(No Model.)

J. JAUCH.

CENTRAL DRAFT LAMP.

No. 427,870. Patented May 13, 1890.

Fig. 1

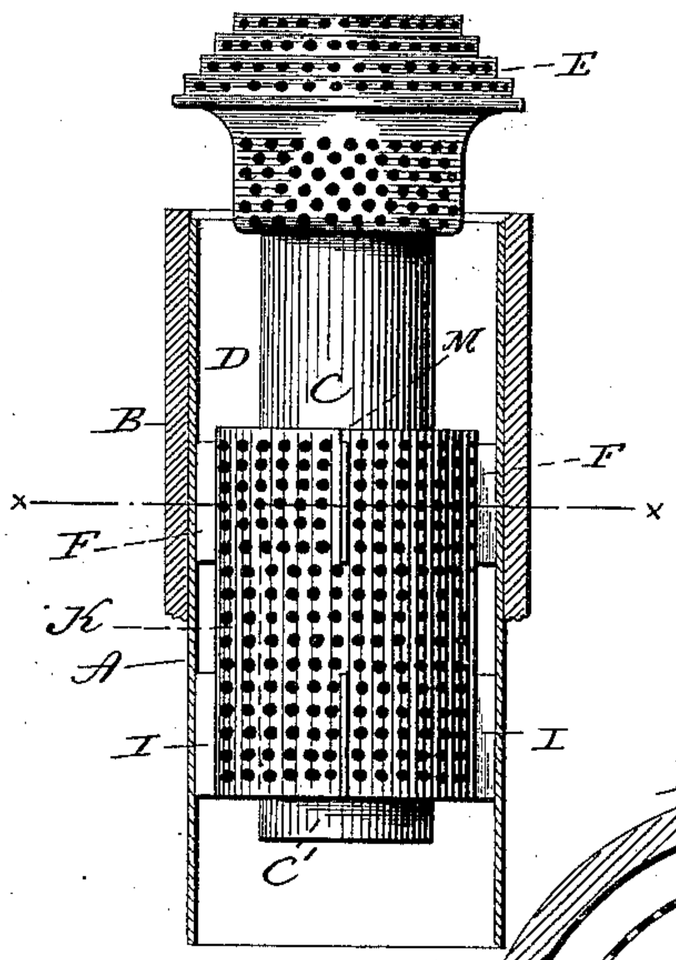


Fig. 2

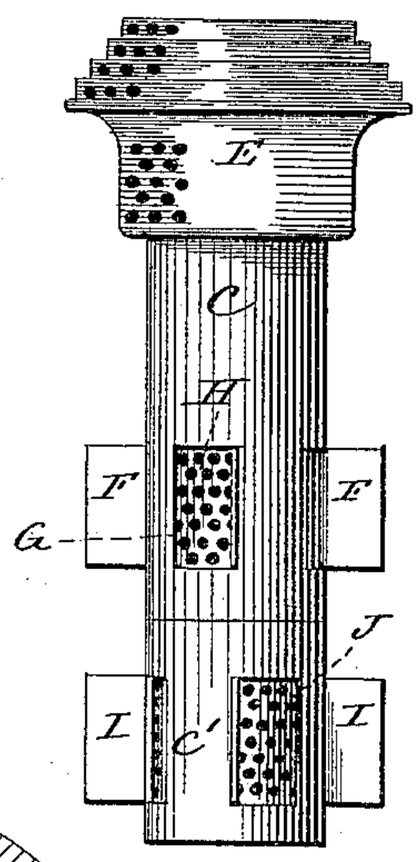


Fig. 3

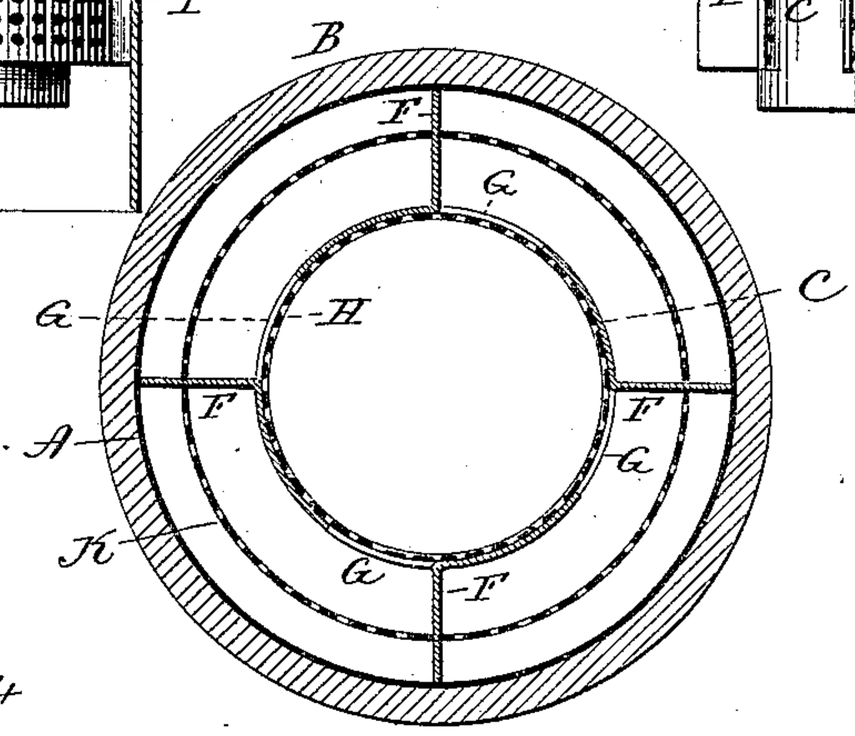


Fig. 4

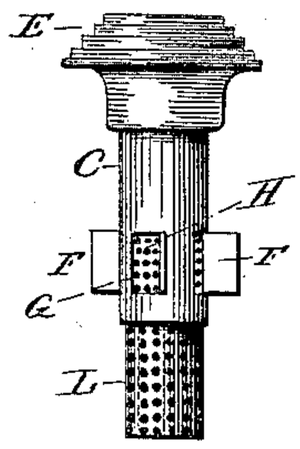


Fig. 5

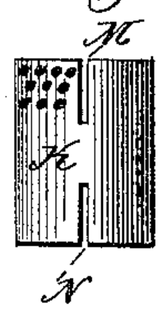
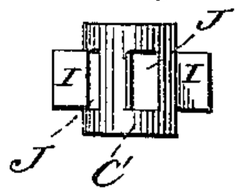


Fig. 6



Witnesses:
J. R. Shumway.
Lilian D. Helsey.

Joseph Jauch
Inventor
By attys.
Earle & Seymour.

UNITED STATES PATENT OFFICE.

JOSEPH JAUCH, OF MERIDEN, CONNECTICUT, ASSIGNOR TO THE BRADLEY & HUBBARD MANUFACTURING COMPANY, OF SAME PLACE.

CENTRAL-DRAFT LAMP.

SPECIFICATION forming part of Letters Patent No. 427,870, dated May 13, 1890.

Application filed December 30, 1889. Serial No. 335,368. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH JAUCH, of Meriden, in the county of New Haven and State of Connecticut, have invented a new Improvement in Central-Draft Lamps; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a vertical section through the central draft-tube and wick, showing a side view of the inner tube and the parts connected therewith; Fig. 2, a side view of the inner tube, the partition K removed; Fig. 3, a transverse section on line *x x* of Fig. 1; Fig. 4, a side view of the inner tube, with the lower section C′ removed; Fig. 5, the perforated partitions detached; Fig. 6, the lower section of the tube detached.

This invention relates to an improvement in that class of central-draft lamps in which a tube is arranged concentrically within the central draft-tube of smaller diameter, and so that a portion of the air may pass up to the flame outside the smaller tube and a portion through the interior of the said smaller tube, the said smaller tube provided at its upper end with a perforated distributer, through which the air received by way of this inner tube may be thrown laterally outward into the flame, the object of the invention being to equalize the flow of air both through and around the inner tube, and thereby not only produce a steadier flame, but bring to the flame so great a quantity of air upon the inside as to produce most perfect combustion; and it consists in the construction as hereinafter described, and particularly recited in the claims.

A represents the central draft-tube of a central-draft lamp, outside of which tube the tubular wick B is arranged in the usual manner.

C represents the tube, which is of less diameter than the diameter of the tube A, and arranged concentrically therein, so as to leave a space D between the said tubes A and C, and as usual in this class of lamps. The tube C is provided at its upper end with a perforated distributer E, which may be of any of the known constructions, so that air coming into it may be thrown laterally outward into the flame. The tube C is open at its lower end for the free admission of air thereto.

To support the tube C within the tube A, radial wings F project from the tube C, the external diameter of which corresponds to the internal diameter of the tube A, and preferably so that the said wings may take frictional bearing thereon. These wings are produced by cutting through the side of the tube C around three sides of a portion corresponding to the size required for the wings F. Then the wings F are turned outward, as seen in Fig. 3, which leaves an opening G at each wing into the tube C, and so as to open communication between that tube C and the space surrounding it. The openings G are each covered by wire-gauze or perforated metal, as at H. (See Figs. 2 and 3.) Preferably, there are two sets of these openings G, one above the other, as seen in Fig. 2, forming a second set of wings I, the corresponding openings J alternating in line with the openings H above, as seen in Fig. 2.

Between the tube C and the tube A a perforated concentric partition K is arranged, which divides the space between the tubes C and A vertically, the wings F and I projecting through the said partition K, as seen in Figs. 1 and 3. To support this perforated partition K, the tube C is made in two parts, the lower portion C′ having the lower openings J through it and carrying the wings I. (See Figs. 2 and 6.) The perforated covering for the openings G and J are made in the form of a perforated tube L, Fig. 4. This tube L is of a diameter corresponding to the interior diameter of the tube C and so as to fit closely therein, and may be permanently secured. It projects below the upper portion of the tube C, in which are the openings G, as seen in Fig. 4. This projection of the tube corresponds to the lower portion C′ of the tube C, and so that the lower portion may be set onto the portion L and held by solder or otherwise.

The perforated partition K is constructed with vertical slits M opening through its upper end, and with like vertical slits N opening through its lower end, as seen in Fig. 5, these slits corresponding, respectively, to the wings F and I. The partition K is set onto the tube C before the lower portion C′ is applied, the slits M passing onto the wings F, as seen in Fig. 1, and then the lower portion is applied, its wings I passing into the lower slits N. This construction firmly and concentrically locates the partition K in its proper relation to the tubes C and A, and so that it stands as a perforated partition between them. This completes the construction.

In operation the air enters the central draft-tube A at its lower end, and, flowing up, passes a portion of it into the tube C, and the remainder into the space between the tubes C and A, that remainder being divided by the perforated partition K, so that the air in flowing upward around this partition is free to pass through the perforations outward or inward, accordingly as the draft is stronger in one direction than the other. The openings J and G through the tube C also permit air to pass through from the outside into the tube C, or vice versa, according to the strongest draft. The perforations make the flow regular and insure an equal distribution of air, and from the fact that a portion of air may pass through from the tube C into the tube A, or vice versa, it follows that an equal supply of air will result from irregular drafts—that is to say, if the draft through the inner tube be greater then an increased portion of air will be taken from the tube A into the tube C, or if the draft be greater between the tube C and the tube A then a portion of the air will be drawn from the tube C into the tube A before the air can reach the distributer, but yet permit sufficient air to flow in either direction to support combustion, and this equal distribution and abundant supply of air to the flame insures most perfect combustion and a consequent whiter flame.

The partition K may be omitted; but I prefer to employ it, as better results are attained by its use than without it.

The lower series of openings and wings may be omitted; but I prefer to construct the tube with the two series of openings alternating the one with the other, as I have described.

The coverings for the openings in the tube C may be omitted and good results attained; but I prefer the perforated covering, as giving a better and more equal distribution of air.

I claim—

1. In a central-draft lamp, the combination of the central draft-tube A, the tube C of less diameter than the internal diameter of the tube A and concentrically arranged therein, the said tube C open at its lower end and carrying a perforated distributer at its upper end, the tube C, constructed with radially-projecting wings F, the said wings cut from the said tube and turned outward, so as to form an integral part of the tube C and leave corresponding openings into the tube C, the said openings protected by perforated metal, and a concentric perforated partition K between said tubes A and C, forming a perforated vertical partition in the space between the said two tubes, substantially as described.

2. In a central-draft lamp, a vertical tube C, of less diameter than the central draft-tube A and concentrically arranged therein, said tube C carrying a distributer at its upper end, the tube constructed with openings communicating with the space between the said tubes A and C, the said tube constructed with radially-projecting wings F I, the said openings protected by perforated metal, and a concentric perforated tubular partition K, with slits in its upper and lower ends corresponding to the wings on both parts of the tube, and so that said wings standing in said slits support the said partition in its concentric position with relation to the tubes A and C, substantially as described.

JOSEPH JAUCH.

Witnesses:
A. E. HALL,
F. B. FAIRBANKS.