDOR. [L. S.]

Witnesses:

C. M. CLAY, [L. S.]

GEORGE TOMUTZ. [L. S.]