April 15, 1941. F. DOUBLEDENT 2,238,806

OIL BURNER

Filed May 3, 1938

Fig. 1.

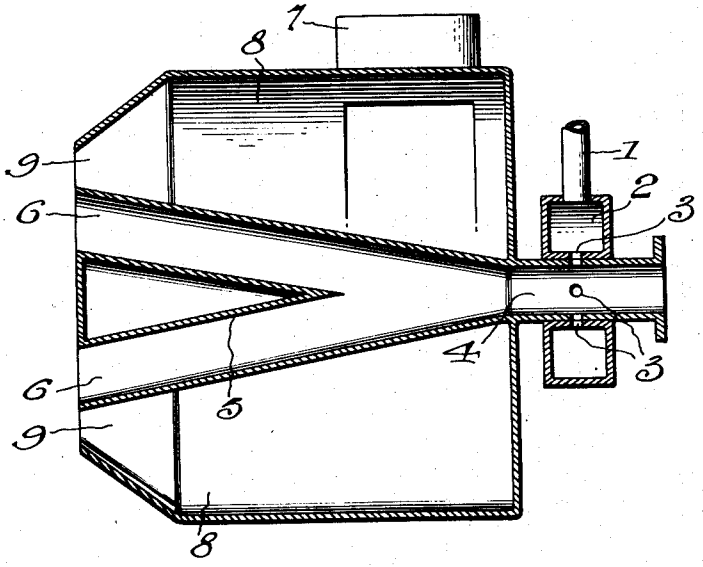
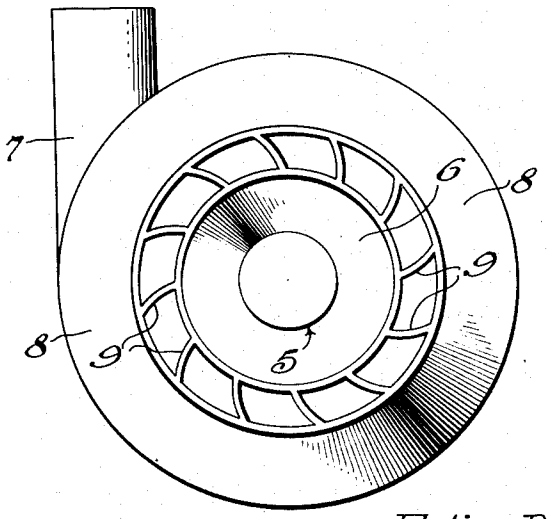


Fig. 2.



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OIL BURNER

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In France May 4, 1937

2 Claims. (Cl. 158—76)

My present invention relates to a burner for oil and more especially for heavy oil, fuel oil or mazout.

In said burner, the oil carried by the air of pulverization is projected on the apex or point of a conical deflector and along the axis thereof, wherefrom the resulting mist of pulverized oil escapes as an annular stream or sheet which is traversed, at the outlet of the burner, by the current of turbulent secondary air which is necessary for the combustion of the oil.

The annexed drawing shows an example of construction of a burner according to my invention. In the drawing

Fig. 1 is a central longitudinal sectional view of the burner; and

Fig. 2 is an end elevation of the burner.

In the drawing, an inlet 1 for mazout or other fuel extends into the chamber 2 connected through the orifices 3 with the duct 4 for the injection of pulverization air.

The current of pulverization air, which carries the mazout or oil, is horizontally projected on the point of a conical deflector 5. Thus the mazout or other fuel is wholly and completely pulverized and the pulverized mist thus produced escapes through an annular outlet 6 as a sheet or stream; when issuing from the burner, this sheet or stream is traversed by the secondary air which is necessary for its combustion.

This secondary air is supplied tangentially at 7 to a chamber 8 surrounding the burner and the inside wall of the chamber imparts a turbulating or cyclonic movement to the secondary air.

When issuing from the chamber 8, the turbulating secondary air passes between deflecting blades 9 which direct it from the outside to the inside, in such a way that the air traverses the stream or sheet of pulverized mazout or other fuel issuing from the burner, as already indicated, and which ensures the perfect combustion of the mazout or other fuel.

What I claim is:

1. An oil burner comprising a cylindrical casing having a closed end and an open end, a frusto-conical wall at said open end having its larger end joined to said cylindrical casing, a conduit to supply secondary air to the cylindrical casing disposed tangential to the latter, a hollow conical duct within the casing and coaxial therewith having its larger end open and disposed at said open end of the casing and spaced from said frusto-conical wall, a primary air duct communicating with said conical duct, means for the feed of fuel into the primary air duct, a conical deflector coaxially disposed within the conical duct with its apex facing the said means and located between the latter and said open end of the casing for supplying the resulting mixture of pulverized fuel and primary air in the form of an annular sheet, means arranged in the space comprised between the frusto-conical wall and the conical duct at said open end of the casing for directing the secondary air forwardly and toward the axis of the burner while whirling, whereby the secondary air traverses the annular sheet of pulverized fuel and primary air only after issuing from the burner.

2. An oil burner comprising a cylindrical casing having a closed end and an open end, a frusto-conical wall at said open end having its larger end joined to said cylindrical casing, a conduit to supply secondary air to the cylindrical casing disposed tangential to the latter, a hollow conical duct within the casing and coaxial therewith having its larger end open and disposed at said open end of the casing and spaced from said frusto-conical wall, a primary air duct communicating with said conical duct, means for the feed of fuel into the primary air duct in a plane normal to the axis thereof, a conical deflector coaxially disposed within the conical duct with its apex facing the said means and located between the latter and said open end of the casing for supplying the resulting mixture of pulverized fuel and primary air in the form of an annular non-rotating horizontally moving sheet, arcuate blades arranged relatively close together in the space comprised between the frusto-conical wall and the conical duct at said open end of the casing for directing the secondary air forwardly and toward the axis of the burner, whereby the secondary air traverses the annular sheet of pulverized fuel and primary air only after issuing from the burner and easily entrains said pulverized fuel, thus causing its rapid and complete combustion at a zone spaced from the nose of the burner.

FELIX DOUBLEDENT.