

(No Model.)

2 Sheets—Sheet 1.

F. DEIMEL.
LAMP BURNER.

No. 419,601.

Patented Jan. 14, 1890.

Fig. 1

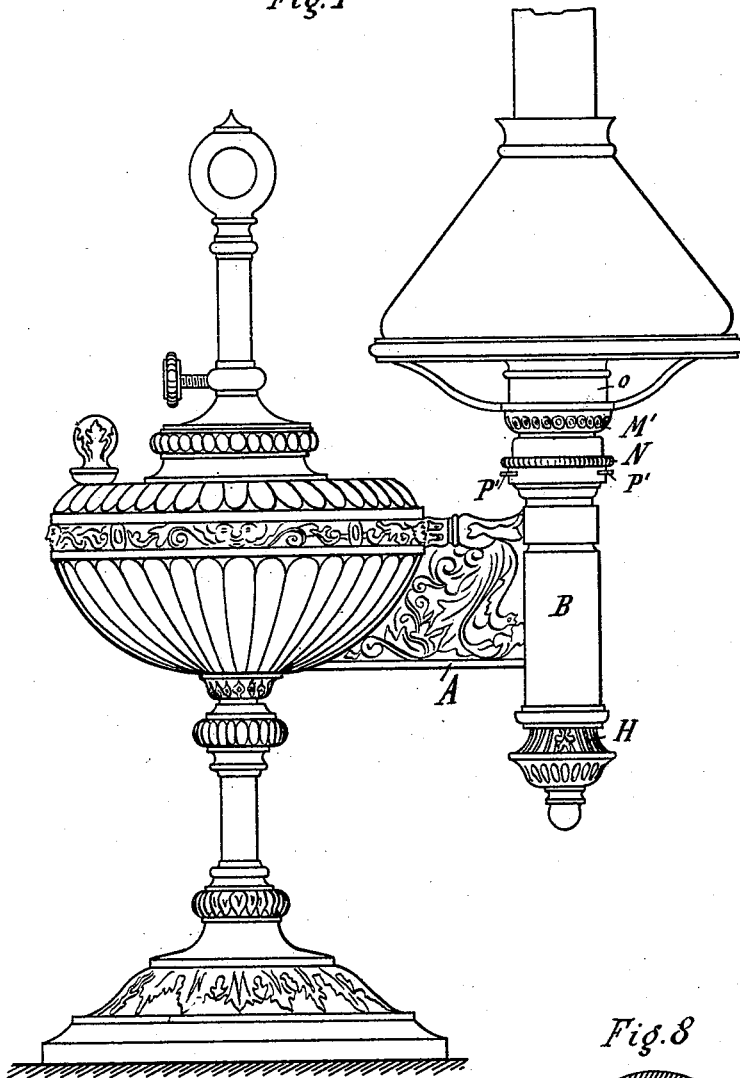
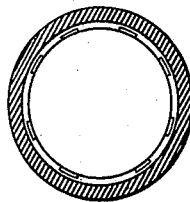


Fig. 8



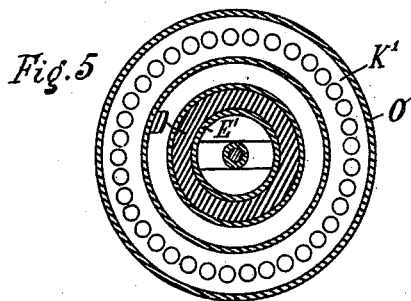
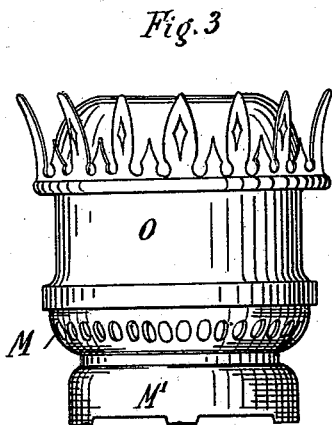
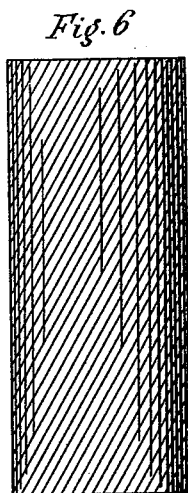
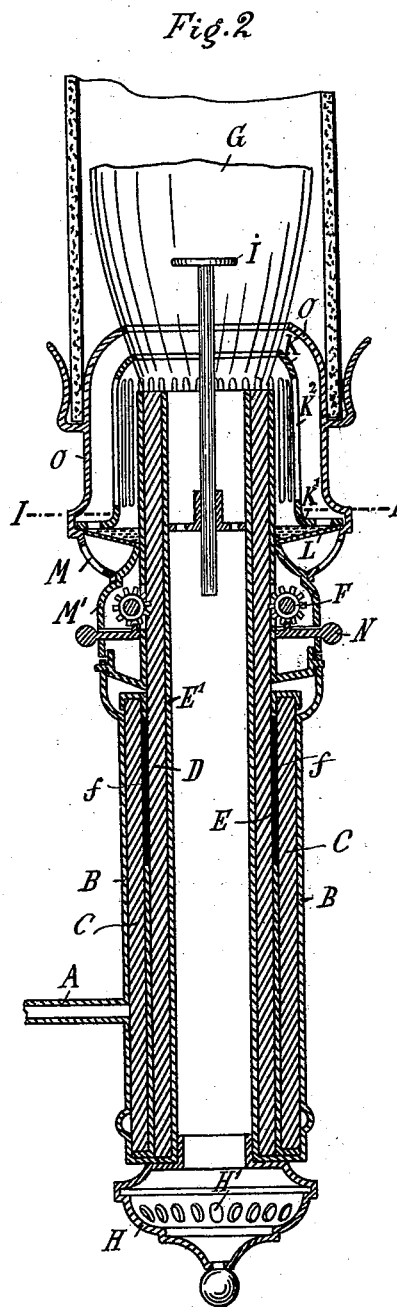
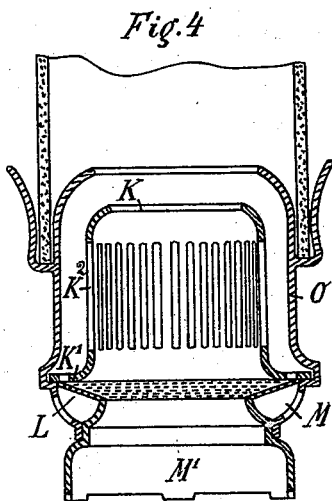
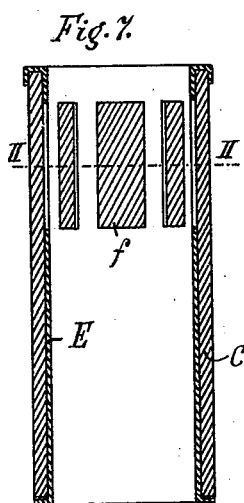
Witnesses:
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UNITED STATES PATENT OFFICE.

FRITZ DÉIMEL, OF BERLIN, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO THE SAFETY INCANDESCENT OIL AND GAS LAMP SYNDICATE.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 419,601, dated January 14, 1890.

Application filed April 30, 1888. Serial No. 272,342. (No model.) Patented in England November 24, 1887, No. 16,150.

To all whom it may concern:

Be it known that I, FRITZ DÉIMEL, manufacturer, a subject of the King of Prussia and Emperor of Germany, residing at Berlin, in the Empire of Germany, have invented certain new and useful Improvements in Lamp-Burners, (patented in Great Britain November 24, 1887, No. 16,150,) of which the following is full, clear, and exact description.

The hereinafter-described invention relates to improvements in lamps, and more especially in oil, petroleum, and other lamps.

The object of the improvements is to insure an absolute combustion of the illuminant—that is to say, the production of a white flame similar to that of a lime light—the arrangement whereby this end is attained being at the same time almost free from smell and quite safe. In order to attain the said object it was necessary to construct a burner which could be heated considerably, and could thereby volatilize to a certain extent the illuminant conducted thereto; but at the same time in order to avert the danger of an explosion, which might arise from the highly-heated state of the burner, a new device has been provided for the purpose of feeding the burner with the illuminant. The use of this device necessitates the petroleum-reservoir being placed at a safe distance from the burner.

The novelty of the burner, as represented on the annexed drawings, consists, therefore, of the combination of a plain burner-cap, one or more perforated burner-caps, the perforations of which stand higher than the burning surface of the wick, and a perforated plate below the said caps. By means of this combination the burner gets highly heated while the lamp is being used, the petroleum is transformed into a gas, the flame is also regulated, and a straight cylindrical lamp-chimney can be used instead of a bulged one.

On the annexed drawings, Figure 1 is an elevation of a lamp provided with the above-mentioned improvements. Fig. 2 is a vertical section through the center of the entire burner, showing the double-guiding device of the same. Fig. 3 is an elevation of a double-burner cap. Fig. 4 is a vertical sec-

tion through the center of Fig. 3. Fig. 5 is a horizontal section along line I I of Fig. 2. Fig. 6 is an outside view of the feeding-wick. Fig. 7 is a vertical section of the same. Fig. 8 is a horizontal section along line I I I I of Fig. 7.

As shown in the drawings, Fig. 2, the petroleum is conducted by means of the small pipe A (which can also be filled with wick) to the outer wick-vessel B, where it is absorbed by the wick C, placed therein. The petroleum taken up by the latter wick C passes through the openings *f* of the middle wick-tube E, over the outside of which the wick C is drawn, and comes in contact with the burner-wick D, which is fixed round the tube E'. This burner-wick can be raised and lowered by means of the toothed wheels F. The feeding-wick, being saturated with petroleum, gives the latter by capillary attraction to the burner-wick D, into which it is absorbed and rises therein, so that on lighting the wick a flame is produced. The admission of air to the inside of the flame takes place through the drip-pan H, which is provided with apertures H'. The air ascending through the central part of the burner strikes against the under side of the distributor or deflecting-disk *i*, which is fixed above the said central part E', and is capable of being adjusted. Besides the outside plain cap O the burner also carries an inner cap K, the base K' and sides K² of which are perforated. The inner cap (one only being shown on the drawings) rests on an inclined perforated metallic plate L, surrounding the outer tube of the burner-wick and extending to the outer cap. The air is led by means of the openings M of the perforated part M' to the openings in the plate L and cap K, which supply the said air to the outer surface of the flame. Another object of this arrangement is to heat the inflowing air previous to its reaching the flame, and it also permits the use of a plain straight cylindrical chimney for the lamp (such as those used for gas and Argand burners) because the flame is circumscribed by the caps.

Having now particularly described and ascertained the nature of the said invention

and in what manner the same is to be performed, I declare that what I claim is—

In a lamp-burner, the combination of an outer burner-cap O, provided with a series of
5 apertures M around its lower edge and with prongs at its upper part for supporting the chimney, an inner burner-cap K, having a series of slotted openings K² extending above and below the burning end of the wick, and
10 a perforated disk L, surrounding the wick-tube and placed so as to become highly heated, and in turn heating the air passing from be-

low through its small perforations up into the annular opening formed by the outer and inner burner-caps, substantially as described, 15 and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRITZ DÉIMEL.

Witnesses:

F. VON VERSEN,
ALEX. SCHOLZE.