

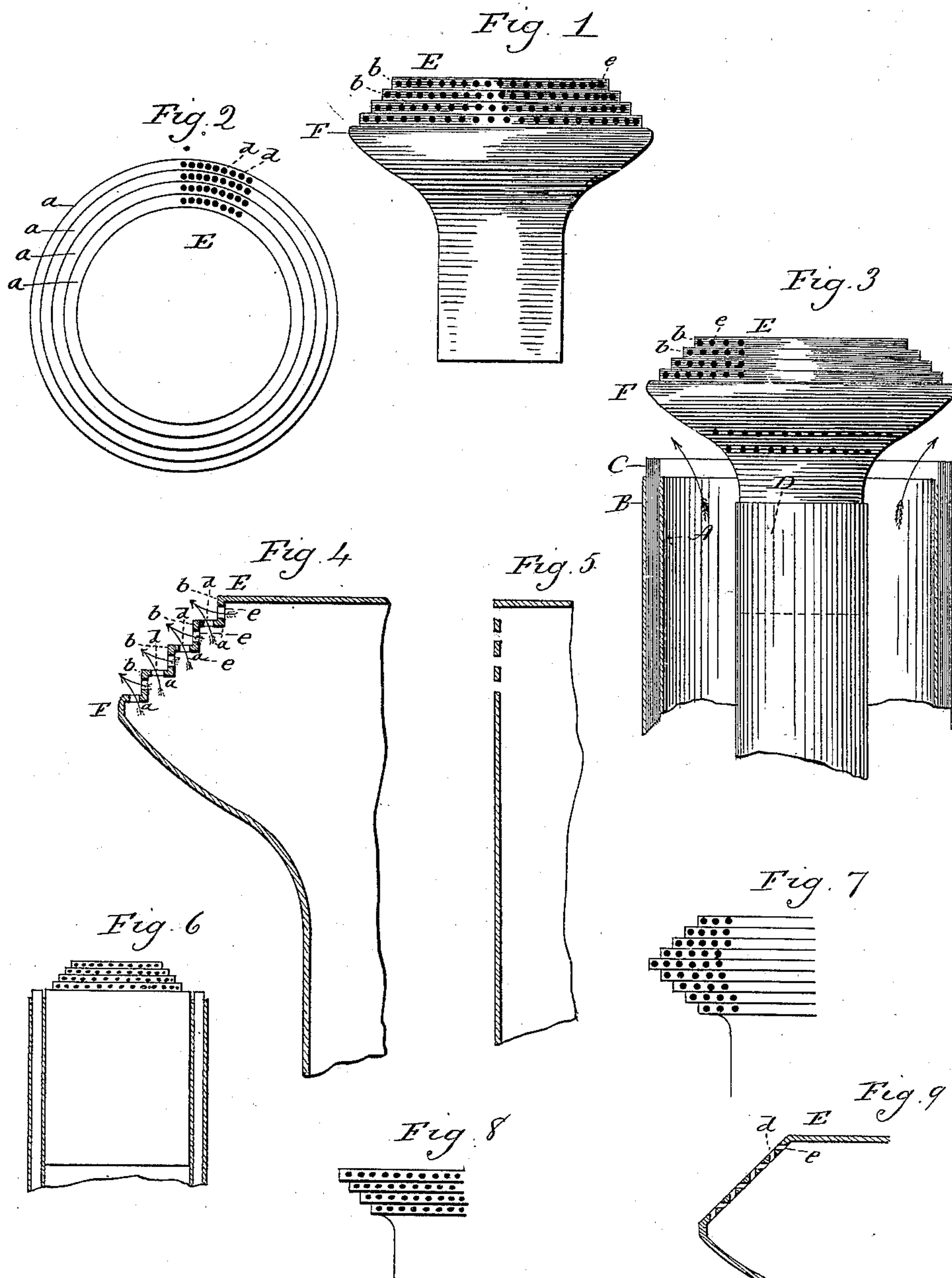
(No Model.)

J. JAUCH.

AIR DISTRIBUTER FOR ARGAND LAMPS.

No. 409,466.

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AIR-DISTRIBUTER FOR ARGAND LAMPS.

SPECIFICATION forming part of Letters Patent No. 409,466, dated August 20, 1889.

Application filed April 8, 1889. Serial No. 306,336. (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
5 Improvement in Air-Distributers for Argand Burners; 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
10 description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of a distributer detached; Fig. 2, a top view of the same; Fig.
15 3, a vertical section of a wick-tube, showing side view of the distributer as arranged therein; Fig. 4, a vertical section of the distributer enlarged; Fig. 5, a vertical section of a plain distributer of equal height of the distributer,
20 Fig. 4, illustrating the advantages of the invention; Fig. 6, a vertical section of a wick-tube and distributer to take the entire internal supply of air; Figs. 7, 8, and 9, vertical sections of the distributer, illustrating
25 modifications in its construction.

This invention relates to an improvement in air-distributers employed to direct the internal current of air onto the flame of "Argand burners." These distributers are introduced
30 within the inner tube of the burner, and so as to receive the whole or a portion of the internal current, the upper end of the distributer above the base of the flame perforated, so that the air will flow outward through the perforations into the flame, the
35 object of the distributer being to equally distribute the air around the flame and prevent irregular currents. These distributers are of various forms, sometimes in shape of a thimble set within the central tube, but so that the closed end projects above the upper end of the central tube, the side wall of the thimble perforated. In this case the entire supply of
40 air for the interior of the flame passes through the distributer. In other cases the distributer is placed upon the upper end of a tube arranged concentrically within the burner, but of smaller diameter than the internal diameter of the burner, the distributer perforated, so that air received through its tube

will be injected onto the flame. In this case but a portion of the internal air comes through the distributer, the remainder of it passing up outside the distributer into the flame. These distributers, while more generally employed in lamps, are equally adapted to gas-
55 burners. The advantages of such a distributer is the direction into the flame of air to produce so perfect combustion that the flame will be as near white as possible—the more
60 air the better the combustion and the whiter the flame. To produce a perfect burner, the air should be injected near the base of the flame and in sufficient quantity to produce the desired combustion.

The object of my invention is to accomplish this desirable result; and it consists in constructing the exposed surface of the distributer with alternating series of substantially vertical and horizontal perforations, so
70 that the air coming into the distributer will be ejected in alternately horizontal and vertical jets, the combined action of the jets being to deflect the air laterally into the flame.

I represents the invention as applied to an Argand burner for lamps and employing a wick.

A represents the inner tube, and B the outer tube, between which the wick C is arranged in the usual manner.

In the preferred construction the distributer-tube D is of smaller diameter than the internal diameter of the central tube or burner, and onto this tube D the distributer E is set. The distributer expands from the inner tube
85 into the required diameter above the burner, so as to form substantially a button F over the burner, and against which the flame will strike and be deflected outward. The top or upper portion of the distributer is constructed with a
90 series of annular offsets, forming horizontal surfaces *a*, alternating with vertical surfaces *b*, as seen in Fig. 4. These surfaces form the walls of the distributer. This distributer is made from sheet metal and readily struck or
95 spun into the required shape. The horizontal surfaces are pierced with numerous holes *d*, and the vertical surfaces are pierced with similar holes *e*. The holes *d* open vertically upward and the holes *e* open hori-
100

zontally toward the flame. The air passes into the distributor under the natural flow induced by the heat, and is ejected outward through the vertical and the horizontal perforations. The vertical jets of air meet the horizontal jets immediately on their escape through the perforations, and because of such meeting of the currents of air the air is deflected and thrown outward in a slightly inclined direction, as indicated by the arrows in Fig. 4, and thus pass directly to the flame. The extent of the offsets—that is, the height and the width of the surfaces—is only substantially that necessary for the perforations and to leave metal to give requisite strength, so that the height of the perforated or offset portion of the distributor is only that which is necessary to make the number of perforations represented by the said offsets; or, in other words, if the surface of the distributor were vertical, as indicated in Fig. 5, and of the same height as the distributor, there would be only as many series of perforations as there are offsets in the improved distributor, but because of the offsets the horizontal surfaces are presented, and these being perforated correspondingly increase the amount of perforated surface, and consequently the amount of air which will be thrown into the flame—that is to say, double the amount of perforations is produced by these offsets over what there would be in the same height of a plain surface. The result of this construction of distributor is that a greatly-increased amount of air for the same extent of space is brought to the flame, and because of the reducing of the space for the increased quantity of air the perforated space may stand so near the base of the flame that the injection of the air into the flame will be substantially at the base.

The distributor may be perforated upon its under side, as represented in Fig. 3, for the escape of a portion of the air radially outward into the flame below the offset portion; but this is not material to the present invention. Under this construction all the air may be taken through the tube which leads into the distributor, or, as in some cases, a portion of the air may pass up outside the distributor, as indicated by the arrows, Fig. 3.

In that class of distributors in which the

body of the distributor corresponds substantially in diameter to the internal diameter of the burner or wick-tube the upper end of the distributor is offset in the same manner as I have described and as seen in Fig. 6, accomplishing the same result of substantially doubling the quantity of air introduced into the flame within a given height.

In some cases it may be desirable to make the offsets both above and below the largest diameter of the distributor, as seen in Fig. 7, or it may be desirable to make the offsets entirely below, as in Fig. 8. I therefore do not wish to be understood as limiting the invention to any particular arrangement of the perforated offsets.

Instead of making the alternating series of horizontal and vertical perforations by constructing the distributor with offsets, a similar result may be attained by making the wall of the distributor plain and inclined, as seen in Fig. 9, and producing the series of perforations alternately vertical and horizontal, as seen in that figure, whereby vertical and horizontal currents of air will be mingled and deflected into the flame.

The illustrations which I have thus made of the invention will be sufficient to enable others skilled in the art to apply the invention to other constructions of distributors, and to gas-burners as well as to lamps.

I claim—

1. An air-distributor for Argand burners, adapted to be concentrically arranged in the burner and having an exposed surface above the burner, the said exposed surface perforated with alternating series of vertical and horizontal perforations, substantially as described.

2. The herein-described distributor for Argand burners, constructed with one or more annular offsets forming substantially alternating horizontal and vertical surfaces, the said horizontal and vertical surfaces perforated to form alternating series of vertical and horizontal perforations, substantially as described.

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Witnesses:

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