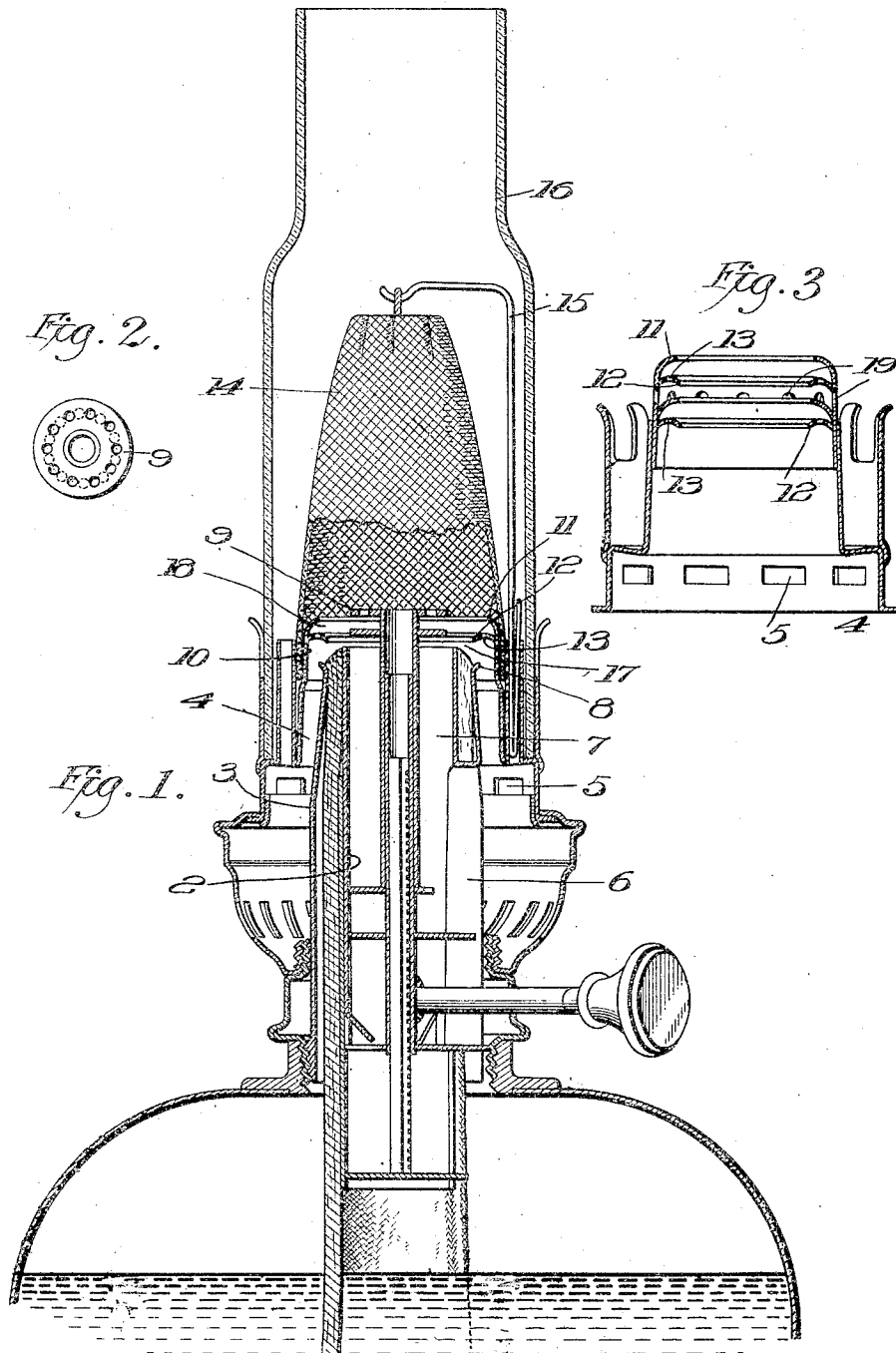


J. HERZOG.
INCANDESCENT WICK BURNER.
APPLICATION FILED JAN. 2, 1909.

942,035.

Patented Nov. 30, 1909.



Witnesses:
R. H. Hatter
Clarence D. Hatter

Inventor
Joseph H. Herzog
By his Attorneys
Baker, Byrnes & Parnell

UNITED STATES PATENT OFFICE.

JOSEPH HERZOG, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO AUGUSTUS S. HOUGHTON, OF GREENWICH, CONNECTICUT, AND GLENN S. WILLIAMSON, OF NEW YORK, N. Y.

INCANDESCENT WICK-BURNER.

942,035.

Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed January 2, 1909. Serial No. 470,390.

To all whom it may concern:

Be it known that I, JOSEPH HERZOG, of the city and county of Philadelphia, State of Pennsylvania, a subject of the Emperor of Austria-Hungary, have invented a new and useful Improvement in Incandescent Wick-Burners, of which the following is a specification.

Figure 1 is a section of my improved burner; Fig. 2 is a plan view of the spreader and Fig. 3 is a modification of the burner head.

My invention relates to wick lamps, and is designed to provide an improved burner which will enable a wick burning lamp to be used with a mantle, and to produce a flame from the burner of such a character as to raise the mantle to incandescence.

The invention consists in providing a device for changing the yellow flame of the ordinary wick lamp to a blue flame, and to prevent the burner from smoking by supplying a sufficient quantity of air to enable complete combustion to take place.

Referring to the drawings, 2 represents the wick tube, which is annular in form and tapered toward its top. The inner wall of the wick tube extends slightly above the outer wall 3, thus enabling the wick, which is circular, to be cut frusto-conical in shape. Outside of the wick tube is the annular air passage 4 having a row of outer holes or air ports 5 through which air is drawn in to cool the burner and prevent heat passing into the font. The wick tube 2 is provided at one side with a slot 6 which supplies air to the inside of the burner through the passage 7. The outer wall 3 of the wick tube 2 has an outwardly flaring top 8 which is preferably integral with the side wall.

9 is a spreader suitably mounted on the inner wall of the wick tube 2 and which preferably has two plates each provided with a row of holes, one row being staggered slightly relatively to the other as shown in Fig. 2 so that air supplied to the inner sides of the flame is given a swirling motion.

10 is the burner head which has an inwardly flaring top 11 and an annular shelf or deck 12 located on its inner surface and below said top, and having perforations 13 therein.

14 is an incandescent mantle which is suspended from the support 15.

16 is the globe which is positioned over the burner head in the ordinary manner.

When the lamp is lighted, the main supply of air enters inside of the burner through the slot 6 in the air passage 7. The suction caused by the flame induces a strong draft and upon striking the spreaders the air forces the flame outwardly and by passing through the spreaders a whirling motion is imparted so that the air and the gas are more thoroughly mixed and a more perfect combustion results.

The secondary supply of air enters through the air ports 5 and passes through an annular air passage 4, and is checked in its velocity by the outwardly flaring top 8 of the wall 3. A portion of this supply is drawn through the opening 17 into contact with the flame and a portion passes upwardly through the perforations 13 of the deck 12 into the chamber 18 from which it comes in turn in contact with the flame.

The main air supply passing through the slots 6 and passage 7 drives the flame outwardly, while the secondary air supply entering through the ports 5 and annular passage 4 operates to press inwardly on the flame. This operates to make the wall of flame very thin and enables a more perfect mixture. The outwardly flaring top 8 prevents the too rapid feed of the air to the base of the flame, and the opening 17 and chamber 18 enable a more uniform distribution of the secondary supply of air to the flame. This distribution of the secondary supply of air also prevents any yellow points of flame from striking the mantle, which would cause sooting of the mantle and smoking of the lamp. The deck 12 is arranged so as to be in line with the lower surfaces of the lower disks of the spreaders 9 so that if the lamp is turned too high the air supply entering through the opening 17 will be cut off sufficiently to extinguish the lamp.

In Fig. 3 I show a plurality of air chambers, so that where conditions require a greater distribution of air to the outside of the flame this may be satisfactorily accomplished. In this figure, 19 indicates the source of the additional air supply.

It will be seen by those skilled in the art

that many changes may be made in my burner without departing from my invention, since

What I claim is:

5 1. In an incandescent wick burner the combination of the outer wall of the wick tube with an outwardly flaring top, and a hollow burner head located thereabove and having a perforated annular deck therein
10 and an inwardly projecting top above said annular deck; substantially as described.

2. An incandescent wick burner having a spreader located above the wick, and a hol-
15 low burner head having on its inner surface a perforated deck, said deck being arranged

in line with the under surface of the spreader; substantially as described.

3. In an incandescent wick burner a hollow burner head having a plurality of air chambers, each of the said chambers having 20 a perforated bottom and an inward curved top and with the inner sides thereof open to the flame; substantially as described.

In testimony whereof, I have hereunto set my hand.

JOSEPH HERZOG.

Witnesses:

CLARENCE D. KERR,
ANNA E. WALLACE.