W. L. BROOKS.

GAS BURNER.

APPLICATION FILED APR. 6, 1920.

1,371,144. Patented Mar. 8, 1921.

Fig. 1.

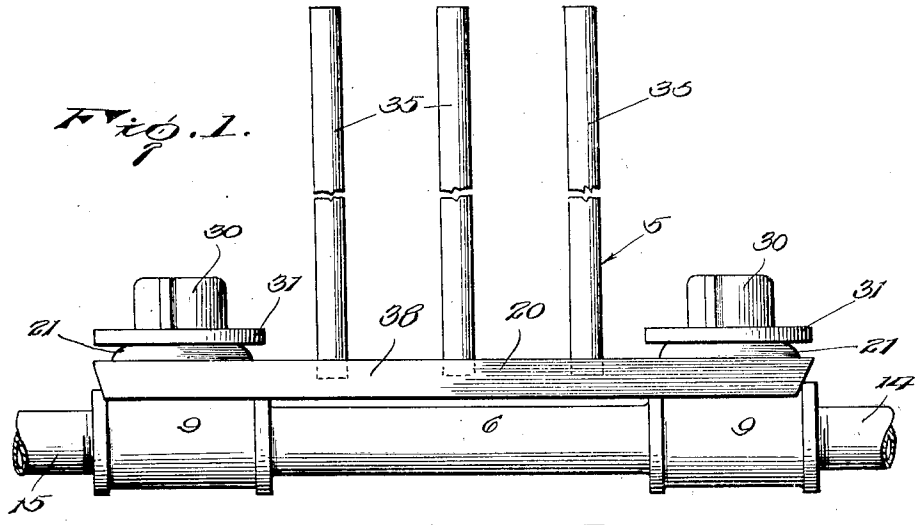


Fig. 2.

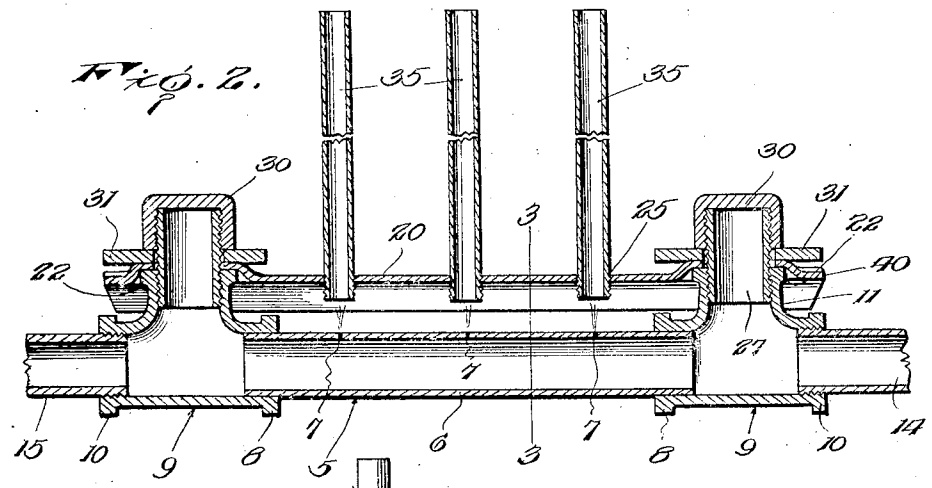


Fig. 3.

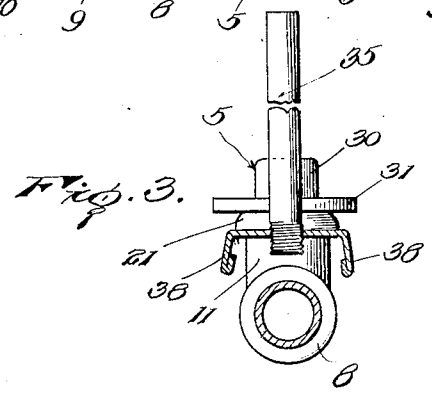
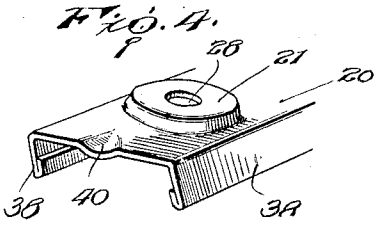


Fig. 4.



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GAS-BURNER.

1,371,144. Specification of Letters Patent. Patented Mar. 8, 1921.

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To all whom it may concern:

Be it known that I, WILLIAM L. BROOKS, a citizen of the United States, residing at Ardmore, in the county of Carter and State of Oklahoma, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to improvements in gas burners of the Bunsen type.

An important object of this invention is to provide a gas burner having novel means whereby the same may be adjusted for regulating the mixture of the air with the gas.

A further object of the invention is to provide a gas burner of the Bunsen type having novel means whereby standard pipe fittings may be employed to a great extent in lieu of special castings.

A further object of the invention is to provide a gas burner of the class described which when properly adjusted will require but a small amount of attention.

A further object of the invention is to provide a gas burner of the class described which is simple, desirable in use and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a fragmentary side elevation of a burner embodying the invention,

Fig. 2 is a central vertical longitudinal section through the same,

Fig. 3 is a vertical transverse section taken on line 3—3 of Fig. 2,

Fig. 4 is a fragmentary perspective of a support embodied in the invention.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 5 generally designates the improved burner which comprises a distributer pipe 6 having a plurality of spaced radially extending apertures 7 which form jets for the discharge of gas. The end portions of the distributer pipe 6 are threaded into one of the arms 8 of a pair of T-couplings 9. The T-couplings 9 are of standard construction and in addition to the inner arms 8 are provided with arms 10 and upwardly extending arms 11. In assembling the improved burner, the end portions of the pipe 6 may be threaded into the arms or branches 8 of the T-couplings and the connections may be subsequently soldered so as to prevent leakage of gas.

The improved burner may be arranged in a gas line or at one end of the same and in the latter case the branch 10 of one of the couplings is provided with a closure plug. In this case, however, the burner is interposed in a gas line and the arms 10 therefore have threaded engagement with feed pipes 14 and 15 extending from a source of gas supply.

An elongated plate 20 is arranged above the distributer pipe 6 in spaced parallel relation to the same and is provided at points spaced inwardly from its ends with struck up annular shoulders 21 mounted flatly upon the upper ends of the arms or branches 11 of the T's 9 and engaging annular shoulders 22 surrounding the upper ends of the branches 11 and formed integral therewith. More specifically, it might be stated that the sides of the annular shoulders 21 engage the adjacent portions of the annular shoulders 22 for accurately alining a plurality of interiorly screw-threaded openings 25 in the plate 20 with an equal number of gas jets or apertures 7 formed in the distributer pipe 6. Nipples 27 are threaded into the arms or branches 11 of the T-couplings and also extend through openings 28 surrounded by the struck up annular shoulders 21. Caps 30 are threaded onto the outer ends of the nipples and serve to press a washer 31 disposed between the plate and the cap into firm engagement with the plate. By this construction a gas-tight connection is provided and the plate 20 is firmly held in position so that the interiorly screw-threaded openings 25 are accurately alined with the discharge jets 7.

As clearly illustrated in Fig. 2, a plurality of burner tubes 35 have their inner portions threaded through the openings 25 and arranged directly above the jets 7 so that the gas upon being discharged from said jets will flow through the tubes. The inner ends of the tubes are of course spaced from the jets so as to allow a quantity of air to be mixed with the gas upon entering the tubes. It will be noted that the tubes are entirely open and unobstructed so that the flame produced by the combustion of the gases at the outer ends of the tubes will give off an intense heat. The tubes 35 may

be rotated toward or from the jets 7 by rotating the same for varying the quantity of air mixed with the gas. The edge portions of the plate 20 are extended downwardly to form flanges 38 arranged on opposite sides of the distributer pipe and the inner ends of the tubes. The particular function of the downwardly extending flanges is to protect the gas upon being discharged from the jets from strong drafts and to prevent particles of dirt from lodging in the jets. The free edge portions of the flanges 38 thus formed are extended inwardly as illustrated in Fig. 3, so as to present a rounded lower edge whereby the hands are prevented from being cut as the result of engaging the flanges in applying or removing the device.

With reference to Fig. 4 it will be noted that the end portions of the plate 20 are provided between their longitudinal edges with the ribs 40 which serve as a means for reinforcing the plate.

Having thus described the invention, what is claimed as new is:

1. A gas burner comprising a distributer pipe having jets, couplings connected to the ends of said pipe, a plate mounted upon said couplings, and burner tubes carried by said plate, the longitudinal edge portions of said plate being extended downwardly thereby constituting protecting flanges.

2. A gas burner comprising a distributer pipe having jets, couplings connected to the ends of said pipe and provided with upwardly extending arms, a plate having struck-up annular shoulders surrounding and engaging the terminal portions of said upwardly extending arms, and burner tubes carried by said plate and alined with said jets.

3. A gas burner comprising a distributer pipe having a plurality of spaced jets, couplings connected to the ends of said distributer pipe and having upwardly extending arms provided with annular shoulders, a plate formed adjacent its ends with annular shoulders engaging the annular shoulders of said upwardly extending arms, nipples extending through the end portions of said plate and threaded into said upwardly extending arms, washers surrounding said nipples and engaging the adjacent portions of said plates, caps threaded on said nipples and engaging said washers for pressing the same firmly into engagement with the adjacent portions of said plate, and burner tubes carried by said plate.

4. A gas burner comprising a distributer pipe having discharge jets, T-couplings connected to the ends of said distributer pipe and having upwardly extending arms provided with annular shoulders, a plate having its end portions mounted on said upwardly extending arms and provided with annular shoulders engaging the annular shoulders formed on said upwardly extending arms, nipples extending through said plates and threaded into the upwardly extending arms of said T-couplings, caps threaded on said nipples, and burner tubes adjustably carried by said plates, said plate being formed with longitudinally extending flanges.

5. A burner comprising a distributer pipe, T-couplings connected to the ends of said pipe, feed pipes connected to said T-couplings and having communication with said distributer pipe at opposite ends of the same, said T-couplings being provided with upwardly extending arms having annular shoulders, a plate having its end portions mounted upon said upwardly extending arms and formed with struck up annular shoulders surrounding and engaging said first named annular shoulders for positioning said plate, said plate being provided with a plurality of spaced screw-threaded openings; burner tubes having their inner end portions threaded through said screw-threaded openings, and means to secure said plates to said upwardly extending arms, the longitudinal edge portions of said plates being extended downwardly to form flanges on opposite sides of said tubes.

In testimony whereof I affix my signature.

WILLIAM L. BROOKS. [L. S.]