

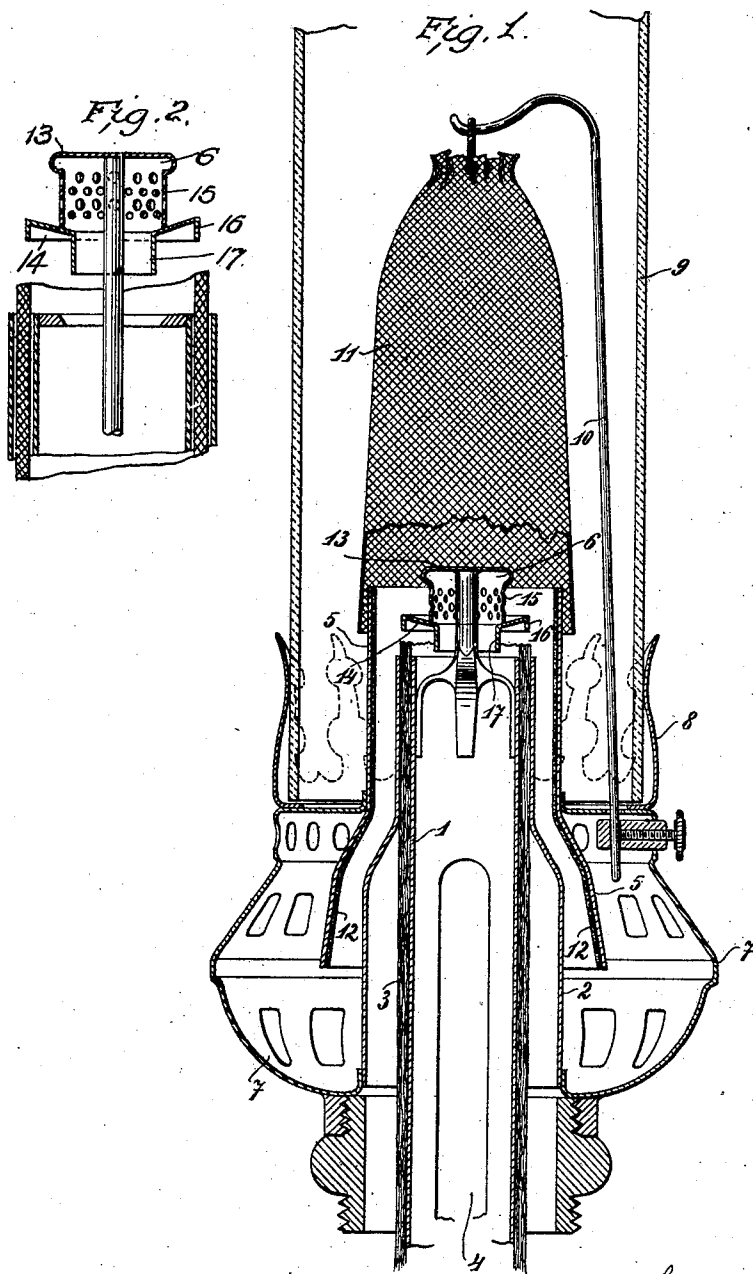
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Patented Sept. 24, 1901.

H. PITTNER & F. RICHTER.
PETROLEUM INCANDESCENT LAMP BURNER.

(Application filed Sept. 18, 1900.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

HERMANN PITTNER AND FRIEDRICH RICHTER, OF VIENNA, AUSTRIA-HUNGARY.

PETROLEUM-INCANDESCENT-LAMP BURNER.

SPECIFICATION forming part of Letters Patent No. 683,067, dated September 24, 1901.

Application filed September 13, 1900. Serial No. 29,955. (No model.)

To all whom it may concern:

Be it known that we, HERMANN PITTNER, manufacturer, and FRIEDRICH RICHTER, manager of works, subjects of the Emperor of Austria-Hungary, residing at V 119 Schönbrunnerstrasse, Vienna, Austria-Hungary, have invented certain new and useful Improvements in and Relating to Petroleum-Incandescent-Lamp Burners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to petroleum-incandescent-lamp burners.

The object of our present invention is to construct a burner for petroleum incandescent lamps which will furnish a steady heating-flame free from soot.

To this end our invention consists in the improved combination and construction of parts in a petroleum - incandescent - lamp burner, as more fully hereinafter described, and shown in the accompanying drawings, whereby, on the one hand, the supply of air from without is conducted in such a manner as to avoid excessive heating of the same, and, on the other hand, a thorough combustion of the fuel with a non-luminous flame at the rose or flame-distributor is secured, so as to both prevent the generation of soot and at the same time secure the most economical utilization of the fuel employed.

In the drawings our improved burner is shown in Figure 1 in central vertical section. Fig. 2 is a detail view of the flame-distributor.

1 and 2 are the inner and outer wick-holders, respectively, and 3 is the wick guided between them and adapted to burn at its upper end. The wick-holder 1 is at its lower end formed with an opening 4 for the admission of air within. In order to provide for the admission of air without, the wick-holder 2 is surrounded by an air-jacket 5. The inner wick-holder carries the flame-distributor or rose 6, and the burner as a whole is surrounded by the perforated cage 7, which carries the holder 8 for receiving the lamp-chimney 9. The support 10 for the incandescent

body 11 is secured to the cage 7 in any suitable manner.

While in the petroleum-incandescent-lamp burners as heretofore generally known in the trade the air-jacket 5 is usually burnished and bright within and without, the same is according to our invention provided on its inner surface with a black or dark coating, or in other cases it is given a dull or tarnished inner surface. This has the result that the ascending current of outer air is not any longer restricted or impeded in its effect or excessively heated by the reflected heat from the bright and burnished surfaces of the air-jackets as formerly, but that the heat becoming absorbed by the black or tarnished inner surface of the air-jacket is prevented from thus restricting, impeding, or heating the air while it ascends in the air-jacket. In order to at the same time secure the most thorough utilization possible of the moderately-heated air thus freely admitted at the upper end of the wick, and in order to secure a uniform blue flame free from soot, it is necessary, on the one hand, to keep the flame together for a complete combustion, and, on the other hand, to simultaneously retard or retain the yet unconsumed particles carried along by the air until their combustion has been completed. This is effected by means of the flame-distributor or rose, which consists of the upper head portion 13 and the lower base-plate 14, both connected with each other by the perforated wall 15. For the attainment of this effect the relative arrangement and dimensions of the said base-plate 14 and of the wick are of particular importance. As shown in the drawings, the said base-plate 14 is formed slightly conical from within to without and from bottom to top, and it is provided with an edge portion 16, of at least one twenty-fifth of an inch, extending toward the wick, thus forming an angle at the outer periphery of the base-plate, the outer diameter of the said base-plate 14 being a little smaller than the inner diameter of the outer wick-holder 2. The inner edge of the annular base-plate 14 is provided with a longer flange 17, which acts to prevent the access of a luminous flame to the interior of the flame-distributor and to

direct any luminous flame which may occur toward the outer current of air, to be thereby carried along to a complete combustion. The perforations in the wall 15 may either be uniform throughout or they may be so arranged as to form two series of discharge-openings, as it were, and these two series may, if desired, be separated from each other. In the construction of the flame-distributor as shown in the drawings the perforations of the second and fourth rows or series are made larger than those of the first and third. By reason of this arrangement two stronger currents of air are admitted to the outer flame between the two plates of the flame-distributor, the lower current acting to render the combustion more perfect and the other current, in escaping from the upper perforations, carrying the flame around the upper plate of the flame-distributor.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a petroleum - incandescent - lamp burner an air-jacket for the admission of the air, having its inner surface made non-reflecting and absorbent, as described, to prevent the reflection of radiating heat toward the passing current of air, by absorption of the heat.
2. In a petroleum - incandescent - lamp burner an air-jacket for the admission of the air, having its inner surface provided with a dark coating, substantially as and for the purpose described.
3. In a petroleum incandescent lamp a flame-distributor, the lower plate of which is provided at its inner edge with a cylindrical flange extending toward the wick-holder to deflect a possible luminous flame toward the outer current of air, the several plates of the flame-distributor being connected by a wall 15 having various perforations adapted to divide the entering current of air into two

stronger currents, one of these currents serving to render the combustion more perfect and the other to carry the flame around the upper plate, substantially as and for the purpose described.

4. In a petroleum - incandescent - lamp burner the combination, with the inner and outer wick-holders 1 and 2, of the outer air-jacket 5 having a dull unburnished inner surface, substantially as and for the purpose described.

5. In a petroleum - incandescent - lamp burner the combination, with the inner and outer wick-holders 1 and 2, of the outer air-jacket 5 having its inner surface covered by a dark coating, substantially as and for the purpose described.

6. In a petroleum - incandescent - lamp burner the combination, with the inner and outer wick-holders and surrounding air-jackets, of a flame-distributor mounted above the said wick-holders and having a slightly-conical base-plate of smaller diameter than the inner diameter of the outer wick-holder, and having also a depending peripheral edge which extends toward the upper ends of the wick-holders, substantially as and for the purpose described.

7. The flame-distributor 6 having the base-plate 14 with the depending peripheral edge 16 and the lower flange 17, said base-plate being connected by means of the perforated wall 15 with the upper head portion 13.

8. The flame-distributor 6 having its base-plate 14 and head portion 13 connected by the wall 15 provided with alternating series of smaller and larger perforations, substantially as and for the purpose described.

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