June 16, 1931. B. VALJEAN 1,810,035

OIL BURNER PILOT

Filed Sept. 19, 1929

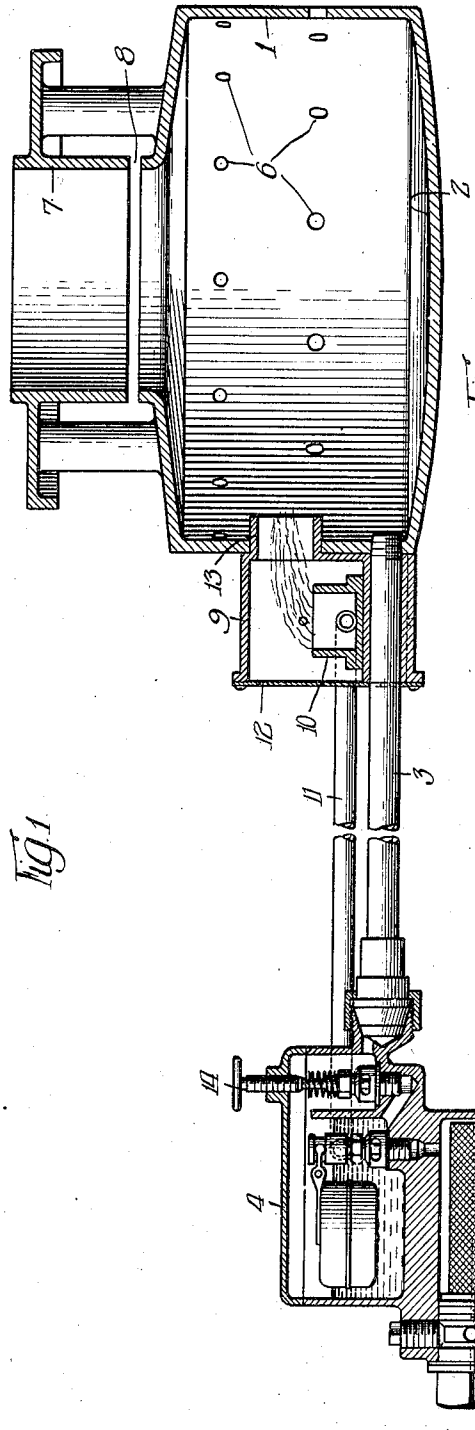


Fig 1

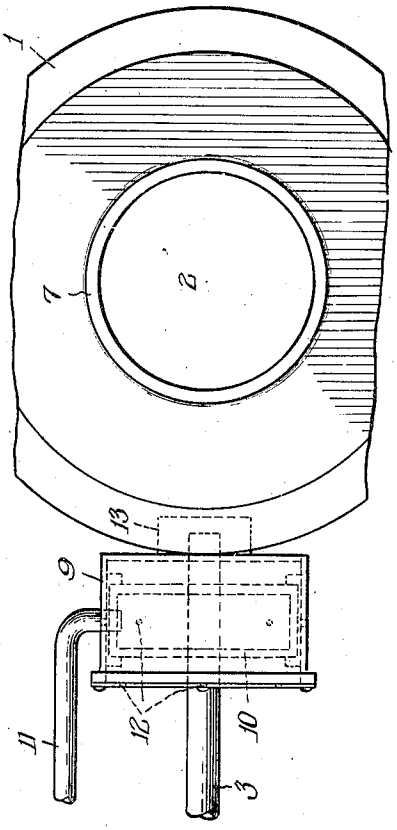


Fig 2.

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Patented June 16, 1931 1,810,035

UNITED STATES PATENT OFFICE

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OIL BURNER PILOT

Application filed September 19, 1929. Serial No. 393,629.

The present invention is characterized primarily by the employment in connection with an oil burner of a pilot burner associated therewith and of the same general type but of miniature size.

Preferably, as herein set forth by way of illustration, both the burner and the pilot are of the pre-mixing carburetor type such as that disclosed in my Patents Nos. 1,512,869 and 1,639,202, wherein a widely distributed supply of air is introduced to the oil vapor in amount insufficient to support combustion and after such preadmixture an additional supply of air is furnished to effect and maintain complete combustion.

A further feature of the invention is the heating by the pilot of an oil supply pipe to the burner whereby when the main oil supply is turned on the oil entering the burner is sufficiently heated to facilitate vaporization.

In the accompanying description and drawings is set forth, by way of illustration, a preferred embodiment of the invention, it being understood that the invention is susceptible of embodiment in somewhat varied structural forms without departure from the essence of the same as set forth in the appended claims.

In the drawings:

Fig. 1 is a longitudinal vertical section through the associated burner pilot and fuel control, and

Fig. 2 is a diagrammatic plan view.

Having reference to the drawings, there is illustrated at 1 a burner proper comprising a metal casing with a concave bottom at 2 for a pool of oil supplied through the pipe 3 through the float control chamber 4 from the fuel pipe 5. The burner proper is provided with a plurality of spaced air inlet apertures 6 by which air is introduced to the vapor of the pool of oil at 2. As set forth in my patents, the supply of air is not sufficient to support combustion, except in the initial stages, within the casing 1, the mixture of air and oil vapor rising through the neck 7 of the burner and an additional supply of air being admitted thereto through the gap 8 is sufficient to effect complete combustion within and above the neck 7.

Associated with the burner proper, whether integral or attached, is a pilot casing 9 comprising, in effect, a miniature of the main burner. Within the casing 9 is disposed an oil pan 10 supplied with oil through the pipe 11 from the float control chamber 4. The side walls of the casing 9 are provided with small air inlet apertures 12 through which a sufficient amount of air is introduced to effect combustion of the oil vapors rising from the pan 10, the resulting flame being directed through the neck 13 to the interior of the burner proper.

This constantly burning pilot, being located closely adjacent the inlet end of the fuel pipe 3 and above the bottom 2 of the burner proper, the inlet end of the fuel pipe and the bottom of the burner are maintained in a somewhat heated condition so that the oil introduced through the pipe into the bottom of the burner is more readily vaporized than if introduced through a cold pipe to a cold burner. Consequently, upon the opening of the valve 14 and the entry of oil to the burner, the mixture of air and carbon vapors within the burner are readily ignited from the pilot flame entering through the neck 13. Thereupon, as set forth in my patents, there is an initial burning of the vapors in the burner proper, the flame gradually, as the heat increases, moving upwardly to the normal point of combustion in the neck 7.

I claim:

1. The combination with an oil burner comprising an oil pan and side walls forming a combustion chamber thereabove, and a fuel supply inlet, of a pilot therefor comprising a casing having a combustion chamber in communication by an outlet port through the side of the burner to its interior above the fuel pan, a pan in said pilot chamber, an oil supply to said pan, an air inlet to said pilot chamber adjacent the pan, whereby ignited oil in the pan will be supplied air for combustion from the air inlets and the resulting flame will be projected into the burner above the fuel pan to ignite fuel supplied to the latter.

2. The combination with an oil burner including a pre-mixing and combustion cham-

ber, a fuel pan and a fuel inlet, of a pilot therefor comprising a casing having a combustion chamber in communication by an outlet port with the burner interior above the fuel pan, a pan in said pilot chamber, an oil supply to said pan and air inlets to said chamber adjacent the pan, the pilot combustion chamber and the outlet therefrom disposed in heated relation to the oil supply and burner, whereby ignited oil in the pan will be supplied with air for combustion from the air inlets and the resulting flame will be projected into the burner to ignite fuel supplied to the latter.

3. The combination with an oil burner of the carburetor type including a pre-mixing and combustion chamber, an oil pan and a fuel supply inlet, of a pilot therefor comprising a miniature burner of the same type with an oil pan and oil and air supplies, the pilot disposed on the side of the burner in heating relation to the oil supplied to the burner proper, whereby the flame from the pilot will be projected into the burner proper above the oil pan to ignite fuel supplied to the latter.

4. The combination of an oil burner of the carburetor type including a pre-mixing and combustion chamber, a fuel pan and a fuel supply inlet, of a pilot therefor comprising a casing having a combustion chamber in communication by an outlet port laterally with the burner interior adjacent the fuel supply to the burner, an oil pan in said pilot chamber, an oil supply to said pan and air inlets to said chamber adjacent the pan on the side opposite the outlet port whereby ignited oil in the pan will be supplied with air for combustion from the air inlets and the resulting flame will be projected laterally into the burner above the fuel pan to ignite fuel supplied to the latter.

In testimony whereof I have hereunto subscribed my name.

BEN VALJEAN.