

March 28, 1950

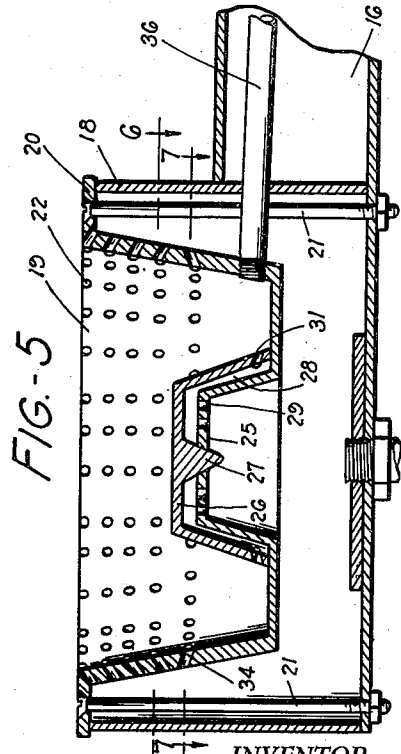
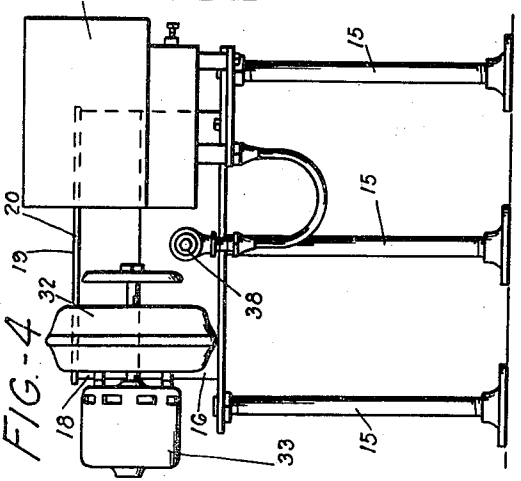
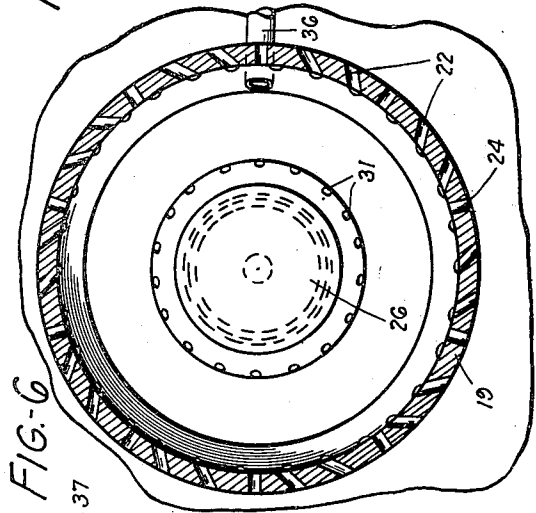
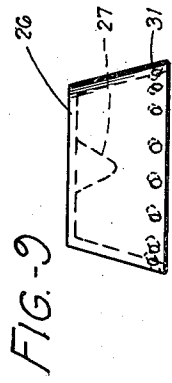
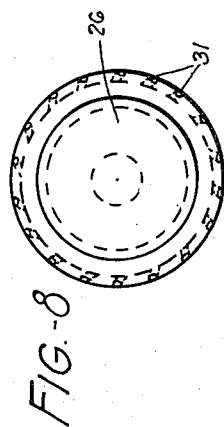
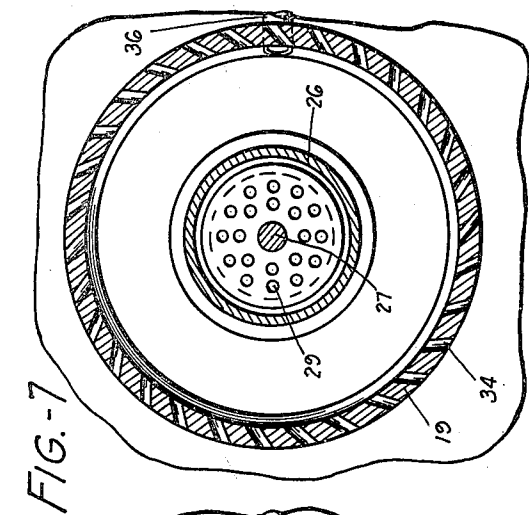
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2,501,688

PERFORATED TRAY TYPE OIL BURNER

Filed May 8, 1947

2 Sheets-Sheet 2



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2,501,688

PERFORATED TRAY TYPE OIL BURNER

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Application May 8, 1947, Serial No. 746,819

3 Claims. (Cl. 158-91)

1

This invention relates to oil burners.

It is an object of the present invention to provide an oil burner wherein a rotating flame will be imparted without the use of moving parts which would wear out and whereby to provide a rotating flame burner which will give safe and long service.

It is another object of the present invention to provide an oil burner which is noiseless and is without gears.

Other objects of the present invention are to provide a non-mechanical rotating flame oil burner which is of simple construction, easy to install, inexpensive to manufacture and efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a top plan view of the oil burner embodying the features of the present invention with a portion broken away to show the interior of the same.

Fig. 2 is a side elevational view of the oil burner illustrating the manner in which it is mounted within a furnace.

Fig. 3 is a transverse cross-sectional view taken on line 3-3 of Fig. 1.

Fig. 4 is an end elevational view of the oil burner as viewed from the exterior of the furnace.

Fig. 5 is an enlarged cross-sectional view taken generally on line 5-5 of Fig. 1.

Fig. 6 is a cross-sectional view taken through the fire box on line 6-6 of Fig. 5.

Fig. 7 is a cross-sectional view taken through the fire box on line 7-7 of Fig. 5.

Fig. 8 is a top plan view of the generator cap.

Fig. 9 is a side elevational view of the generator cap.

Referring now to the figures, 15 represents pedestal supports on the upper ends of which there is mounted a casing 16 having an air inlet passage 17 and pot portion 18 at the end of the air passage. Fitted into the pot portion 18 is a bowl 19 having a peripheral top flange 20 which is rested on the top of the pot portion 18 and which is retained thereagainst by long vertically extending stove bolts 21. The bowl 19 has four rows of holes extending through the bowl and inclined upwardly from the exterior toward the interior whereby oil flames will be directed upwardly. The holes 22 as viewed in Fig. 6 are also extended tangentially so that the air as it is di-

2

rected into the bowl will be directed a substantially tangentially extended direction to give the flame a rotary motion. It will be noted however, that certain of the holes do not extend substantially tangentially but extend radially. These holes are indicated at 24. These holes 24 will cause some of the flame to be directed inwardly toward the center of the bowl so as to provide a large body of the flame at the center of the bowl. The bottom of the bowl is extended upwardly at the center as indicated at 25. Over this extension 25 there is fitted an inverted cup shaped member 26. This cup shaped member has an internal tapered projection 27 adapted to fit in a hole in the extension 25 so as to maintain the same concentric with the extension 25. An annular passage 28 is provided between the extension 25 and the inverted cup shaped member or generator cap 26. Within the extension 25 are holes 29 through which air is passed to the space 28. Air will be directed from the annular passage 28 through downwardly extending holes 31 in the generator cap 26 and toward the bottom of the bowl to unite with the fuel to provide a combustible mixture.

Air is delivered through the air passage 17 by a blower 32 driven by an electric motor 33. This air is forced around the pot portion and around the exterior of the bowl 19. This air will enter the holes 22 to continue the circular motion of the air and consequently give to the flame a circular or rotating motion. In the bowl below the top of the generator cap are holes which are inclined downwardly and inwardly as indicated at 34. These holes are also extended toward a tangential direction as shown more clearly in Fig. 7. Consequently, air and flame will be directed toward the generator cap 26 to heat the air within the space 28 which will tend to vaporize liquid fuel which may be deposited in the bottom of the bowl.

Oil is supplied to the bowl through a pipe 36 extending forwardly from a reservoir 37. A constant level oil control valve 38 is provided in the pipe line 36.

The holes 31 not only extend downwardly in the generator cap 26 but also are extended in a tangential direction. Thus the rotary motion of the flame is started in the bottom of the bowl 19.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

3

I claim :

1. In an oil burner which includes an oil supply pipe, an air blower, and a casing with a pot portion therein, which casing has an air passage extending from the blower and around the pot portion therein, an improved pot type burner which comprises a bowl fitted into said pot portion and suspended therefrom, said bowl having openings in the center of the bottom thereof, a generator cap extending over said openings and spaced therefrom, said cap being provided with an internal tapered projection which seats in one of the said openings in said bowl, and spaces said generator cap therefrom, thereby providing an air passage therebetween whereby air being distributed therethrough will be heated, air openings in the bottom of said generator cap, whereby the air in the space between said cap and the bottom will be delivered toward said bottom of said bowl exteriorly of said generator cap to vaporize oil delivered to the bottom of said bowl, said bowl being provided with a series of openings extending through its wall in a direction substantially tangential, whereby the flame will be given a rotary motion within said bowl.

2. The combination as defined in claim 1 wherein said bowl is also provided with a plurality of openings therein, which openings extend radially through its wall, thereby urging the flame in said bowl toward the center thereof.

3. The combination as defined in claim 1,

4

wherein said openings in the generator cap extend in a generally tangential direction, thereby causing rotary motion of the vaporized oil in the bottom of the bowl, said bowl having other holes inclined downwardly and in a generally tangential direction, thereby directing flames around the interior of said bowl and toward said generator cap, said bowl further having holes extending radially toward the center thereof, said holes extending radially being among said first-mentioned holes which extend in a generally tangential direction, but being separate from said tangentially-extending holes.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,641,250	Breese -----	Sept. 6, 1927
2,038,522	Bock -----	Apr. 28, 1936
2,120,372	O'Hagan -----	June 14, 1938
2,123,365	Keating et al. -----	July 12, 1938
2,357,587	Hammell -----	Sept. 5, 1944

FOREIGN PATENTS

Number	Country	Date
462,414	Great Britain -----	Mar. 9, 1937