No. 858,279. PATENTED JUNE 25, 1907.

J. G. HALL.

AUTOMATIC SHUT-OFF.

APPLICATION FILED MAY 21, 1906.

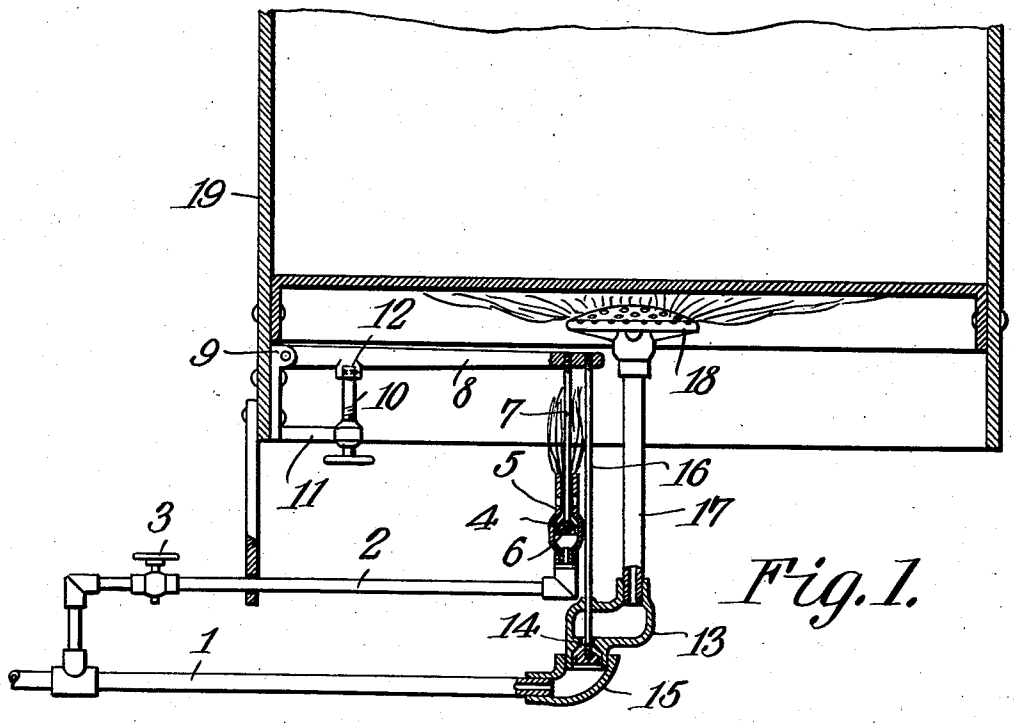

Fig. 1.

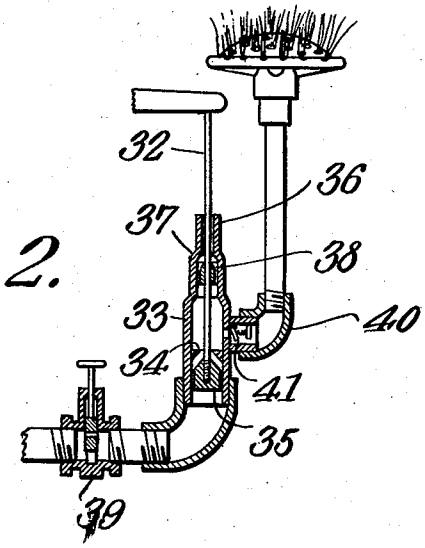

Fig. 2.

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JACOB G. HALL, OF BUCKHANNON, WEST VIRGINIA.

AUTOMATIC SHUT-OFF.

No. 858,279. Specification of Letters Patent. Patented June 25, 1907.

Application filed May 21, 1906. Serial No. 317,996.

To all whom it may concern:

Be it known that I, JACOB G. HALL, a citizen of the United States, residing at Buckhannon, in the county of Upshur and State of West Virginia, have invented a new and useful Automatic Shut-Off, of which the following is a specification.

This invention relates to automatic cut offs for gas burners, and its object is to provide means for automatically cutting off the flow of gas if for any reason the flame should be extinguished.

Another object is to provid a heater having a pilot light which not only serves to ignite the gas escaping from the burner of the heater but also to maintain the flow of gas to the burner, said flow being adapted to be cut off automatically in the event of the extinguishing of the pilot light.

With these and other objects in view, the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings:—Figure 1 is a section through the burner constituting the present invention; and Fig. 2 is an enlarged sectional view of a modification.

Referring to the figures by characters of reference, 1 is a gas supply pipe having a branch 2 provided with a valve 3 and a burner 4 to form a pilot light. The outlet end of the burner is tapered as shown at 5 to constitute a seat for a slide valve 6 arranged at the lower end of a rod 7 adapted to extend through the center of the flame and constituting a thermostat. This rod is connected to a lever 8 fulcrumed at one end, as shown at 9, and adjustably supported by a screw 10 mounted in a bracket 11 and swiveled or otherwise connected to the lever as shown at 12.

The pipe 1 opens into a valve casing 13 having a seat 14 therein adapted to be contacted by a valve 15 disposed at the lower end of a rod 16. This rod lies close to the burner 4 and is connected to the lever 8. This rod is made of a material which will quickly expand when heated. An outlet pipe 17 extends from the casing 13 and has a burner 18 thereon which is so located that gas escaping therefrom will be ignited by the pilot light. The two rods 7 and 16 are so proportioned that both of them will hold the valves 6 and 15 normally upon their seats although both of the valves can be moved from the seats by turning the screw 10 and swinging the lever 8 downward. This will permit gas to escape through the burners and by igniting it at the burner 4 the two thermostats will be expanded and lever 8 can then be returned to its original position without causing the valve to close. The pilot light will, of course, ignite the gas escaping from the burner 18, and if for any reason the pilot light should be extinguished, the thermostats will simultaneously contract and close the valves.

In Fig. 2 has been shown a construction wherein a single thermostat may be employed in connection with a burner and pilot light. With this construction the thermostat 32 extends into casing 33 having a seat 34, and a valve 35 is connected to the end of the thermostat and is adapted to contact with the seat. The pilot light 36 has a valve seat 37 adapted to be closed by a valve 38 on the thermostat. The shut off valve 39 has a small opening therein through which a small amount of gas is free to pass. The pipe 40 extending from the casing 33 to the burner has a valve 41 therein which will not open unless subjected to more pressure than that exerted by the flow of gas to the pilot light. By heating the thermostat both of the valves will be opened and the pilot light will maintain the thermostat extended. The flow of gas, however, will be insufficient to open the valve 41 unless the valve 39 is opened, whereupon the full pressure of the gas will be directed against the valve and open it so that the gas will escape from the bottom.

The preferred form of the invention has been set forth in the foregoing description, but I do not limit myself thereto as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the claims.

What is claimed is:

1. The combination with a burner and a pilot burner adjacent thereto; of a normally closed valve for controlling the flow of gas to the burner, a normally closed valve for controlling the flow of gas to the pilot burner, and a thermostat adapted to be heated by the pilot light to open the valves.

2. The combination with a main burner and a pilot burner adjacent thereto; of a normally closed valve for controlling the flow of gas to the main burner, a thermostat extending from the valve and adapted to be heated by the pilot light to open the valve, a lever constituting a support for the thermostat, and means for adjusting the lever upon its fulcrum.

3. The combination with a main burner and a pilot burner adjacent thereto; of valves for controlling the supply of fuel to the main burner and pilot burner, a lever, means for swinging the lever upon its fulcrum, and thermostats connecting the valves with the lever, said thermostats being adapted to be heated by the pilot light.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JACOB G. HALL.

Witnesses:
R. T. CROWLEY,
WM. T. O'BRIEN.