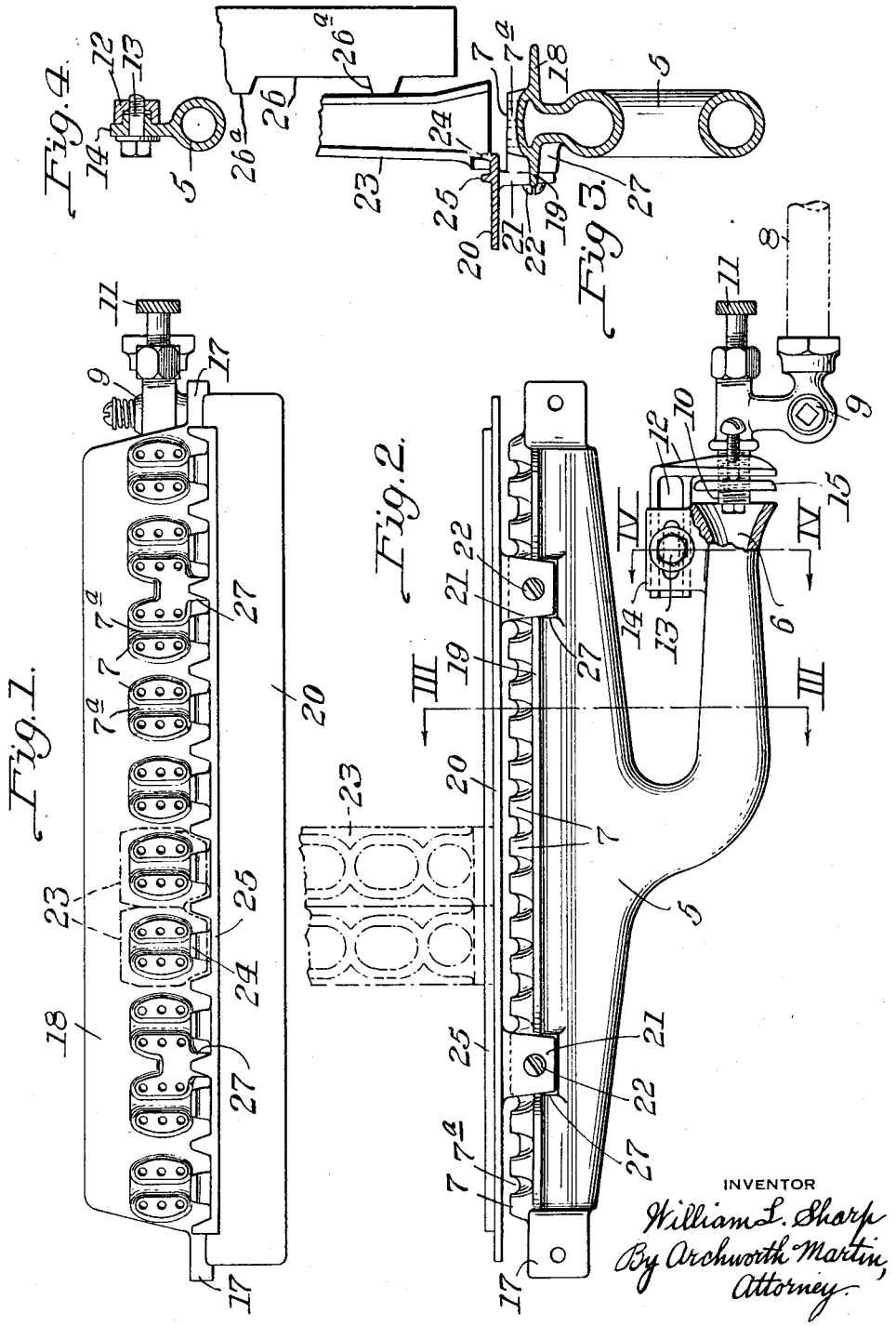
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W. L. SHARP

GAS BURNER

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UNITED STATES PATENT OFFICE.

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GAS BURNER.

Application filed March 10, 1927. Serial No. 174,150.

My invention relates to gas burners and particularly to those suitable for employment with burner tubes or radiants.

One object of my invention is to provide a burner having burner heads or orifices so arranged that there is a better mixture and combustion of gas and air.

Another object of my invention is to provide a burner having means for preventing the radiation of heat vertically downward to the floor.

A further object of my invention is to provide an improved form of connection between a mixing valve and a burner.

Still another object of my invention is to simplify and improve generally the structure and operation of gas burners.

One form which my invention may take is shown in the accompanying drawing, wherein Figure 1 is a plan view of a burner and radiant support; Fig. 2 is a side elevational view of the same; Fig. 3 is a sectional view taken on the line III—III of Fig. 2, and Fig. 4 is a sectional view taken on the line IV—IV of Fig. 2.

In the drawing, I have shown a burner having a body portion 5, an inlet 6, and a series of burner heads or orifice members 7. The burner is supplied from a gas line 8 past a main control valve 9 and a needle valve 10, the needle valve being operated by a thumb screw 11, in somewhat the usual manner.

A bracket 12 is supported by and has screw-threaded adjustment with respect to the valve 10. A bolt 13 that extends through a boss 14 of the burner 5 serves to connect the parts 12 and 14 together and permit adjustment of the burner 5 relative to the needle valve 10 in a longitudinal direction. A disk 15 has threaded connection with the valve 10 and is rotatable to effect adjustment thereof longitudinally of the valve, so as to permit the proper amount of air to enter the intake end 6 of the burner.

The burner 5 is provided with attaching lugs 17 by means of which it may be mounted upon a stove frame, in the manner shown in the Sharpe Patent #1,546,945, for example. Since the frame or body portion of the stove constitutes no portion of the present invention, a detailed description thereof is unnecessary. The burner 5 is provided with wing portions 18 and 19 that prevent reflection of heat downwardly to points beneath the stove.

A burner plate 20 is secured to the burner 5 by means of attaching lugs 21 and screws 22, and supports burner tubes or radiants 23, being provided with upturned tongues 24 and a rib 25 that form grooves to support the front lower edges of the tubes. The tubes are supported against rearward tilting movement, by lugs or stops 26ª, that are formed on a back wall 26 that may be mounted in the framework of the stove (not shown) in the manner shown in the said patent.

The burner heads 7 are each provided with six holes or orifices for the passage of gas, a groove 7ª being formed in each of the heads, so that air may readily enter between the streams of gas flowing from each burner head, and there being three streams of gas at each side of the respective grooves 7ª. A boss 27 is provided adjacent to each end of the burner, in order to serve as an abutment for one of the fastening lugs 21 of the burner plate.

By reference to Fig. 3, it will be seen that the lower ends of the tubes 23 are substantially unobstructed and that the rear lower walls thereof are disposed in spaced relation to the lower edge of the fire back 26, so that air for secondary combustion may flow upwardly between the adjacent walls of the fire back and the burner tubes.

From the foregoing it will be seen that I provide a structure wherein it is possible to quickly and accurately connect the burner to a gas line, by reason of the relatively adjustable brackets 12 and 14 carried by the gas valve and the burner respectively; that waste through reflection of heat to points beneath the stove is avoided by reason of the shields 18 and 19; that an efficient air mixture is obtained through provision of the grooves 7ª and elevation of the burner tubes 23 above the burner heads, with their lower ends substantially unobstructed, and the tubes are supported at their lower ends against displacement in horizontal directions, by the small tongues 24 which, by reason of the flared lower end of the tube, do not materially interfere with the flow of air into the tube.

I claim as my invention:—

Burner structure comprising a burner

head having a plurality of orifices disposed longitudinally thereof, a fire tube support disposed above and to the front of the said orifices, a series of tongues extending from the rear edge of said support, each adapted to engage the lower edge of a burner tube to support the same, and each being of small width relative to the internal diameters of the tubes, and a tube-supporting member disposed above and to the rear of the burner head, for preventing rearward tilting of fire tubes.

In testimony whereof I, the said WILLIAM L. SHARP have hereunto set my hand.

WILLIAM L. SHARP.