

No. 623,812.

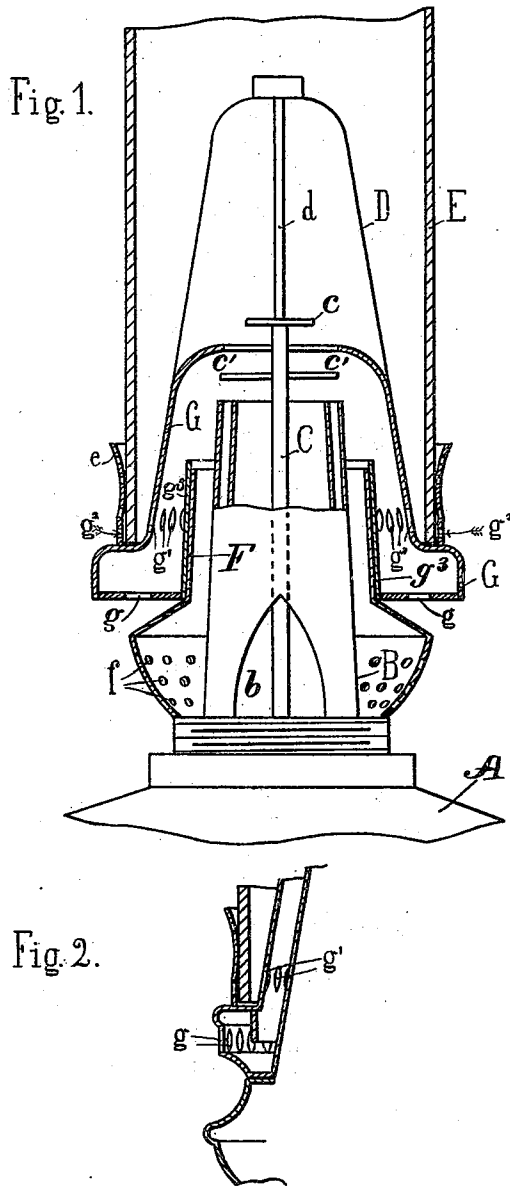
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PETROLEUM INCANDESCENT LAMP.

(Application filed Dec. 10, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

FRIEDRICH WILHELM OSCAR NICOLAI, OF CHARLOTTENBURG, AND FELIX HEINRICH ASCHNER, OF BERLIN, GERMANY, ASSIGNORS TO MICHAEL FRANK, OF FRANKFORT-ON-THE-MAIN, GERMANY.

PETROLEUM INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 623,812, dated April 25, 1899.

Application filed December 10, 1897. Serial No. 661,426. (No model.)

To all whom it may concern:

Be it known that we, FRIEDRICH WILHELM OSCAR NICOLAI, of Charlottenburg, and FELIX HEINRICH ASCHNER, of Berlin, Germany, have invented new and useful Improvements in Petroleum Incandescent Lamps, of which the following is a specification.

Our invention relates to petroleum incandescent lamps in which the petroleum is burned in an ordinary circular-wick burner.

The object of our invention is to produce a lamp in which the ordinary luminous flame may be converted almost instantaneously and without the production of smoke and disagreeably-smelling gases into a non-luminous or blue flame. This object is attained by the construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a vertical cross-section of our improved lamp, and Fig. 2 is a fragmentary view showing a modification.

A represents the reservoir, on which is fitted in the usual way the wick-tube B, (preferably conical in shape,) provided with an opening *b* near the base thereof for supplying air to the interior of the flame. If desired, the wick-tube may be extended so as to pass through the reservoir and to supply air to the flame from the bottom of the lamp. A tube F, provided with an enlargement near its base and with holes *f* therein, partially surrounds said wick-tube, leaving a space between the two tubes for the passage of air to the exterior of the flame. The upper part of the tube F is preferably conical in shape. Through the center of the wick-tube passes the rod C, provided with the ordinary deflector *c* and with arms *c'*, which are used to show the height to which the wick should be raised to produce the proper flame under ordinary conditions. The arms *c'* will prevent the wick from being raised too high, as it will abut against these arms when it is at the proper height.

A dome-shaped cap G, open at the top and provided with holes *g* at the bottom, with an inner tube *g'*, adapted to fit closely over the

upper part of the tube F, with a chimney-gallery, and with an intermediate row of perforations *g'*, is used to support the chimney and incandescent mantle D. This mantle is also partly supported by a rod *d*, which is supported by the rod C.

The operation is as follows: The wick is turned up so that it can be lighted. After lighting the wick the dome G, carrying the mantle D and chimney E, is placed on the tube F. The flame instantly becomes non-luminous without the production of smoke or disagreeable gases, which is due to three currents of air—one inside the wick-tube, one outside the wick-tube, and a third between the cap G and the chimney. The chimney-gallery may also be provided with holes *g''* to admit air between the cap and the chimney, if desired.

In Fig. 2 is shown a modification wherein the holes *g* are arranged in a lateral position. By this arrangement the lamp is less liable to be affected by extraneous drafts.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a petroleum incandescent lamp, the combination of a wick-tube, a perforated tube surrounding said wick-tube, and a cap, open at the top and provided with openings near the bottom and with intermediate perforations, said cap being adapted to rest upon, and to be supported by, said perforated tube, substantially as described.

2. In a petroleum incandescent lamp, the combination of a hollow wick-tube, a mantle-supporting rod provided with a deflector, a mantle, a perforated tube surrounding said wick-tube, and a cap provided with a portion adapted to fit upon said perforated tube, said cap being open at the top and provided with openings near the bottom and with an intermediate row of perforations, substantially as described.

3. In a petroleum incandescent lamp, the combination of a hollow wick-tube provided with a lateral opening, a perforated tube surrounding said wick-tube, a cap, provided with

a chimney-gallery, resting upon said perforated tube, said cap being open at the top and having holes near the bottom and an intermediate row of perforations, a chimney, a mantle, and a mantle-supporting rod provided with a deflector and with arms, substantially as described.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

FRIEDRICH WILHELM OSCAR NICOLAI.
FELIX HEINRICH ASCHNER.

Witnesses:

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