

(No Model.)

2 Sheets—Sheet 1.

L. HENKLE.

LAMP.

No. 412,181.

Patented Oct. 1, 1889.

Fig. 1.

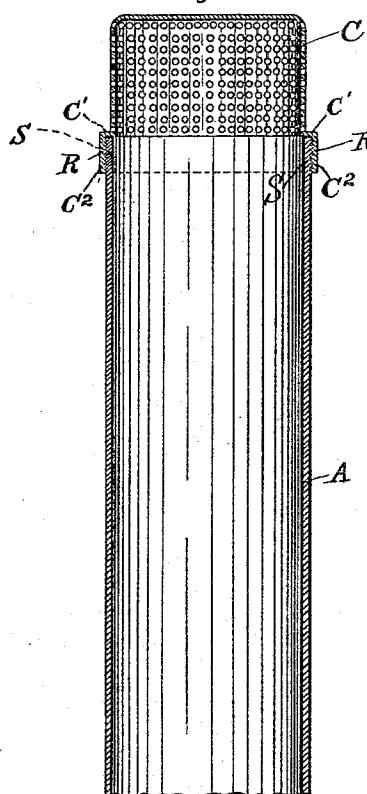


Fig. 2.

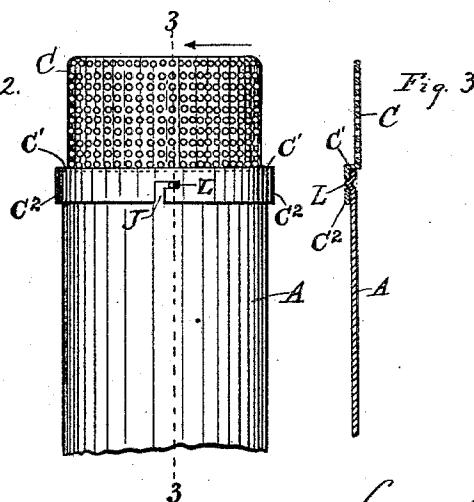
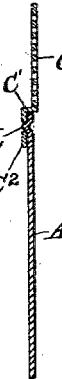


Fig. 3.



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(No Model.)

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Fig. 4.

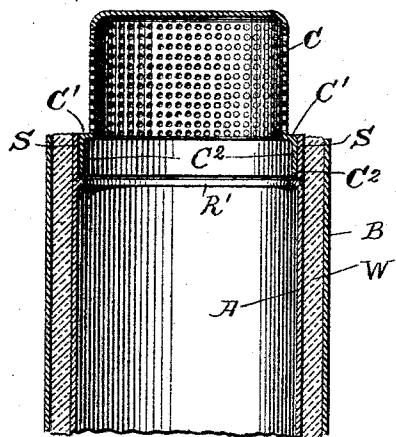


Fig. 5.

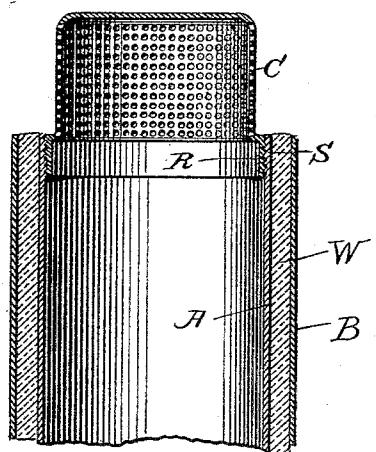


Fig. 6.

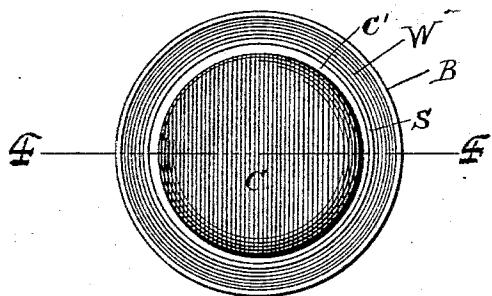
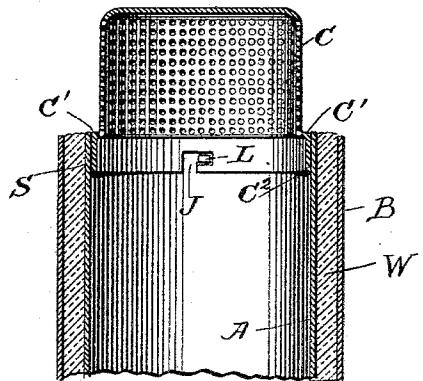


Fig. 7.



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# UNITED STATES PATENT OFFICE.

LEONARD HENKLE, OF ROCHESTER, ASSIGNOR TO CHARLES STANFORD  
UPTON, OF NEW YORK, N. Y.

## LAMP.

SPECIFICATION forming part of Letters Patent No. 412,181, dated October 1, 1889.

Application filed May 27, 1887. Serial No. 239,565. (No model.)

*To all whom it may concern:*

Be it known that I, LEONARD HENKLE, a citizen of the United States, and a resident of Rochester, in the county of Monroe and State 5 of New York, have invented certain new and useful Improvements in Lamps, of which the following is a specification.

My invention relates to what are known as "Argand" or "central-draft" lamps, which 10 employ cylindrical wicks and inner and outer wick-tubes, and are provided with inside and outside drafts for maintaining constant and even currents of fresh air to both sides of the flame.

15 My invention consists in the construction and arrangement of a centrally-located thimble or auxiliary tube arranged over the inner or central draft tube having means for retaining the same in proper position, the thimble 20 being provided with perforations which regulate the currents of air to the inner surface of the flame, as hereinafter more fully described, and pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe it with 25 reference to the accompanying drawings, in which—

Figure 1 is a central vertical section of the central-draft tube of a Rochester lamp, showing 30 my improved thimble or auxiliary tube attached by means of a screw-thread. Fig. 2 is a side elevation showing the thimble or auxiliary tube attached by means of a bayonet-joint. Fig. 3 is a detail view, being a vertical section on the line 3 3, Fig. 2, looking in 35 the direction of the arrow. Fig. 4 is a vertical section on the line 4 4, Fig. 5, showing the thimble or auxiliary tube seated within the top of the central-draft tube. Fig. 5 is a top 40 view thereof. Fig. 6 is a vertical section showing the thimble or auxiliary tube attached by means of a screw-thread within the top of the central-draft tube. Fig. 7 is a vertical section showing the thimble or auxiliary 45 tube attached by means of a bayonet-joint within the top of the central-draft tube.

A is the central-draft tube, W the wick, and B the outer wick-tube, of a central-draft lamp.

50 C is my improved thimble or auxiliary tube, which is formed with perforations, as shown.

In some classes of central-draft lamps I have found it desirable to cover the entire space at the top of the central-draft tube, as it happens at times that eddying currents will 55 form in the chamber between the thimble and the inner walls of the central-draft tube, where such an open space or chamber is provided; and to obviate the drawbacks and difficulties obtaining in this respect to certain 60 sizes and designs of lamps I find it necessary to bridge the opening of the inner tube at its upper edge, so as to entirely cover it. I therefore extend the thimble or auxiliary tube C over the entire upper opening of the central-draft tube A and at the upper edge thereof, 65 as shown.

The perforations above referred to are located in the upper vertical side walls of the thimble or auxiliary tube, and are for the 70 purpose of feeding the fresh incoming air to the inner surface of the flame. In order, however, to bring about the desired flame effect, it is necessary to stand the perforated portion of the thimble away from the flame; and for 75 this purpose I set it inwardly from the top of the central-draft tube A, so that when the wick is raised it will not be in juxtaposition with the walls of the perforated thimble, and the currents of air will be sufficiently blended 80 before they reach the flame to produce a satisfactory economical result.

To combine the advantages of the insetting thimble with the central-draft tube, I have found it necessary to provide an outwardly- 85 extending annular flange or shoulder C', which extends between the vertical perforated walls of the thimble and the upper edge of the central-draft tube A. This shoulder supports the perforated walls of the thimble, and at 90 the same time closes the central-draft tube at its upper end. The shoulder C' extends inwardly on a line flush with the top of the outer wick-tube B in Figs. 4, 6, and 7, and substantially on a line in Figs. 1, 2, and 3, and 95 the perforated thimble extends vertically upward from the inner edge of said shoulder.

Another drawback my present invention is intended to obviate is the leaking or creeping over of the oil from the inner surface of 100 the wick down the inside of the central-draft tube. This is what is known in the trade as

"weeping." By providing a rim or collar  $C^2$  upon the lower end of the auxiliary tube  $C$  and fitting this rim or collar exactly upon the central-draft tube the oil that has a tendency to creep over will be directed back to the wick.

5 In Fig. 1 I show the rim  $C^2$  formed with a screw-thread  $R$  on the inside, by which the thimble or auxiliary tube is secured to a screw-thread  $S$  on the outside of the central-draft tube.

10 In Figs. 2 and 3 I show my thimble or auxiliary tube provided with a slot  $J$ , engaging a lug  $L$  on the central-draft tube, thus forming a bayonet-joint, the lug  $L$  being stamped up or otherwise secured. The outwardly-extending shoulder  $C'$  will seat upon the upper edge of the central-draft tube  $A$ .

15 Where a short thimble or auxiliary tube is employed, located on the outside of the tube, it is necessary to fasten or lock it positively, as by a screw-thread or bayonet-joint, otherwise the wick when raised would dislodge it from its proper position. In lieu, however, of screwing or joining the thimble or auxiliary tube on the outside of the tube  $A$ , the parts may be reversed, and it may be screwed or attached on the inside, as shown in Figs. 25 4, 5, 6, and 7, where Figs. 4 and 5 show the thimble or auxiliary tube attached by the rim seating on a thread  $R$ , in Fig. 6 by a screw-thread, and in Fig. 7 by a bayonet-joint.

30 Where the collar  $C^2$  is fitted on the inside of the central-draft tube  $A$  it is necessary to fit it quite tightly, in order to prevent the 35 leaking or weeping aforesaid.

35 In every case the means for supporting and retaining the thimble or auxiliary tube in its proper central position is formed in one with the central-draft tube, and the complementary interlocking or fastening device on the 40 thimble is formed integrally with the said thimble, so that the intermediate supporting pins or rods which have been heretofore employed for supporting and centering the thimble are dispensed with. The perforated thimble  $C$  will thus be directly supported and retained in position at its lower end upon the central-draft tube  $A$  or a protruding part thereof.

45 50 It will be seen that the portion including the top of the thimble or auxiliary tube above the shoulder is of smaller diameter than the central-draft tube, as the shoulder extends inwardly from the upper edge of the latter. The sides of the perforated portion are vertical and the top thereof imperforate. This is the preferred form of my lamp-burner, as it produces in most cases the best results and gives forth when burning an almost white 55 light.

60 Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

65 1. In a central-draft lamp, a thimble or auxiliary tube  $C$ , having perforated vertical walls formed with a shoulder  $C'$  and a rim  $C^2$ , substantially as shown and described.

2. In a central-draft lamp, the combination, with a central-draft tube, of a perforated thimble or auxiliary tube having an outwardly-projecting portion seating upon the top of said draft-tube, the perforated portion of said thimble or auxiliary tube setting inwardly, so as to stand off from the line of flame.

70 3. In a central-draft lamp, the combination, with the central-draft tube, of a perforated thimble or auxiliary tube standing inwardly from the line of flame and setting over the outside of the central-draft tube and being supported thereby, substantially as and for the purposes set forth.

75 4. In a central-draft lamp, the combination, with a central-draft tube, of a perforated thimble or auxiliary tube supported by said draft-tube and extending inwardly from the upper edge of the draft-tube and then vertically upward, as and for the purposes set forth.

80 5. In a central-draft lamp, the combination, with the central-draft tube, of the perforated thimble or auxiliary tube, the vertical side walls and top of the thimble or auxiliary tube being of smaller diameter than the draft-tube, and the thimble or auxiliary tube at 85 its lower end seating directly on the draft-tube and adapted to be retained in a central position thereby.

90 6. In a central-draft lamp, the combination, with a central-draft tube, of a thimble or auxiliary tube having a perforated portion setting inwardly on a line with the top of the outer wick-tube and then upward to the top of the thimble or auxiliary tube, the upper side walls and top of said thimble or auxiliary tube being of a smaller diameter than the draft-tube.

95 7. In a central-draft lamp, the combination, with a central-draft tube, of a thimble or auxiliary tube supported by said draft-tube closing the upper end of the latter at its edge, the vertical side walls of the thimble or auxiliary tube being perforated, and said walls and top of the thimble or auxiliary tube being of a smaller diameter than the central-draft tube.

100 8. In a central-draft lamp, the combination, of a central-draft tube forming the inner-wick tube open for the admission of air, a thimble or auxiliary tube the internal diameter of the lower portion of which corresponds with the 105 external diameter of said draft-tube and adapted to set over the upper end of said draft-tube, the said thimble or auxiliary tube being constructed with an upper portion above the draft-tube of a diameter less than the diameter of the draft-tube, so as to form an annular shoulder as a rest upon the upper end of the draft-tube, the sides of the upper portion being perforated, substantially as described.

110 9. The combination of the central-draft tube  $A$ , having a screw-thread or its equivalent, and the perforated thimble or auxiliary

tube C, formed with an outwardly-extending shoulder C', and a rim C<sup>2</sup>, having a screw-thread or its equivalent on the central-draft tube, substantially as described.

5 10. In a central-draft lamp substantially as hereinbefore set forth, the central-draft tube A, forming a support for a perforated thimble or auxiliary tube C, in combination with said thimble or auxiliary tube having the vertical 10 perforated walls for distributing the air, as

described, the said thimble or auxiliary tube standing inwardly from the line of flame and terminating at its lower end in a rim C<sup>2</sup>, formed parallel with the central-draft tube, and adapted to be supported and retained in 15 a central position by said central-draft tube.

LEONARD HENKLE.

Witnesses:

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