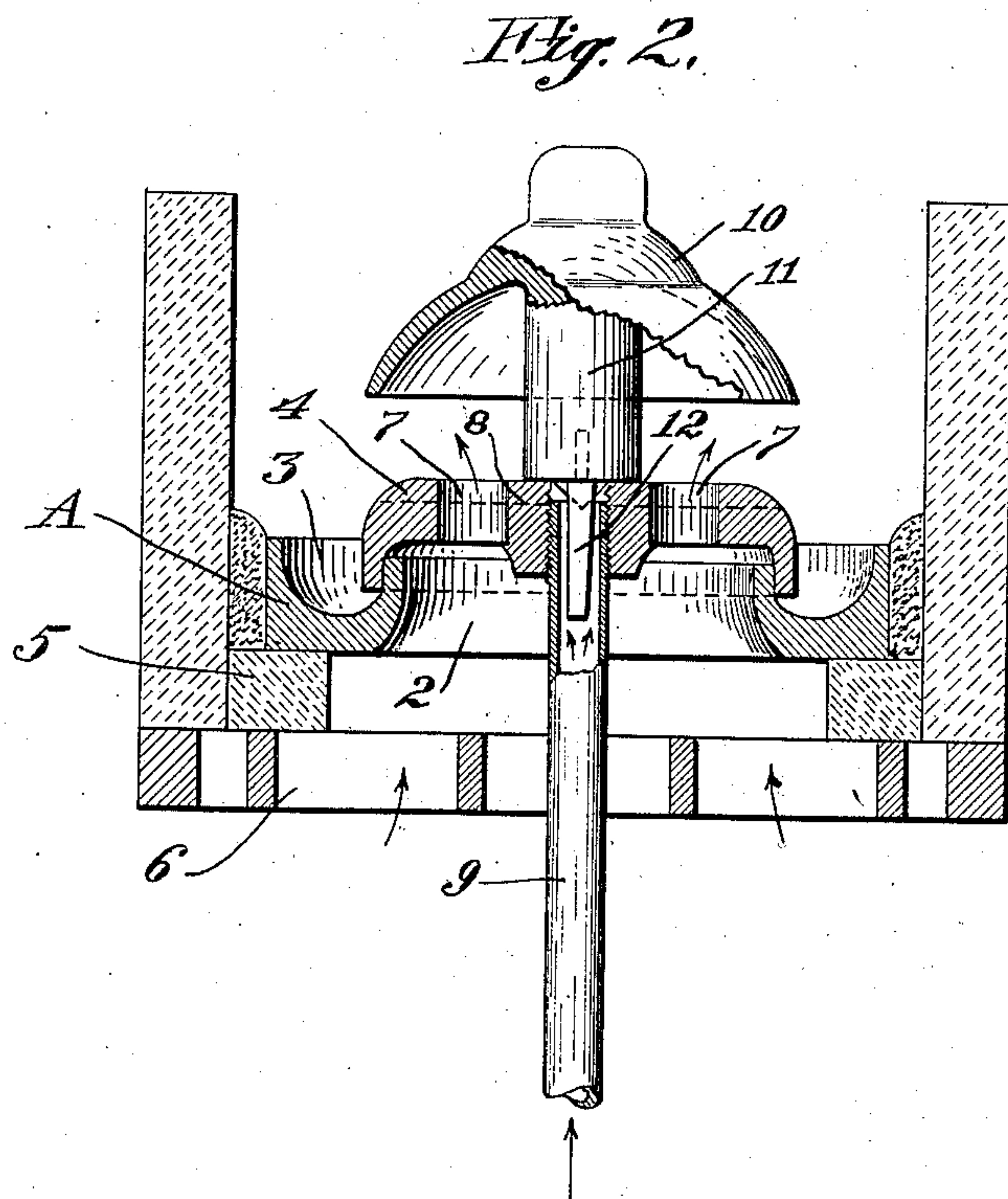
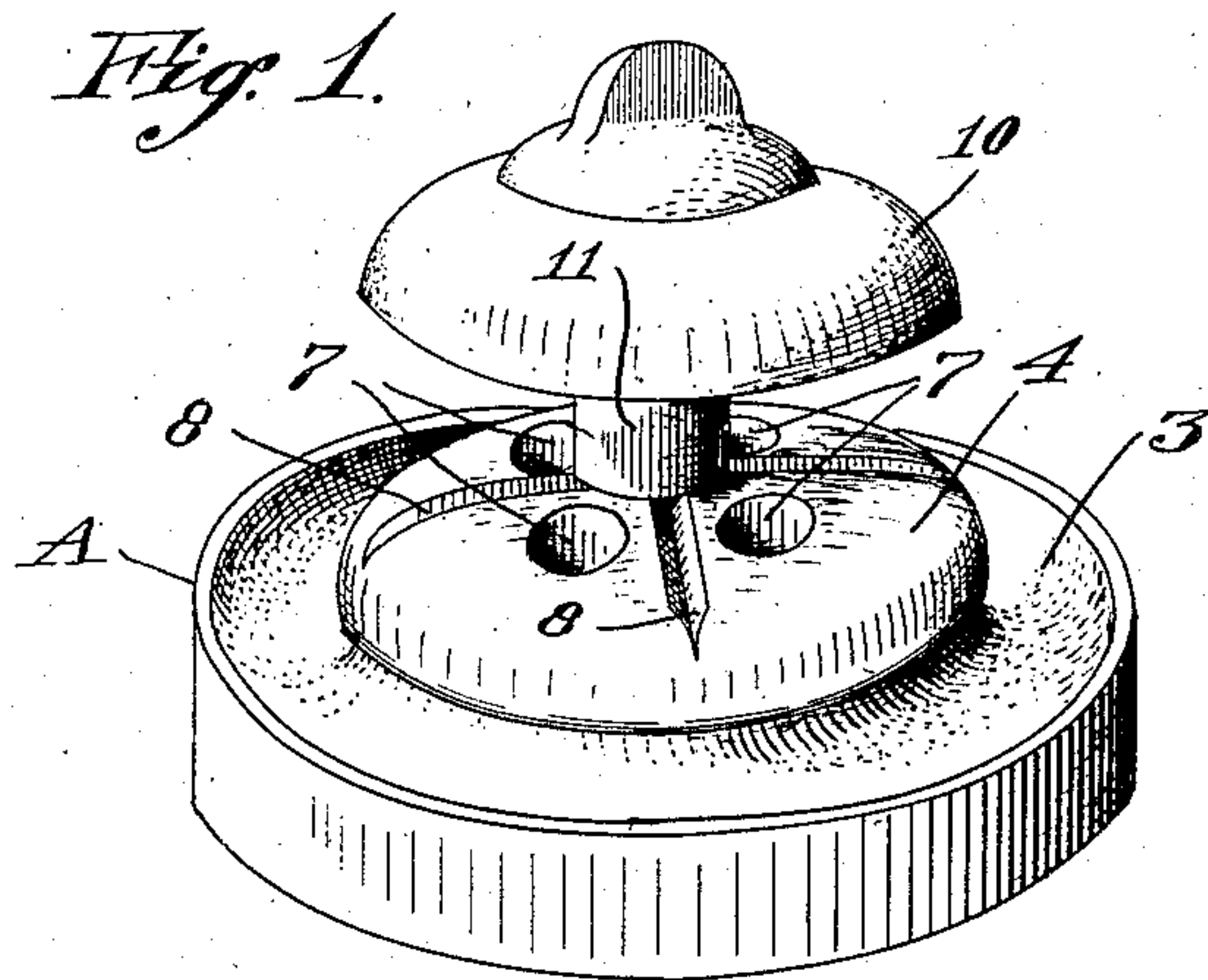


H. F. ARENBERG.  
OIL BURNER.  
APPLICATION FILED FEB. 11, 1909.

944,761.

Patented Dec. 28, 1909.



WITNESSES;

*Revi. J. Berry.*  
*A. E. Maynard.*

INVENTOR

HERMAN F. ARENBERG

BY *Geo. H. Strong.*

HIS ATTORNEY.



# UNITED STATES PATENT OFFICE.

HERMAN F. ARENBERG, OF PETALUMA, CALIFORNIA.

## OIL-BURNER.

944,761.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed February 11, 1909. Serial No. 477,294.

*To all whom it may concern:*

Be it known that I, HERMAN F. ARENBERG, citizen of the United States, residing at Petaluma, in the county of Sonoma and State of California, have invented new and useful Improvements in Oil-Burners, of which the following is a specification.

My invention relates to a burner for oil or hydrocarbon products, and means for distributing the heat therefrom within a stove or other furnace.

It consists in the combination of perforated and channeled plates, means for introducing the liquid fuel and air mixed therewith, and means for dispersing and distributing the products of combustion within the furnace proper.

Referring to the accompanying drawings, Figure 1 is a perspective view of the invention. Fig. 2 is a transverse section.

As shown in the drawing, A is a circular or equivalent disk which may have a substantially flat base, a central opening 2 of considerable size, and an annular trough or channel 3 surrounding the opening.

4 is an inverted cup-shaped circular disk, the peripheral flange of which fits over the interior annular flange of the channel 3. These parts of the burner are supported upon and within a foundation of concrete, brick, or other suitable material, as shown at 5, and this foundation is open, and beneath it is a perforated or foraminous plate 6 through which air is freely admitted into the lower part of the apparatus, passing up through the foundation, through the interior opening 2 of the plate A, and thence it is allowed to pass out through openings 7 which are made vertically through the inverted cup 4. This cup has transverse grooves or channels 8 made upon its upper surface, and radiate from a central opening extending through the cup and connecting with a supply pipe or passage 9 through which the liquid fuel is admitted; this fuel rising through the passage, flows out through the channels 8, and any excess, after the apparatus is in operation, will fall into the annular channel 3 of the disk A.

10 is a bell-shaped structure having a central hub 11 and from this hub a stem 12 extends downwardly into the passage in the inverted cup 4.

The stem may be rectangular in section,

or of other suitable form so as to fit loosely in the passage, and to allow sufficient space around it for the passage of the liquid fuel beneath the hub 11, which rests upon the top of the cup 4, forming a closure to prevent the projection of the fuel upwardly.

The bottom of the hub is of sufficiently greater diameter than the central opening of the cup 4 so that the liquid being delivered upwardly will, after the apparatus is in operation, be more or less vaporized, and its direction will be changed so that it will pass outwardly through the grooves or channels 8. Meanwhile, air admitted through the base of the apparatus, and through the passages 7, will meet the vaporized fuel which is thus burned, and the action of the draft will be to throw the burning vapor upwardly into the concavity of the bell 10, which produces an outward discharge of the flame so that it passes beyond the edge of the bell, fills the furnace space, and rises upwardly therein in a very complete mass of incandescent flame.

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

1. In an oil burner, the combination of a base having a central opening and a surrounding annular channel; a support underlying the base and having an air inlet communicating with the central opening of said base; an inverted cap supported centrally above the base having a downturned surrounding flange adapted to fit over the flange between the central opening and annular channel of said base, said cap having openings through it and having radial grooves in its surface between said openings; a bell or cone above the cap having a hub portion supported on said cap, and a fuel supply pipe leading into the center of the cap below said hub.

2. In an oil burning device of the character described; a base having a central opening, an annular groove or channel around said opening, a foundation and support having air passages communicating with the central opening of the base, an inverted concaved cap, the exterior flanges of which overlap the interior flange of the base, said cap having air conducting openings made through it, a central opening and connection by which oil is delivered to said opening,

radial grooves or channels located between  
the air openings of the cap, a bell or cone  
having a hub adapted to rest upon the top  
and center of the cap, and a loosely fitting  
5 stem extending downwardly into the oil  
conducting passage.

In testimony whereof I have hereunto set

my hand in presence of two subscribing witnesses.

HERMAN F. ARENBERG.

Witnesses:

H. C. BROWN,  
A. RODGERS.