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J. P. SHAW ET AL
LOW PRESSURE GAS BURNER
Filed Feb. 28, 1922

1,497,954

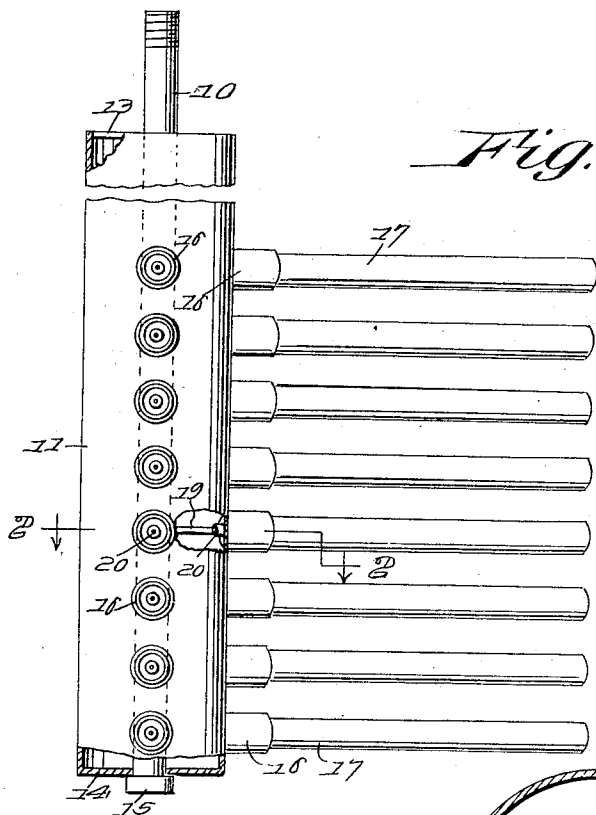


Fig. 1.

Fig. 3.

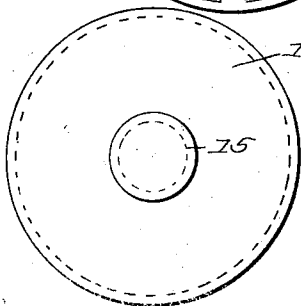
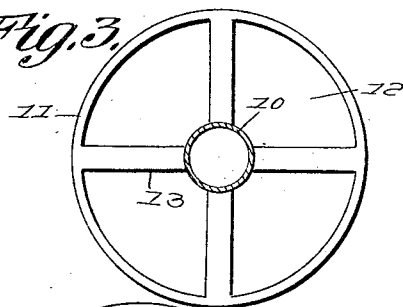


Fig. 4.

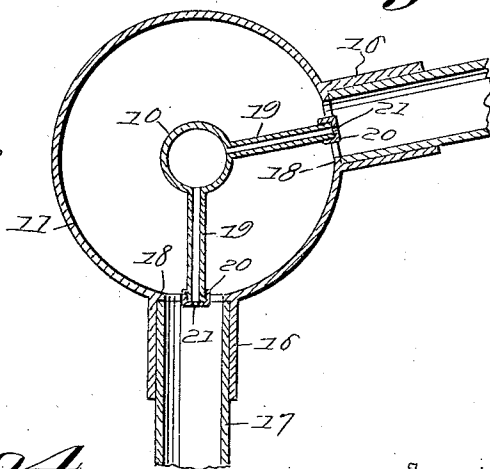


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOSEPH P. SHAW, JOSIAH WILL SPURGIN, AND SIMEON D. LYNN, OF OKMULGEE,
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LOW-PRESSURE GAS BURNER.

Application filed February 28, 1922. Serial No. 540,041.

To all whom it may concern:

Be it known that JOSEPH P. SHAW, JOSIAH WILL SPURGIN, and SIMEON D. LYNN, citizens of the United States of America, residing at Okmulgee, in the county of Okmulgee and State of Oklahoma, have invented new and useful Improvements in Low-Pressure Gas Burners, of which the following is a specification.

The object of the invention is to provide a gas burner suitable for use under conditions in which the pressure is low whereby a saving or economy in the consumption of the fuel may be secured through a means involving the presentation thereof at the combustion point with a proper admixture of air to insure complete combustion; and with this general object in view, supplemented by others which will appear in the course of the following description the invention consists in a construction, combination and relation of parts of which a preferred embodiment is shown in the accompanying drawing, wherein:

Figure 1 is a plan view partly in section of a burner embodying the invention.

Figure 2 is a transverse sectional view of the same on the plane indicated by the line 2—2 of Figure 1.

Figures 3 and 4 are opposite end views of the casing.

The burner consists essentially of a feed pipe 10 adapted for connection with the gas line and extended axially through a casing 11 of cylindrical form open at one end as shown at 12 to provide for an unobstructed air inlet spanned by a spider 13 serving to preserve a proper relation of the feed tube and casing and closed at the opposite end by a head 14 having a central opening for the reception of the adjacent end of the feed tube which in turn is closed by a removable cap 15.

The casing is provided with socket sleeves 16 for the reception of the burner tubes 17 and are obstructed at their inner ends to prevent the inward displacement of the burner tubes by seats or flanges 18 formed by the inward extension of the wall of the casing, and radiating from the feed tube in axial alignment with the sockets 16 are nipples 19 arranged at their outer ends in the planes of the inner ends of the sockets and fitted with

caps 20 in which are formed small orifices 21 for the escape of the gas in jets designed to axially traverse the burner tubes and induce a current of air therethrough from the casing so as to produce an effective mixture of the gas and air before reaching the outlet ends of the burner tubes and thereby insure a complete combustion at said outlets.

Obviously the burner tubes may readily be replaced when burned out or otherwise rendered inoperative or ineffective and likewise the other parts of the burner may be readily disconnected for cleaning or repair, the feed tube and casing being made of any desired length to suit the dimensions of the furnace in connection with which the same may be used and any desired number of burner sockets being applicable to the same a practical spacement thereof being longitudinally at a distance of four and nine sixteenths inches from center to center but obviously being variable in this respect to suit local conditions and especial requirements in service.

The feed tube which constitutes a gas chamber of relatively large diameter and hence capacity as compared with the nipples which convey the gas from said feed tube into the burner tubes so as to prevent back firing or combustion in the casing, may and preferably is of a diameter for example of two inches whereas the nipples may consist of one quarter inch tubing and with the orifices for the outlet of the gas consisting of a hole of three thirty seconds inches in diameter drilled in the center of the cap with which the nipple is fitted at its outer end.

Having described the invention, what is claimed as new and useful is:—

1. A low pressure gas burner having a tubular casing provided with radially disposed open ended sockets and a gas feed tube disposed axially in the casing and provided with radially disposed nipples arranged respectively in axial alignment with said sockets and having reduced outlet orifices at their outer extremities, the casing being open and closed respectively at its opposite ends, and burner tubes removably fitted respectively in said sockets.

2. A low pressure gas burner having a tubular casing provided with radially dis-

posed open ended sockets and a gas feed tube disposed axially in the casing and provided with radially disposed nipples arranged respectively in axial alignment with
5 said sockets and having reduced outlet orifices at their outer extremities, the inner ends of the sockets being provided with invading seats or flanges and burner tubes fitted in the sockets in contact with said seats or flanges. 10

In testimony whereof they affix their signatures.

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