Jan. 9, 1945. R. W. DE LANCEY 2,366,839

POT TYPE BURNER

Filed Oct. 10, 1942

Fig. 1.

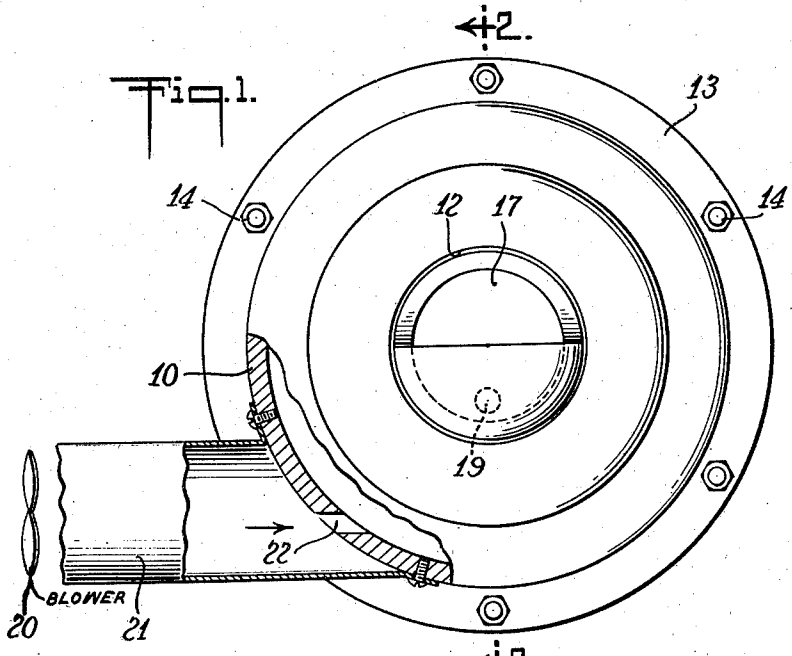
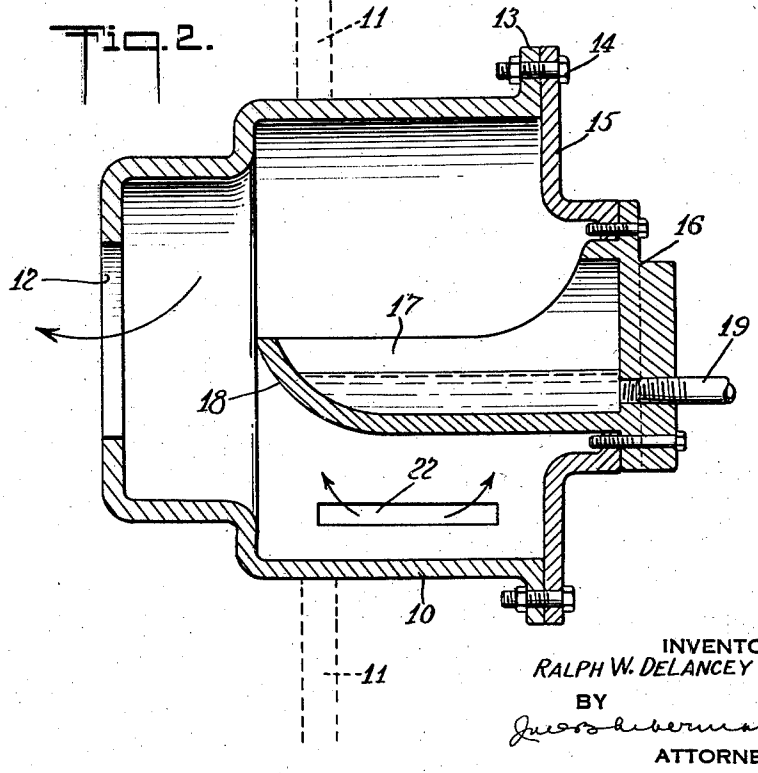


Fig. 2.



INVENTOR
RALPH W. DELANCEY
BY
ATTORNEY

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POT TYPE BURNER

Ralph W. De Lancey, Meriden, Conn., assignor to The Miller Company, Meriden, Conn., a corporation of Connecticut

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4 Claims. (Cl. 158—91)

The present invention relates to pot type burners, and is more particularly directed toward a form of pot type burner suitable for mounting in the side wall of a furnace or the like, and wherein the flame discharges horizontally from the burner into the combustion space of the furnace.

According to the present invention the oil fuel flows into a horizontal trough or vaporizer and this trough is mounted in a horizontal, generally annular body forming a combustion chamber for the burner. Air is blown into the body so as to cause it to whirl or spin about a generally horizontal axis and about the vaporizer.

The accompanying drawing shows, for purposes of illustrating the present invention, one of the many embodiments in which the invention may take form, it being understood that the drawing is illustrative of the invention rather than limiting the same.

In the drawing:

Figure 1 is a side elevational view of the burner with parts broken away; and

Figure 2 is a vertical sectional view.

In the form of construction illustrated in the drawing the body 10 of the burner may be generally annular and is adapted to be inserted through the wall 11 of the furnace so that the inner end at the left of the drawing is in the combustion chamber of the furnace and the right-hand end, as illustrated in the drawing, is outside the furnace.

The inner end of the body is reduced in any convenient manner so as to provide an opening 12 for the escape of flame and products of combustion. The outer end of the body is here shown as having a flange 13 to which is secured by suitable bolts 14 a ring 15, this ring being of angular cross section. A casting 16 is secured in position to close the opening in the ring 15, and this casting 16, as here shown, is provided with an inwardly extending trough 17 having an upwardly extending end wall 18 so that a pool of liquid fuel may be retained in the trough 17. The liquid is delivered in any convenient manner from the usual metering valve through a pipe indicated at 19. The trough 17 is adapted to form a vaporizer in the combustion chamber of the burner.

A suitable blower is diagrammatically illustrated at 20, conduit at 21, and an opening in the body 10 is shown at 22. The blower is adapted to blow a blast of air into the bottom of the combustion chamber in a generally tangential direction, and this air will whirl or spin about a generally horizontal axis, whereby the fuel in the vaporizer is consumed and the vaporizer kept hot to facilitate vaporizing the fuel.

It is obvious that the invention may be embodied in many forms and constructions within the scope of the claims and I wish it to be understood that the particular form shown is but one of the many forms. Various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A horizontal pot type oil burner having a body annular about a horizontal axis adapted to form a combustion chamber and provided at one end with an opening of substantial but reduced size for the escape of flame in a horizontal direction, a blower, means for delivering a blast of air into the combustion chamber in a generally tangential direction to whirl air about a horizontal axial region within the said chamber, an axially disposed, horizontally extending vaporizer trough of substantially smaller diameter than the combustion chamber and disposed within said chamber, means to supply and to maintain a pool of oil in the trough, and means for closing off the end of the body opposite the said flame opening.

2. A burner such as claimed in claim 1, wherein the closing means supports the vaporizer.

3. A burner such as claimed in claim 1, wherein the closure means includes a ring, and a removable plate closing the hole in the ring and supporting the vaporizer, the vaporizer being removable through the hole in the ring.

4. A horizontal pot type burner having a horizontal generally cylindrical oil retaining and vaporizing pot open upwardly and closed at the ends, an annular housing about the pot to form an annular combustion chamber, means for closing the end of the housing adjacent one end of the pot and supporting the corresponding end of the pot, the other end being free, the other end of the housing extending beyond the free end of the pot and having an opening for the products of combustion, and a blower for blowing air into the housing in a generally tangential direction to whirl about the pot.

RALPH W. DE LANCEY.