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ODOR CONTROL FOR LIQUID FUEL BURNING STOVES

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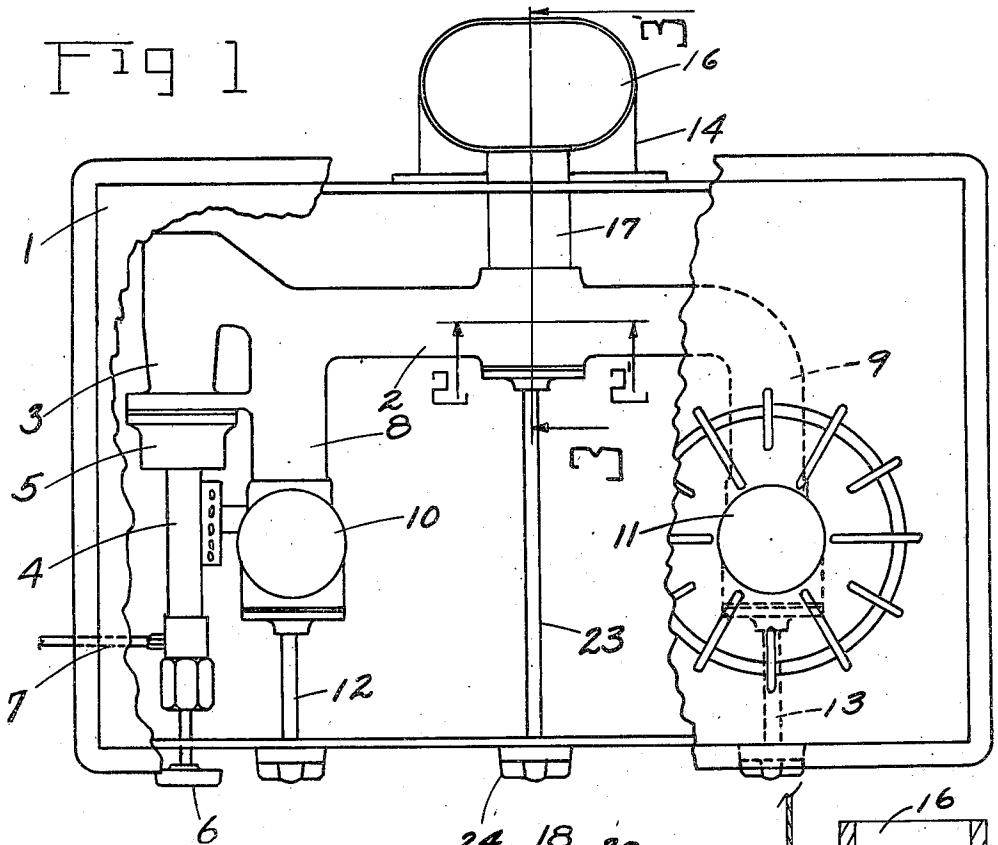
Fig 1



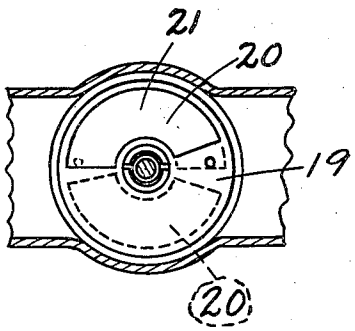


Fig 2

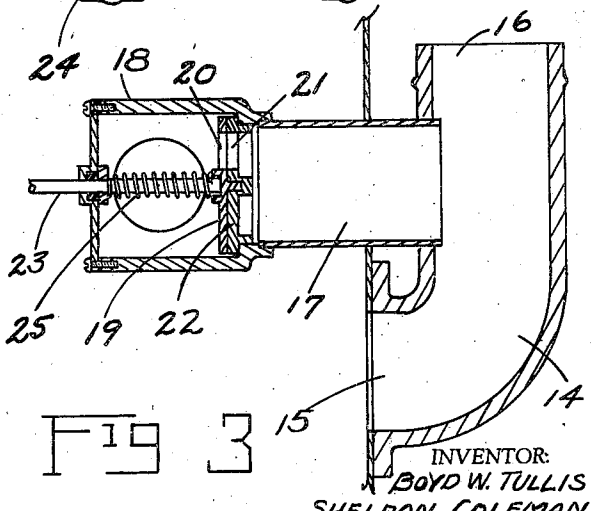


Fig 3

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ODOR CONTROL FOR LIQUID FUEL BURNING STOVES

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4 Claims. (Cl. 158—53)

This invention relates to stoves and particularly to that class in which vaporized liquid fuel is employed as a heating medium. Such stoves usually burn gasoline, kerosene or the like in a vapor form and the fuel passes from a vaporizing generator through a manifold to a burner or burners. When the supply of fuel is cut off (usually at the generator and the burners) the vapor in the manifold condenses and leaves an objectionable odor in the room. We have provided means for dissipating the trapped vapor in the manifold by passing it out through a flue to a chimney or to atmosphere outside the room.

The novelty of the invention will be understood by reference to the following description in connection with the accompanying drawing in which,

Figure 1 is a plan view of a stove constructed in accordance with my invention.

Figure 2 is a cross sectional view on the line 2—2 of Figure 1, and

Figure 3 is a cross sectional view on the line 3—3 of Figure 1.

Referring now to the drawing by numerals of reference, 1 designates the stove frame which may be of any appropriate construction. It carries a manifold 2 having a fuel inlet 3 to receive vaporized fuel from a vaporizing generator 4 through a mixing chamber 5 in a well understood manner. The vaporizing generator is provided with a valve 6 to control the flow of liquid fuel thereinto from a suitable source of supply through a pipe 7. The manifold is provided with legs 8 and 9 delivering vaporized fuel mixed with air to the burners 10 and 11. The burners are shown as provided with control valves 12 and 13.

The structure thus far described is common in many types of stoves. It will be obvious that when the valves 6, 12 and 13 are closed the manifold contains some trapped fuel which will tend to escape into the room and cause objectionable odors. In order to eliminate this tendency we have provided a novel arrangement whereby the manifold can be purged of this objectionable trapped fuel. To this end we have provided a flue 14 which is carried by the stove frame. The flue has an inlet 15 and an outlet 16. The outlet end 16 can be attached to a flue pipe connected to a stack or chimney or discharged into atmosphere outside the room so that there will be a natural flow of air from the room to the outside atmosphere. One of the advantages of having the flue 14 with an open lower end 15 and attaching midway its length to the connection 17 is that the lower part of flue 14 will be adapted to carry off any fumes from the zone outside the manifold. For example the opening 15 can be open to atmosphere adjacent to the burner box so that incoming obnoxious odors passing into 14 through opening 15 will be carried up from the flue. Of course the main feature of the invention is the provision of means for purging the manifold but in some instances there are other zones where it is desirable to carry off obnoxious odors.

Instead of the normal manifold we provide the manifold 2 with a branch conduit 17 which connects to the flue 14. This branch is provided with a valve casing 18 in constant communication with the manifold and the branch 17 is provided with a valve 19 shown as a disc provided with an opening 20 to coincide with an opening 21 in the rigid disc 22. The valve is operated by a stem 23 carrying a knob or button 24 accessible from the front end of the stove and the disc valve 20 is held on its seat by an expansion spring 25, one end of which bears against one end of the valve gauge and the other against the valve. During normal operation the valve 20 is closed as shown in Figure 2 so the stove operates in the usual way. If, however, it is decided to purge the manifold of trapped gases the valve is turned to open position as shown in Figure 3 so that the air flowing up through the flue 14 will create a suction in pipe 17 to draw the accumulated gases from the manifold up through the flue and out through the stack thus eliminating the objectionable odor heretofore mentioned. In actual practice the valve 20 should be opened at the time the burners are shut off so that the trapped gases will be purged from the manifold before they can enter the room in which the stove is located. It will be apparent from the foregoing that liability of objectionable gases entering the room when the stove is shut off will be eliminated.

What we claim is:

1. In a device of the class described a burner manifold, a purging flue, a connection between the manifold and purging flue and a valve in the connection.

2. In a device of the class described a burner manifold, a tubular member connected to the manifold between the burners, a purging flue connected to the tubular member and a valve in the tubular member between the manifold and the purging flue.

3. In a device of the class described a burner manifold, a purging flue having an open lower end and a tubular connection between the manifold and the flue and a valve in the tubular connection.

4. In a device of the class described a burner manifold for supplying vaporized fuel to a burner, a purging flue having its respective ends open and a valve tubular connection between the manifold and the flue, said connection being above the inlet to the flue.

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