Aug. 6, 1940. R. S. THORESEN 2,210,736

OIL BURNER

Filed Dec. 10, 1938

Fig. 2.

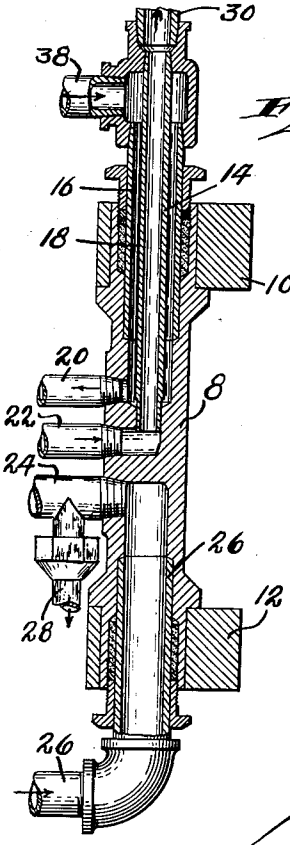


Fig. 1.

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Patented Aug. 6, 1940 2,210,736

UNITED STATES PATENT OFFICE

2,210,736

OIL BURNER

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Application December 10, 1938, Serial No. 244,938

1 Claim. (Cl. 158—2)

This invention relates to improvements in oil burning apparatus and is particularly directed to an improved circulatory system for oil.

The burner of the present invention is of the type wherein the burner is hingedly mounted on the front of a furnace with the burner nozzle projecting into the fire box. In such constructions difficulty has been experienced in making the conduit connections for the circulation of the oil to the burner so that the burner may be swung on its hinge to open or close the same without the necessity of disconnecting the conduits.

It is an object of the present invention, therefore, to provide a structure wherein rigid conduits instead of flexible hose connections are employed and yet the burner may be moved on its hinge without disconnecting any of the oil circulatory conduits.

A further object of the present invention is to provide a construction such as above indicated wherein provision is made for preheating the oil before it goes to the burner nozzle, the oil in circulating through the heater passing through the burner hinge.

Further objects of the present invention will be manifest from the following description and the accompanying drawing, in which:

Fig. 1 is a front elevational view of my improved oil burner showing the same mounted in place on a furnace; and

Fig. 2 is a sectional elevational view of the hinge of my improved structure.

Referring to the drawing in detail: 2 designates the blower housing and 4 the integral motor housing of an oil burner. The oil pump for the burner is designated 6. The housing of the pump is fixed to the side of the motor housing 6. The housing 2 is provided with a rotatable vertically extending hinge member 8 mounted in journals 10 and 12 secured to the face of the furnace so that the whole burner is hinged.

Extending into the hinge member 8 is vertical tube 14, and surrounding this tube and spaced therefrom is a tube or sleeve 16. This tube terminates short of the lower end of the tube 14. The space between the tubes 14 and 16 is designated 18, and extending into the member 8 so as to communicate with this space is a rigid conduit 20 which leads to the burner nozzle.

Below the conduit 20 is another rigid conduit 22 which extends into the hinge member 8 so as to communicate with the interior of the inner tubular member or sleeve 14. This conduit is connected to the discharge side of the oil pump 6.

Below the conduit 22 is by-pass conduit 24 which extends into the hinge member 8 into communication with a rigid conduit 26 which leads to the oil supply. The by-pass 24 is also connected with conduit 28 adjacent the face of the hinge member 8, the conduit 28 being connected to the intake side of the pump 6.

The conduit 20 leads to the burner nozzle as above pointed out, and in this conduit is a two-way magnetic valve 29 thermostatically controlled by the heat of the oil being circulated, so that when the oil is only insufficiently heated it will pass back to the intake side of the pump by way of the by-pass conduit 24 and the conduit 28.

The oil as it is pumped into the interior of the hinge member 8 passes upwardly through the tube 14, and by way of fixed conduit 30 to steam heater 32, and from thence by way of conduit 34 through electric heater 36, returning to the hinge member 8 by way of conduit 38. This conduit is in communication with the space 18 about the exterior of the tube 14 so that the oil will flow through this space to conduit 20 which leads to the burner nozzle. If the oil is hot enough it will go to the nozzle, otherwise it will be by-passed as above explained and be recirculated through the heaters.

From all of the foregoing it will be seen that I have provided an oil burner construction wherein all of the oil which is fed to the burner passes through the hinge of the burner.

It is to be understood that changes may be made in the details of construction herein described within the purview of my invention.

What I claim is:

Fuel supply apparatus for oil burners comprising a rotatable hinge member, a tube within the hinge member, an oil heater, a rigid conduit leading to the heater, one end of said tube communicating with said conduit leading to said oil heater, an oil burner pump, a rigid conduit leading from the other end of said tube to the discharge side of the oil burner pump, a second tube within the hinge member surrounding the first mentioned tube, the upper end of said second tube communicating with the discharge side of the said heater, the lower end of said second tube communicating with the oil burner, the hinge member being provided with a passageway separate from said tubes, conduit means connecting said passageway to an oil supply, and conduit means from said passageway to the intake side of the said oil burner pump.

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