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FIRE PREVENTION APPARATUS FOR RANGE BURNERS

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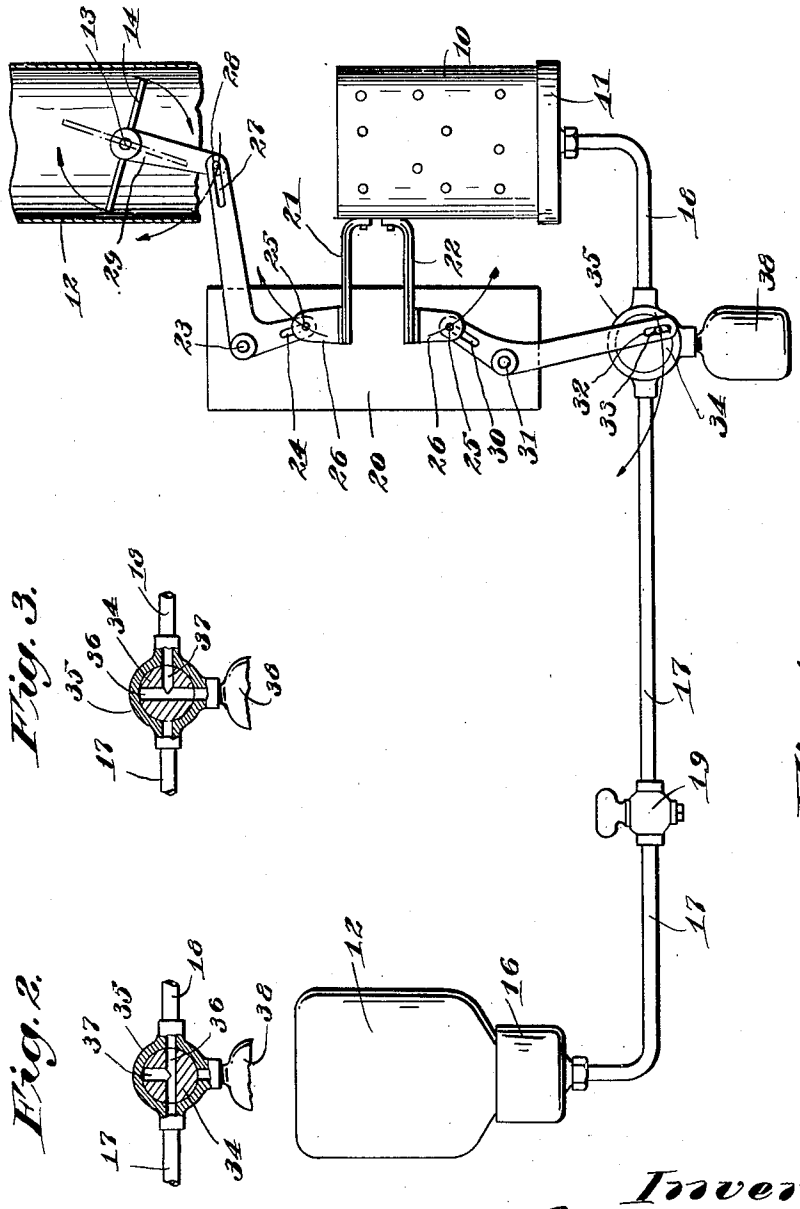


Fig. 1.

Fig. 3.

Fig. 2.

Inventors
Charles Russell Canty.
George A. Jovard.
By James C. Hamilton.
Atty

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FIRE PREVENTION APPARATUS FOR RANGE BURNERS

Charles Russell Canty and George A. Gavard, Winterport, Maine

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1 Claim. (Cl. 158—42.4)

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Our present invention relates to fire prevention apparatus for range oil burners and the like and more particularly to apparatus which controls flooded burners and automatically shuts off the oil supply and bleeds surplus oil from the said burner.

It is a well known fact that range oil burners often become flooded when first lighted. This is often due to oil being fed too fast into the burner before the burner has attained proper combustion temperature.

In many instances serious fires have been started when an oil range has been left unattended for a few minutes and has become flooded while still lighted.

The principal object of our present invention is to produce an improved fire prevention apparatus for range oil burners and the like;

Another object is to produce an improved fire prevention apparatus for range oil burners which will shut off the supply of fresh oil and bleed the surplus from the burner automatically when said burner becomes flooded with burning oil;

Another object is to produce an improved fire prevention apparatus for range oil burners which will not only shut off fresh oil and bleed surplus oil from the burner automatically but at the same time will open the smoke damper in the flue pipe and thereby prevent the burner from smoking up the room from freely burning oil.

Other objects and novel features comprising the construction and operation of our invention will be more apparent as the description of the same progresses.

In the drawings illustrating the preferred embodiment of the apparatus:

Fig. 1 is a schematic diagrammatic side elevation of the apparatus certain portions of which have been broken off and others shown in cross-section to better illustrate the apparatus;

Fig. 2 is fragmentary partial elevation and cross-section showing the bleeder valve in a position to feed oil to the burner, and

Fig. 3 is a similar fragmentary elevation and cross-section showing the bleeder valve in a position which shuts off the oil supply and bleeds the excess oil from the burner.

As previously stated the drawing is schematic and diagrammatic and is not intended to be construed as a complete apparatus including range construction etc.

The construction of range oil burners vary from coal ranges adapted to use oil to those

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built exclusively for oil. All of this is well-known in the trade. Therefore, 10 indicates a conventional oil range burner sleeve which is mounted upon an oil receiving base 11. 12 indicates a smoke flue which connects the combustion portion of a range oil burner with the chimney flue of a building in which is pivoted at 13 a draft damper 14. 15 indicates a fuel container which feeds oil into the receptacle 16 and thence to the supply pipes 17 and 18 to the base 11 of the burner. A conventional shut off valve 19 opens and closes the flow of oil to the burner in the usual manner. 20 indicates a fixed portion of the range either inside of the combustion portion or on the outside of the rang or it may be some other fixed element in the room and adjacent the range.

Attached to the sleeve 10 are two thermostats 21 and 22. For simpler construction the thermostats 21 and 22 could be formed from one U-shaped member. Pivoted at 23 on the fixed member 20 is a bell-crank lever one arm of which is provided with an elongated slot 24 which engages a pin 25 fixed in the bracket 26 which is fixed to the bimetallic thermostat member 21. The other end of the bell-crank lever is also provided with an elongated slot 27 which engages with a fixed pin 28 attached to the damper lever 29. It will thus be seen that when the thermostat 21 is expanded by excessive heat from flaming oil in the burner it will swing in the direction of the arrow causing the bell-crank lever to swing the damper lever in the direction of the arrow and open the damper in the flue pipe 12 thereby permitting smoke from the blazing oil to pass to the chimney flue without smoking up the room in which the range is situated.

The thermostat 22 is also provided with a bracket member 26 and pin 25 which operates in an elongated slot 30 in one leg of a bell-crank lever which is pivoted at 31 to the fixed member 20. The other end of the second bell-crank lever is provided with an elongated slot 32 which is engaged with a pin 33 fixed in a rotatable plug portion 34 of the bleeder valve 35. As shown in Fig. 1 the bleeder valve 35 is located in the oil supply line between the conventional shut-off valve 19 and the base 11 of the burner.

The bleeder valve 35 is provided with a two-way oil passage through the plug member as shown at 36 and 37. When the valve is in the normal position shown in Fig. 1 the ports of the valve correspond to that shown in Fig. 2, but when as a result of overheating of the burner the thermostat swings the plug 34 in the direction

of the arrow, the valve is in the position shown in Fig. 3. In position as shown in Fig. 2 oil from the container can flow to the burner freely when the shutoff 19 is open but when the valve is in the position shown in Fig. 3 the supply of oil from the container 12 is interrupted and in this position excess oil in the burner base 11 may be bypassed to a container 38 thereby preventing the burner from continuing to flame and causing more fire from other objects.

It is to be understood that no attempt has been made to show the proper calibrations of the various parts and it is to be understood that we may vary the proportions and positions of the various parts and substitute equivalents within wide latitude while still remaining within the spirit of the appended claim.

Having thus described our invention, what we claim as new is:

In a range oil burner having a source of oil supply and a perforated burner sleeve forming a part of said burner, a fuel supply line connected with said burner having a two-way valve located in the line and a bleeder receptacle connected to said valve for the purpose of bleeding said burner of excess oil, a bimetallic thermostat member attached at one end to said sleeve, pivoted means engaged with the free end of said thermostat and said valve for the purpose of operating said valve to permit fuel to flow to said burner when the burner temperature is normal and to shut off said fuel supply and bleed said burner when said burner is overheated.

CHARLES RUSSELL CANTY.
GEORGE A. GAVARD.

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