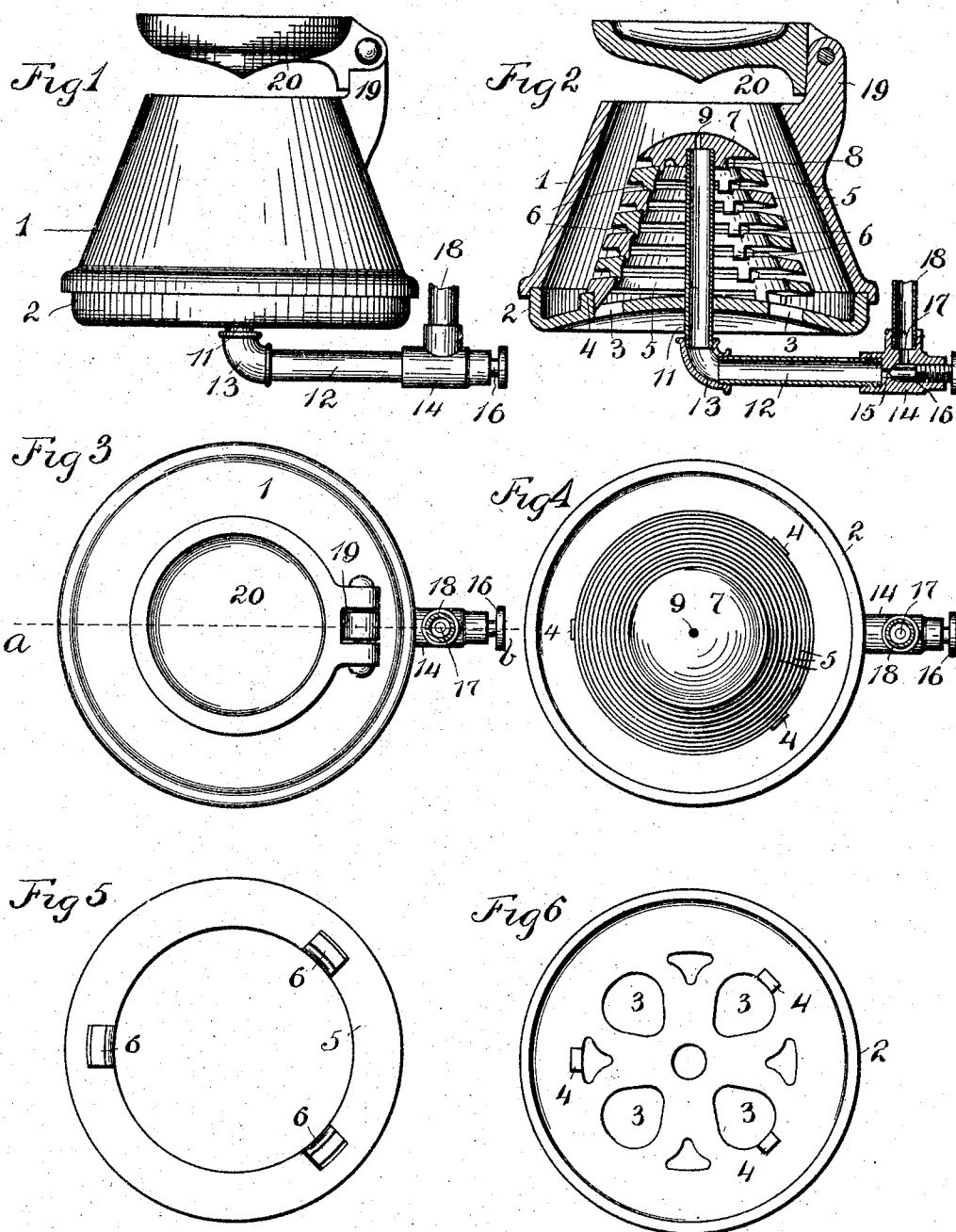


No. 780,594.

PATENTED JAN. 24, 1905.

E. E. BURKE.
OIL BURNER.

APPLICATION FILED FEB. 5, 1903.



WITNESSES:

R. Hamilton.

P. M. Guion

INVENTOR

Edward E. Burke,

BY

Warren D. House,

HIS ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD E. BURKE, OF KANSAS CITY, MISSOURI, ASSIGNOR OF TWO-THIRDS TO THOMAS J. SHUCK AND WALTER SPELLMAN, OF KANSAS CITY, MISSOURI.

OIL-BURNER..

SPECIFICATION forming part of Letters Patent No. 780,594, dated January 24, 1905.

Application filed February 5, 1903. Serial No. 142,009.

To all whom it may concern:

Be it known that I, EDWARD E. BURKE, a citizen of the United States of America, residing in Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Oil-Burners, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in oil-burners.

The object of my invention is to provide a burner in which air is thoroughly commingled with the burning oil, thus effecting a high degree of combustion.

My invention provides, further, certain novel features of construction hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention. Figure 1 is a side elevation view. Fig. 2 is a vertical sectional view. Fig. 3 is a top view. Fig. 4 is a top view with the upper shell removed. Fig. 5 is an under view of one of the cone-rings. Fig. 6 is a plan view of the base of the casing.

Similar characters of reference indicate similar parts.

The casing comprises an upper shell having the form of the envelop of a frustum of a cone, the upper end being open. The shell is indicated by 1.

2 indicates the base of the casing, comprising a circular cup-shaped body having a concavo-convex bottom in which are provided a plurality of air-inlet openings 3. The shape of the bottom of the base 2 is such that an annular recess is formed to catch excess oil outside the openings 3 in the raised bottom. Projecting upwardly from the bottom of the base are a plurality of guides or lugs 4, adapted to support and hold in position the bottom ring 5 of a hollow cone comprising a plurality of separate concentric rings 5, disposed one above the other and provided each on its under side with a plurality of lugs 6, which retain the ring raised above the one just beneath it. The lugs 6 on each ring 5 extend below the top of and inside the ring just below, thus af-

fording means for retaining the ring concentric with the next one below. The upper side of each ring 5 is outwardly and downwardly inclined, so that oil falling on the ring from the one next above will not run inside of the cone, but will fall on the outside of the ring next below. By separating the rings 5 from each other a series of air-passages are provided between the rings. Upon the top ring 5 is mounted a cap or apex-disk 7, also provided with lugs 8 for supporting the disk or cap above and concentric with the top ring 5. The said lugs 8 are similar to the lugs 6 on the rings 5. In the center of the cap 7 is provided a vertical oil-passage 9, in which discharges the conductor, comprising a vertical pipe 11, the upper end of which is secured in the cap 7 in vertical alinement with the passage 9. A horizontal pipe 12 is connected by an elbow 13 with the lower end of the pipe 11, which extends through an opening provided therefor vertically in the base 2. A fitting 14 is mounted on the outer end of the pipe 12 and is provided with a horizontal oil-passage 15, adapted to be closed by a rotatable valve 16, mounted in and having screw-threaded connection with the fitting 14. An opening 17, disposed vertically in the fitting 14, communicates past the valve 16 with the passage 15. In the said opening 17 is mounted the lower end of a vertical pipe 18, which is connected at its upper end with the oil-supply.

Upon one side of the shell 1 is provided a lug 19, in which is pivotally mounted a vertically-swinging deflector 20, comprising a horizontally-disposed plate, the under side of which is convex, the center of the plate or deflector 20 being in alinement vertically with the oil-passage 9. The said deflector is disposed above the open end of the shell 1 at some distance above the same, so as to permit the passage out of the open end of the shell of the products of combustion.

In operating my invention, the parts having been assembled as stated above, oil is permitted to pass through the oil-conductor, comprising the pipes 11 12 18, elbow 13, and fitting 14, by properly opening the valve 16.

The oil passing from the pipe 11 into the passage 9 is diffused over the top of the cap and drips from its edges upon the outsides of the rings 5. As the rings have their upper sides outwardly and downwardly inclined, the oil cannot pass through the spaces between the rings, but will drip consecutively from one ring to the other. The oil is then lighted. Air entering the inlet openings 3 will pass into the insides of the rings and pass therefrom between the rings and will mingle with the burning oil, thus affording an ample supply of air for thoroughly consuming the oil. Any excess of oil will run from the rings into the annular space in the base 2 outside the holes 3. After the cone becomes heated no excess oil will be produced, and the oil caught in the base will be consumed. The products of combustion in the form of flame will emerge from the open end of the shell 1 and will be deflected into a broad sheet by the deflector 20.

If it is desired to remove any of the rings or secure access to the interior of the burner for any purpose, the deflector 20 may be swung on the lug 19, so as to uncover the top of the shell 1.

A burner constructed in accordance with the principles of my invention may be used to burn petroleum, kerosene, gasolene, or most any kind of fuel-oil.

Many modifications of my invention may be made without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In an oil-burner, the combination with an upper shell having sides converging toward the top, the upper end of the shell being open, the shell being provided with a lug integral with the wall thereof, and the lower end of the shell being provided with an annular groove, of a horizontal deflector hinged to said lug and adapted to be positioned above the cone, a cup-shaped base having a vertical annular peripheral flange having its upper end fitted to the grooved lower end of the upper shell, the base being convex on its upper side and provided with an air-passage in the bottom, a hollow cone disposed on said base above said air-passage, and provided with air-passages through the sides and an oil-discharge opening in the apex, and means for supplying oil to said opening in said apex.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD E. BURKE.

Witnesses:

WARREN D. HOUSE,
HENRY F. ROSE.