

No. 773,980.

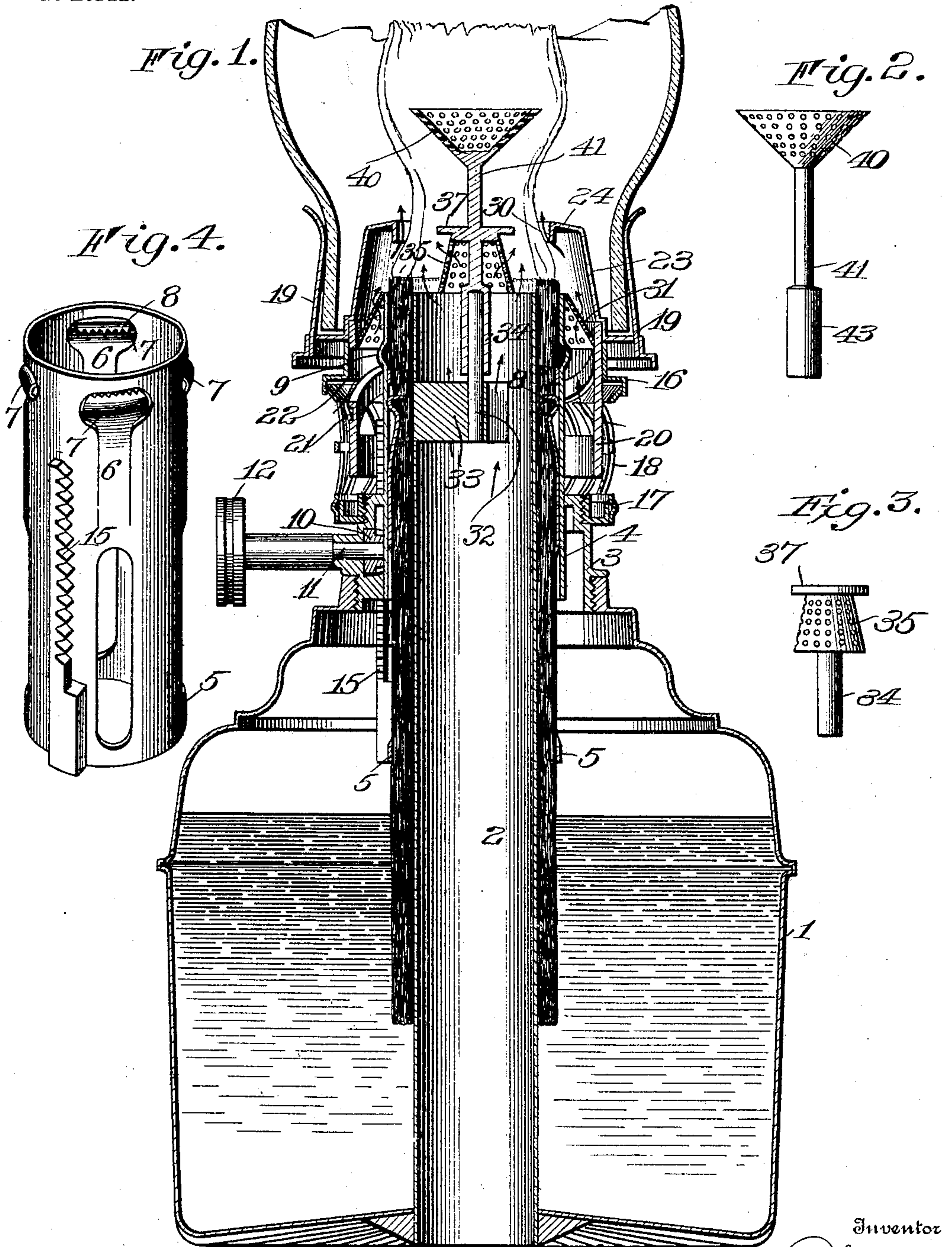
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J. M. PFAUDLER.

LAMP.

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NO MODEL.



Inventor

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LAMP.

SPECIFICATION forming part of Letters Patent No. 773,980, dated November 1, 1904.

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To all whom it may concern:

Be it known that I, JOHN M. PFAUDLER, of Rochester, in the county of Monroe and State of New York, have invented certain new and
5 useful Improvements in Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the
10 reference-numerals marked thereon.

My present invention relates to lamps, and particularly to that class known as "central-draft" lamps; and it has for its object to provide a new and improved form of burner
15 therefor whereby air may be supplied to both the inner and outer sides of the flame in such a manner as to support a free combustion to produce an increased amount of illumination in proportion to the size of the wick employed
20 and the quantity of oil consumed over that heretofore obtained.

My invention has for its further object to provide a wick-raising device supported on the burner, the parts of which are so arranged
25 that the lamp-wicks may be easily removed and inserted and when in position may be readily adjusted to produce an evenly-burning flame of any desired height.

To these and other ends the invention consists in certain improvements hereinafter described, the novel features being pointed out particularly in the claims at the end of this specification.

In the drawings, Figure 1 is a cross-sectional view of the lamp, illustrating a burner constructed in accordance with my invention. Figs. 2 and 3 are detail views of modified forms of flame-spreaders, and Fig. 4 is a perspective view of the wick-raising device.

In illustrating my invention I have shown it applied to a lamp having a font or oil-pot 1, through which extends the central draft-tube 2. The top of the font is closed by a screw-threaded collar 3, which supports the
45 wick-tube 4, and guided in the latter is the wick-raising device in the form of a frame or sleeve 5. Near the upper end of the sleeve are provided a plurality of spring-fingers 6, having

the outwardly-extending heads or projections 7 and provided with the inwardly-extending 50 prongs or teeth 8. The wick-tube is provided with an annular recess 9, located in such a position that when the sleeve 5 is elevated to its highest position the heads 7 will be permitted to move outwardly by the tension of the 55 spring-arms to disengage the prongs from the wick. The heads or projections extending outwardly and the lower edge of the annular recess being rounded, as shown, the teeth or prongs on the arms will be held embedded in the 60 wick, and as there are several arms supported on the sleeve, which engage the wick at different points, it will be raised evenly at all points of its circumference. The vertical adjustment of the sleeve 5 is accomplished by means 65 of a pinion 10, mounted upon the end of a shaft 11 and provided with a knurled head 12. Engaging with the pinion and extending through the guiding-apertures formed in the collar 3 is a rack-bar 15, the lower end of 70 which is attached to the sleeve 5, so that the latter will be moved to adjust the height of the wick when the head 12 is revolved.

Threaded on the upper end of the collar 3 is a supporting-frame embodying the upper 75 and lower rings 16 and 17, which are connected by the perforated wall 18. Surmounting the body is the chimney-gallery 19, provided with the spring-fingers for holding the chimney, which may be of the usual or any preferred construction. The chimney-gallery may be adapted to be moved vertically to afford access to the end of the wick when it is desired to light the lamp, and in the present instance I have shown it provided with a skeleton frame 20, similar to that illustrated in my former patent, No. 645,006, granted March 6, 1900, and which embodies spiral cam-tracks 21, cooperating with pins (not shown) on the ring 16, whereby as the chimney-gallery is 85 revolved the chimney and parts mounted on the gallery will be elevated, as will be understood.

The chimney-gallery surrounds the wick-tube and is separated therefrom to form an air 95 space or channel 22, leading into the burner-

cap supported on the gallery 19. This cap consists of an upwardly-extending wall 23, provided at the upper end with a flange 24, extending inwardly over the wick-tube and forming a circular aperture, preferably slightly less in diameter than the diameter of the wick-tube and which is arranged centrally over the latter. At the inner edge of the flange 24 is a downwardly-extending annular rim 30, the lower edge of which is arranged, as shown, somewhat above the upper end of the wick, the purpose of the burner-cap and the arrangement of the flange 24 on the rim 30 being to direct the current of air flowing upwardly through the channel 22 to the outer surface of the flame, as indicated by the arrows, and the aperture through which the flame passes being smaller than the wick causes the flame to be drawn inwardly, thereby insuring a more perfect mixing of air with the products of combustion at the outside of the flame. In order to prevent sudden gusts or drafts from passing upwardly through the channel 22 to affect the steady burning of the flame, I arrange therein a perforated cone-shaped plate 31.

The flame is supplied at its inner side with air received through the central draft-tube 2, and to obtain the desired shape and color of flame I arrange at the upper end of the tube an air-directing head, which is removably supported upon a pin 32, held by a frame or spider 33, secured in the tube 2. This head embodies a stem 34, provided with a longitudinally-extending aperture into which the pin 32 extends. The upper end of the stem is reduced, as shown, and supported thereon is a deflector 35, and depending therefrom is a foraminous frustum-shaped wall 36, the upper end of which is arranged inside the rim of the deflector 37, so that the heated air flowing outward through the perforations in the wall will be directed into contact with the flame.

By employing the burner-cap constructed as before described and the air-directing head shown in Fig. 3 a long flame may be obtained which is more or less pointed at its upper end; but, if desired, the latter may be spread by using an inverted perforated conical spreader 40, mounted on the stem 41, extending above the deflector 35, and as this spreader may be employed independently of the air-directing head I have shown in Fig. 2 the stem 41 provided at its lower end with a socket 43, adapted to engage over the pin 32. This spreader may be employed either singly or in conjunction with the deflecting-head, as shown in Figs. 1 and 3, and when so employed the upper end of the flame will be caused to flare outwardly, as shown in full lines in Fig. 1.

A burner constructed in accordance with my invention, in which the burner-cap and air-directing head form a more or less restricted passage through which the flame is

emitted and said parts being arranged in such a manner as to cause the currents of air to impinge both upon the outer and inner sides of the flame, the products of combustion which form the latter will be thoroughly mixed therewith, producing a luminous flame of great brilliancy.

I claim as my invention—

1. In a lamp, the combination with a central draft-tube and the outer wick-tube, of a cap extending inwardly over the latter, a support therefor, and an air-directing head arranged centrally of the draft-tube below the top of the cap.

2. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube and a wick arranged between them, a cap surrounding the wick-tube and extending inwardly over the wick, a support for the cap, and an air-directing head arranged centrally of the draft-tube below the top of the cap.

3. In a lamp-burner, the combination with a central draft-tube and an outer wick-tube, of a burner-cap having a wall surrounding the wick-tube and separated therefrom to form an air-space, means for supporting it, an inwardly-extending flange at the upper end of the wall and a rim on the flange extending toward the wick-tube.

4. In a lamp-burner, the combination with a central draft-tube and an outer wick-tube, of a burner-cap surrounding the latter and separated therefrom to form an air-space and having a central aperture smaller in diameter than that of the wick-tube, a depending flange surrounding the aperture, a support for the cap, and an air-directing head arranged centrally of the draft-tube.

5. In a lamp-burner, the combination with a central draft-tube and an outer wick-tube, of a burner-cap surrounding the latter and separated therefrom to form an air-space having the top located above the wick-tube and provided with a central aperture, a support for the cap, and an air-directing head located between the end of the wick-tube and the top of the cap.

6. In a lamp-burner, the combination with a central draft-tube and an outer wick-tube, of a burner-cap surrounding the latter and separated therefrom to form an air-space having a flange located above the wick-tube and an inwardly-depending rim on said flange, a support for the cap, and an air-directing head located within the burner-cap.

7. In a lamp-burner, the combination with a central draft-tube and an outer wick-tube, of a burner-cap arranged exteriorly of the wick-tube and forming a channel for supplying air to the exterior of the flame, means for supporting it and a head arranged at the upper end of the central draft-tube within the burner-cap and smaller in diameter than said draft-tube.

8. In a lamp-burner, the combination with a

central draft-tube, an outer wick-tube, a burner-cap surrounding the latter and a support therefor, of a head arranged at the end of the draft-tube and embodying a deflector and a foraminous wall depending therefrom smaller in diameter than said draft-tube.

9. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a burner-cap surrounding the latter and a support therefor, of a deflector arranged above the end of the draft-tube and smaller in diameter than said tube and a foraminous wall depending from the deflector and having its upper end arranged within the outer edge of the deflector.

10. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a burner-cap surrounding the latter and a support therefor, of an air-directing head located above the draft-tube and smaller in diameter than said tube and embodying a perforated wall, and a deflector-plate surmounting the latter and having the edges extending beyond said wall.

11. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a burner-cap surrounding the latter and a support therefor, of a hollow frustum-shaped air-directing head located at the upper end of the draft-tube, said head having the foraminous wall and an outwardly-extending rim at the upper end of the wall smaller in diameter than said draft-tube.

12. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a cap

surrounding the latter having a flange and provided with an inwardly-extending rim and means for supporting the cap, of an air-deflecting head located between the end of the draft-tube and the cap.

13. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a cap surrounding the latter having a flange extending over the wick-tube and means for supporting it, of an air-deflecting head located within the cap and a spreader arranged above the latter.

14. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a cap surrounding the latter having a flange located above and extending inwardly over the wick-tube and means for supporting the cap, of an air-deflecting head arranged within the cap and cooperating with the flange thereon to form a flame-passage and a spreader located above the head and arranged to deflect the flame emitted from said passage.

15. In a lamp-burner, the combination with a central draft-tube, an outer wick-tube, a cap surrounding the latter having a flange located above and extending inwardly over the wick-tube and means for supporting the cap, of an air-deflecting head arranged within the cap having the downwardly-extending perforated wall and a perforated flame-spreader located above the head.

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Witnesses:

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