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C. E. HARRIS.

GAS BURNER.

APPLICATION FILED SEPT. 26, 1903.

NO MODEL.

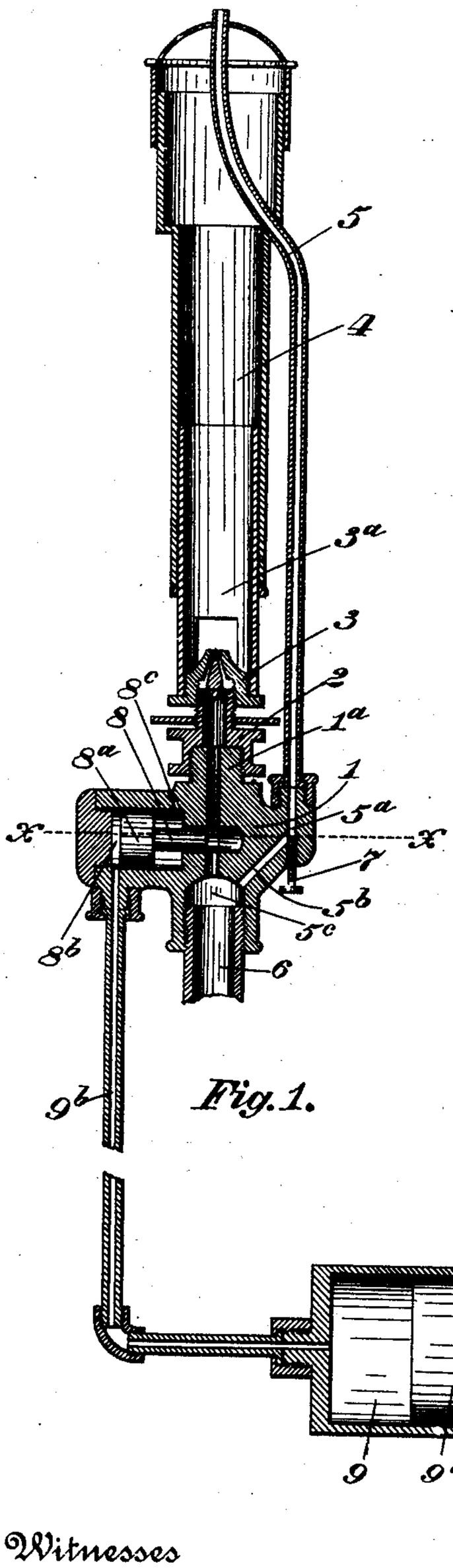

Fig. 1.

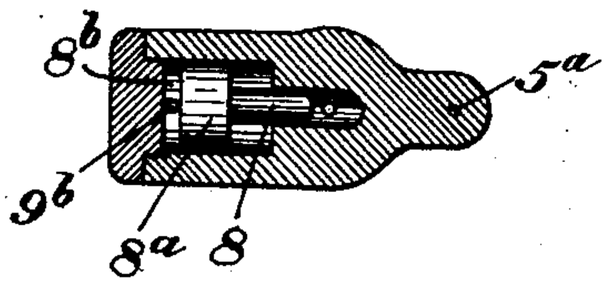

Fig. 2.

Witnesses

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No. 765,339. Patented July 19, 1904.

UNITED STATES PATENT OFFICE.

CHARLES E. HARRIS, OF COLUMBUS, OHIO.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 765,339, dated July 19, 1904.

Application filed September 26, 1903. Serial No. 174,755. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. HARRIS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide an improved igniter for gas-burners and economical means for controlling at a distance remote from the burner the main supply of illuminating-gas at such burner.

The invention is embodied in the construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of the improved burner and means for controlling the illuminating supply. Fig. 2 is a horizontal sectional view on the line *x x*, Fig. 1.

In the views, 1 designates the main valve-casing. This is made with a threaded boss 1^a, to which is applied a valve-seat coupling 2, supporting an adjustable valve, the mixer, and the burner-tube. The adjustable valve and the mixer-tube are designated 3 and 3^a, respectively, and they are adapted to be turned together on the coupling 2 to control the flow of the main illuminating supply of gas, as usual.

4 designates the burner-tube, which has a telescopic connection with the mixer-tube, the latter being freely rotatable in the former.

5 designates the pilot or igniter tube. This is coupled at its lower end with the main valve-casing and takes a supply of gas through passages 5^a and 5^b in the main casing, the passage 5^b having its intake from a chamber 5^c above the junction of the service-pipe 6 and the main casing below the seat of the valve for opening and closing the main supply. The flow of gas through the passages 5^a and 5^b can be controlled by means of a screw-valve 7. The igniter-tube is shown to extend upward outside the mixer-tube and then into and through the burner-tube, with its upper extremity or opening located slightly above the center of the burner-tip, so as not to interfere with the operation of the mixer and regulator.

8 designates a valve for opening and closing the main or illuminating supply of gas to the burner. This is of the rectilinear reciprocating variety, consisting of a smooth cylindrical plug working in a correspondingly-shaped seat intersecting the passage for the main supply in the valve-casing.

8^a designates a piston on the end of the valve 8, said piston working in an air-chamber 8^b in the valve-casing. An air-vent 8^c into the chamber 8^b at its inner end is provided.

9 designates an air-cylinder, in which works as air-tightly as practicable a piston 9^a. Connecting the cylinder 9 and the outer side of the chamber 8^b is a tube 9^b, the couplings of said air-tube being made as air-tight as practicable. The cylinder 9 and piston 9^a will usually be set in the wall of a room or hall within convenient reach of the occupants of the house, and the gas-burners will of course be located in the usual places or any desired places. The piston 9^a is furnished with a stem 9^c and knob 9^d, by means of which latter the piston can be operated.

In practice when the piston 9^a is pulled out air is exhausted from the outer end of the chamber 8^b and the main illuminating supply-passage consequently opened, and when the piston 9^a is pushed in the consequent pressure in the outer end of the chamber 8^b closes said main illuminating supply-passage. The igniter or pilot supply will usually be adjusted to be safely constant and will be allowed to burn the year round. By the means described, therefore, a room in any part of the house can be quickly illuminated or darkened by simply operating the knob 9^d. The inconvenience and dangers of groping in the dark to find and strike matches will be avoided. The apparatus when once installed requires no trouble or expense for its maintenance.

The principal advantage of the described construction of burner is that it is not necessary to specially construct the main illuminating supply-valve with a view to obtaining an igniter supply. The igniter supply can be regulated and made constant and is not affected in one way or another by the operation of

the main illuminating supply-valve, and, conversely, the main supply-valve is independent of the igniter supply. There will be little or no likelihood of the igniting-jet being extinguished by puffs of air, because the burner-tip will usually be inclosed in a mantle of the Welsbach kind, as well as by the usual chimney or globe. If need be, the jet of the igniter can be below the burner-tip; but it is better to have it where it may be visible to the occupants of the house.

What I claim, and desire to secure by Letters Patent, is—

1. In combination with a gas-burner having a main supply opening or passage and a main valve therein for entirely opening and entirely closing the passage of gas through said opening, an independent combined adjustable valve and mixer for said main supply, an igniter supply-tube connected at its lower end with the main supply below the main valve and passing externally around said adjustable valve and mixer and terminating at its upper end near the main-burner tip.

2. In combination with a gas-burner having a main supply opening or passage and a main valve therein for entirely closing, and entirely opening the passage of gas through said opening, an independent combined adjustable valve and mixer for said main supply, a burner-tube telescoping with the said mixer, an igniter supply-tube connected at its lower end with the main supply below the main valve and passing externally around said adjustable valve and mixer and into the burner-tube and terminating at its upper end near the main-burner tip.

3. The combination with a main gas-burner having an igniter, and a rectilinearly-moving valve for entirely opening and entirely closing the main supply of gas to the main burner, a pneumatically-operative piston on said valve, a chamber in which said piston works, and a remote air exhausting and supplying device for operating said piston.

4. The combination with a main gas-burner having an igniter, and a rectilinearly-moving smooth cylindrical valve for entirely opening and entirely closing the main supply of gas to said main burner, an enlarged piston on said valve, an independent chamber in which said piston works, an air-vent to one side of said chamber and means for supplying and exhausting air from the other side of said chamber.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. HARRIS.

Witnesses:
BENJ. FINCKEL,
S. W. LATHAM.