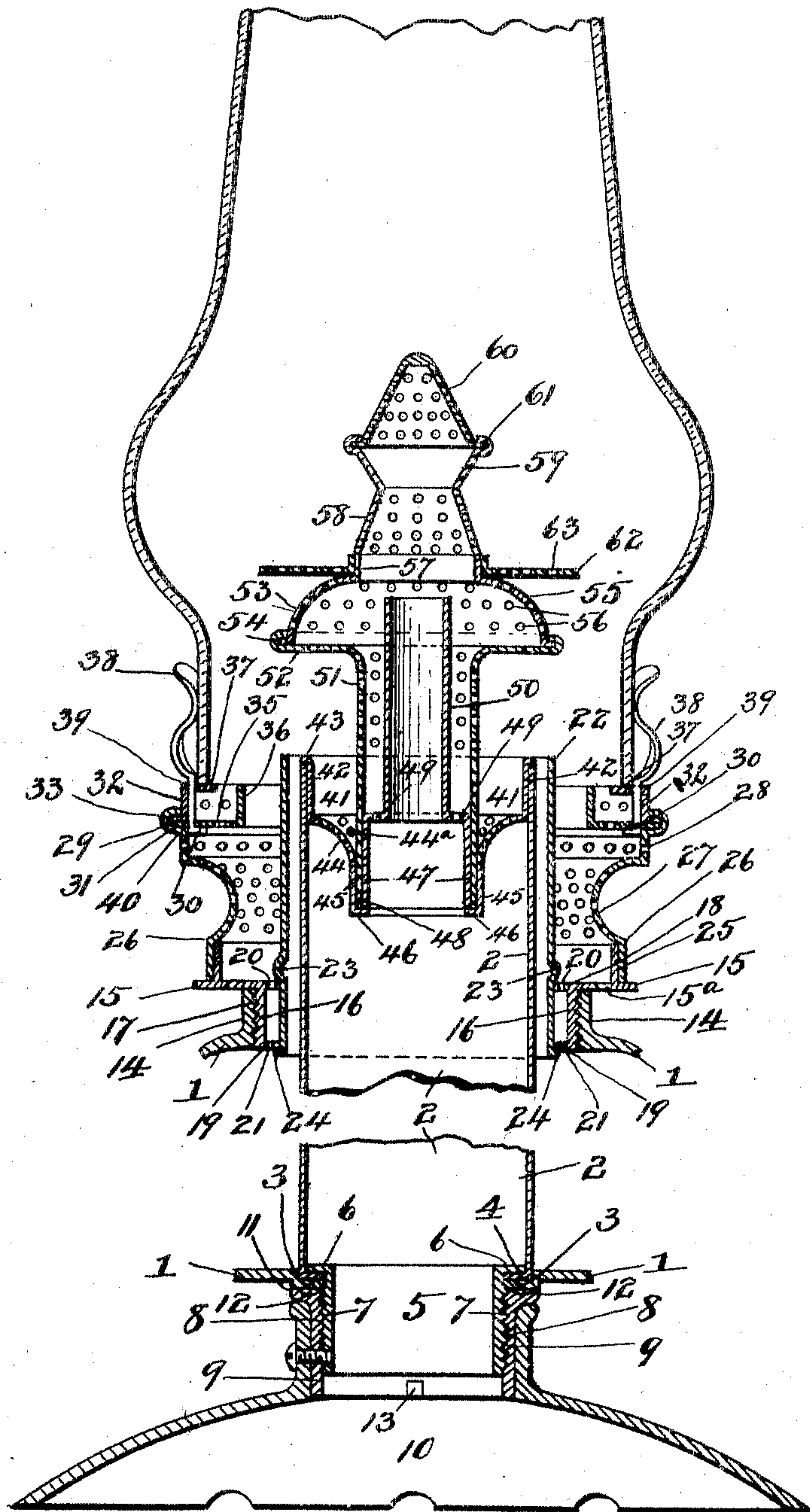


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W. C. QUIGLEY.
TUBULAR WICK LAMP BURNER.
APPLICATION FILED FEB. 29, 1904.

NO MODEL.



Inventor

Witnesses

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WILLIAM C. QUIGLEY, OF MARION, OHIO.

TUBULAR-WICK LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 777,694, dated December 20, 1904.

Application filed February 29, 1904. Serial No. 195,800.

To all whom it may concern:

Be it known that I, WILLIAM C. QUIGLEY, a citizen of the United States, residing at Marion, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Tubular-Wick Lamp-Burners, of which the following is a specification.

My invention relates to burners for lamps employing tubular wicks, and has for its object to provide a burner in which the air is evenly distributed to the flame, thus insuring perfect combustion and the consequent absence of the disagreeable odors and soot.

The advantages of my invention will more readily appear hereinafter and by reference to the accompanying drawing, which comprises a view in central vertical section of a lamp and burner embodying my invention.

In the drawing, 1 represents the oil-receptacle of a lamp, having a central air-tube 2 secured in a depressed and flanged hole 3 in the bottom of said body 1, the tube 2 being flanged inwardly, as shown at 4, to receive and hold the ferrule 5, having the outward flange 6 to rest on said flange 4, the outer surface of said ferrule being screw-threaded, as shown at 7, to receive the female threads 8 on the tubular neck portion 9 of the base 10. The upper edge of the neck 9 is formed with a flange 11, on which is seated the flange of hole 3 in the bottom of body 1, said flange 11 being provided with an annular recess 12 to receive suitable packing to insure a fluid-tight joint. It will be understood from this construction that the ferrule 5 holds the oil-receptacle 1 and the central air-tube 2 together by means of the base 10, which is screwed on said ferrule until the flanges 3 and 4 are tightly held between flanges 6 and 11.

13 represents a notch in ferrule 5 to receive a suitable key to secure said ferrule in the neck portion 9.

The upper portion of oil-receptacle 1 is formed with a screw-threaded neck 14 to receive the burner which is supported by the annular base-plate 15, having the tubular standard 16, which is screw-threaded, as shown at 17, to fit into the screw-threaded neck 14. The base-plate 15 extends inside of standard 16, as shown at 18, while the lower

end of standard 16 is formed with an inwardly-extending flange 19, said inwardly-extending portions 18 and 19 being provided with perforations 20 and 21, respectively, to vent the interior of oil-receptacle 1.

15^a represents holes in the plate 15 to admit air to the inside of the burner. The flanges 18 and 19 serve also to support the wick-tube 22, which is formed with an annular fluted projection 23 to seat on 18 and an outwardly-turned edge 24 under flange 19.

Near the outer edge of base-plate 15 is provided an upwardly-extending ring 25 to support the outer casing 26, having the inwardly-curved and perforated portion 27, the perforated vertical wall 28, and the annular offset 29, which is adapted to hold the annular deflector 30 by means of its extended edge 31 and the perforated ring 32 by means of outwardly-extending flange 33, the top of said offset being bent over said extended edge 31 and flange 33, as shown at 34, and crimped or otherwise secured thereto. The base of deflector 30 is provided with a row of perforations 35 and the inner edge upset, as shown at 36, to form a vertical wall, and the top of ring 32 is provided with an inwardly-extending flange 37 to furnish a support for the lower edge of the chimney, which is held in place by the usual clips 38, secured in holes 39 in flanges 37 and 40 in deflector 30.

At the top of air-tube 2 an air-distributor is placed, which consists of the support 41, having the annular vertical wall 42 fitting tightly the interior of said air-tube 2 and having the outwardly-bent edge 43, that rests upon the top edge of said air-tube to sustain said support 41. Below annular wall 42 support 41 is bent inward, as shown at 44, perforated, as shown at 44^a, and extended downwardly with a substantially cylindrical portion 45, the lower edge of which is bent inwardly to form a flange 46. Flange 46 is provided to support two tubes 47 and 48, the inner tube 47 being provided with an inwardly-extending perforated shelf 49 and a reduced vertical pipe 50 open at the top only. The outer tube 48 is formed with a perforated vertical portion 51 and a flared and perforated top 52, the outer edge of which is crimped around

a dome-like casing 53, formed with a flange 54 to receive the crimped edge of flared top 52. The casing 53 is formed with a perforated convex portion 55, having perforations 56 therein, a vertical ring 57, a perforated frustum-shaped portion 58, and an imperforate dish-shaped top 59.

60 represents a perforated conical top secured in the upper edge of the dish-shaped top 59 by means of flange 61 on said conical top, around which said upper edge of top 59 is crimped.

62 represents a plate supported on vertical ring 57, having perforations 63 therein to assist in breaking up and distributing the air drawn up from the air-tube 2 through the perforations hereinbefore described.

By means of my construction of burner it will be readily apparent that the air admitted outside the wick-tube is evenly distributed to the exterior of the flame, while the air admitted to the inside of the flame through the air-tube 2 is evenly distributed by means of the distributor supported therein and rushes out through the perforations described as the air expands from the heat of the flame, so that thorough combustion takes place and a larger flame area produced from the same amount of oil consumed.

Another advantage of my invention is that it is readily dismembered for the purposes of cleaning, as it is apparent that the casing 26 and the parts secured thereto may be removed from the base-plate 15, while the tubes 47 and 48 may be removed from support 41 and it in turn from the top of air-tube 2. This is a distinct advantage, as the charred portions of the wick that drop off are easily removed from either the base-plate 15 or the support 41 and the various parts of the burner and air-distributor cleansed and scoured.

Having thus described my invention, what I claim is—

1. In a lamp-burner, a base-plate, a tubular standard on said base-plate intermediate the edges thereof having means to secure the base-plate in the neck of the oil-receptacle, an inwardly-extending flange on the lower edge of said standard, said flange and the base-plate inside said standard perforated to admit air to the inside of the oil-receptacle to vent it, the wick-tube secured to said flange and base-plate, and the burner-casing supported on said base-plate, substantially as shown and described.

2. In a lamp, a central air-tube, an air-distributor at the top of said air-tube consisting of an annular support having its bottom reduced in diameter and flanged, and two concentric tubes supported by said flange, said tubes being provided with means for conveying air to the interior of the flame and distributing it, substantially as shown and described.

3. In a lamp, a central air-tube, an air-dis-

tributer at the top of said air-tube consisting of an annular support having the lower part of said support bent inwardly and perforated, the bottom edge of said support provided with an inwardly-extending flange, two concentric tubes supported on said flange, the outer of said tubes provided with perforations and flaring air-distributers, and the inner tube provided with a central pipe to convey air to the upper part of said outer tube, substantially as shown and described.

4. In a lamp, a central air-tube, an annular support having a flanged upper edge to fit on the top of said air-tube, the lower part of said support bent inward and extended downward, said inwardly-bent portion provided with perforations, an inwardly-extending flange on the lower edge of said support, two concentric tubes supported on said flange, the outer of said tubes provided with perforations and flared air-distributers, the inner tube bent inward above its lower end to form a shelf having perforations, and a pipe open only at the top rising above said shelf, substantially as shown and described.

5. In a lamp, a central air-tube, an air-distributor at the top of said air-tube consisting of an annular support having the lower part thereof bent inwardly and perforated, the lower edge of said support provided with an inwardly-extending flange, two concentric tubes, supported on said flange, the outer of said tubes provided with perforations, a flared portion at the top of said outer tube having perforations therein, a perforated, dome-like structure secured to said flared portion, a perforated plate supported on said dome-like structure, and the inner tube provided with a perforated horizontal portion and a vertical imperforate pipe, substantially as shown and described.

6. In a lamp, a central air-tube, an air-distributor at the top of said air-tube consisting of an annular support having the lower part thereof bent inwardly and perforated, the bottom edge of said support provided with an inwardly-extending flange, two concentric tubes supported on said flange, the outer of said tubes provided with perforations and flaring air-distributers, the inner tube provided with a central pipe, a burner base-plate, a tubular standard on said base-plate provided with means to secure said base-plate in the neck of an oil-receptacle, an inwardly-extending flange on the lower edge of said standard, said flange and the base-plate inside of said standard perforated to admit air to the inside of the oil-receptacle, the wick-tube secured to said flange and base-plate, and the burner-casing supported on said base, substantially as shown and described.

7. In a lamp, a central air-tube, an air-distributor at the top of said air-tube consisting of an annular support having the lower part thereof bent inwardly and perforated, the bot-

tom edge of said support provided with an inwardly-extending flange, two concentric tubes supported on said flange, the outer of said tubes provided with perforations, a flared portion at the top of said outer tube having perforations therein, a perforated dome-like structure secured to said flared portion, a perforated plate supported on said dome-like structure, the inner tube provided with a perforated horizontal portion and a vertical imperforate pipe, a burner base-plate, a tubular standard on said base-plate provided with means to secure it in the neck of an oil-receptacle, an inwardly-extending flange on the

lower edge of said standard, said flange and the base-plate inside of the standard perforated to admit air to the inside of the oil-receptacle, a wick-tube secured to said flange and base-plate, a perforated burner-casing secured to said base-plate, and a deflector and chimney-supporting ring secured to said casing, substantially as shown and described. 15 20

In testimony whereof I hereto affix my signature in the presence of two witnesses.

WILLIAM C. QUIGLEY.

Witnesses:

G. E. MOUSER,
CORA B. VIRDEN.