J. B. SHERIDAN.

BURNER.

APPLICATION FILED SEPT. 28, 1920.

1,394,228. Patented Oct. 18, 1921.

FIG.1.

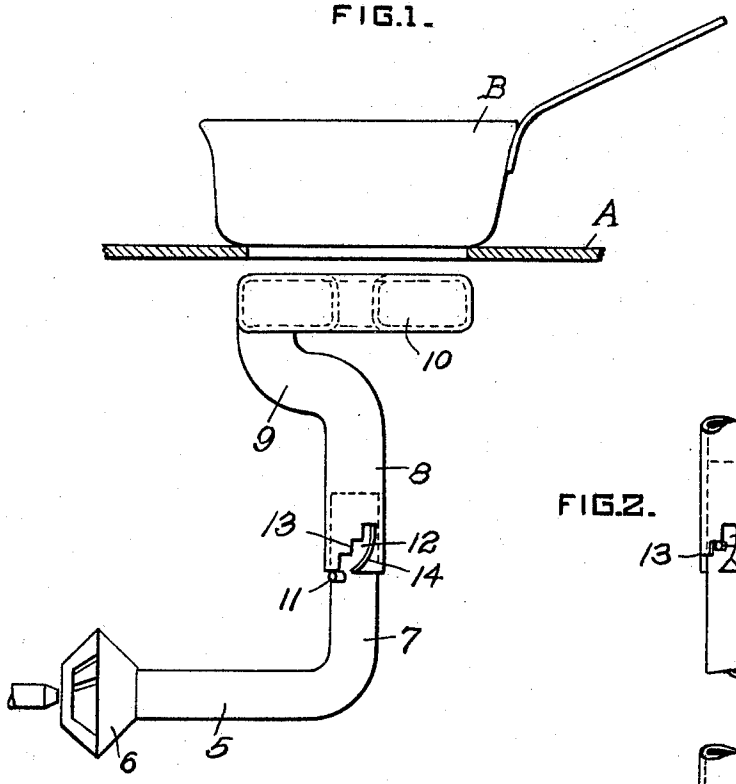


FIG.2.

FIG.3.

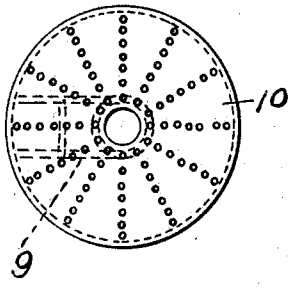
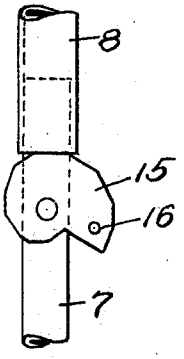


FIG.4.



WITNESSES

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UNITED STATES PATENT OFFICE.

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BURNER.

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To all whom it may concern:

Be it known that I, JAMES B. SHERIDAN, a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Burners; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to improvements in gas burners, and particularly to burners used in gas cooking ranges.

It is a matter of common experience to users of gas stoves, particularly those users dependent on natural gas, that the pressure in the gas supply lines varies to such an extent that with the stove burner valves fully open only a small flame can be obtained. It has been found by experiment that the most efficient heating of a gas flame in a stove burner is obtained by having the receptacle to be heated a small fraction of an inch above the tip of the flame. A difficulty encountered in the usual form of burner is that it is constructed so as to give efficient heating at ordinary pressures, but cannot be rendered effective when the pressure of the supply falls below (or rises above) the ordinary or normal pressure.

It is the primary object of the present invention to provide a burner adaptable for cooking ranges which may be easily and simply moved with relation to the support for holding a receptacle to be heated in such manner that the burner may be maintained at a position beneath the receptacle most suited for giving the most efficient result at varying pressures, and thus compensate to a great extent for the variations in pressure in the supply line.

My invention is also adapted for use when the gas pressure in the supply is normal but the valve or cock controlling the flow of gas to the burner is not wide open. By proper adjustment of the burner, an economy in fuel consumption coupled with higher efficiency may be effected.

My invention is shown in the accompanying drawings, in which,

Figure 1 is a side elevation of a form of my invention, showing it adjusted for low supply pressure or at a position where the valve (not shown) is only partially open;

Fig. 2 is a similar view of the adjusting elements showing the burner tube in position for normal or nearly normal supply;

Fig. 3 is a top view of the burner; and

Fig. 4 shows a modification which may be used.

In the drawings, A represents diagrammatically the top of a stove provided with a burner opening, and B represents a kettle or receptacle to be heated.

Supported in any desired way beneath the top A of the stove is a mixer tube 5 having a mixer 6 and a vertical portion 7. Telescoping over the vertical end 7 of the mixer pipe 6 is a burner pipe 8 having an eccentric or "goose-necked" portion 9, to the upper end of which is supported an air-ring burner 10.

Secured a suitable distance below the top of the vertical portion 7 of the mixer pipe 6 is a projecting pin 11. The lower end of the telescoping part of the burner tube 8 is provided with a helical slot 12, the upper edge 13 of which is provided with steps, while the lower edge 14 is smooth. The pin 11 is adapted to engage the bottom of the burner tube, as shown in Fig. 1, to hold the burner close to the receptacle when the gas pressure is very low, or the control valve is turned to provide a low flame. By turning the burner tube 8, the pin 11 may be brought into engagement with one of the horizontal edges or flat surfaces of the stepped portion 14, as shown in Fig. 2, and thus provide for intermediate adjustment between extreme low pressures and extreme high ones, the end of the slot forming the adjustment for use with the highest pressures.

By reason of the goose-neck or eccentric portion 9 of the burner tube, the ring burner, which is desirable for use in stoves because it permits passage of air up through the middle of the burner, may always remain centered beneath the burner opening in the top A, and concentric with the vertical axis of the sliding connection.

In the modification shown in Fig. 4, I have shown similar telescoping mixer and burner tubes, but instead of using a slot and pin as previously described, I use a convolute disk 15 having its edges flattened to form steps, which disk is pivoted to the vertical portion 7 of the mixer tube. The lower end of the burner tube 8 rests on the uppermost of the flat surfaces or steps on the edge of disk 15. By turning the disk 15, for which purpose a button 16 may be provided, the burner tube may be raised or lowered.

Other modifications and changes may be

suggested, and I do not limit myself to the exact construction and arrangement of parts described in the embodiments shown in the drawings, nor do I limit the application of my invention to use in cooking stoves, as obviously it may be useful in other heating devices.

What I claim is:

1. An adjustable burner for stoves comprising a mixing tube, a burner tube telescoping with the mixing tube, an eccentric portion on the burner tube supporting a ring burner in such manner that the ring burner may be always centered over the telescoping connection, and means for holding the burner tube in any one of a plurality of adjusted positions.

2. A burner comprising a burner ring, a burner tube connected to the ring, a mixer tube communicating with the burner tube through a vertically adjustable connection, means for holding the burner tube in any one of a plurality of adjusted positions, and means in the burner tube for holding the ring burner concentric with the vertical axis of the adjustable connection.

3. A burner comprising a vertically movable burner tube and a stationary mixer tube having telescopingly connected end portions, and means on one of said tubes having a plurality of flat surfaces adapted to engage means on the other tube to maintain the vertically movable burner tube in any one of a plurality of different vertical positions.

4. A burner comprising a vertically movable burner tube and a stationary mixer tube having telescopingly connected end portions, means on one of said tubes having a movable series of successive step portions thereon, each of which portions when in operative position holds the burner tube in a different vertical position, and means on the other tube for engaging that step of the series which is in operative position, whereby the burner tube may be selectively held in a plurality of different positions.

5. A burner comprising a vertically movable burner tube and a stationary mixer tube, a sliding telescoping connection between the burner tube and mixer tube, the telescoping end of the burner tube being provided with a helically arranged slot, a pin on the mixer tube adapted to engage the edges of the slot, and means on one edge of the slot adapted to be brought into selective engagement with said pin to support the burner tube in any one of a plurality of different vertical positions.

6. A burner comprising a vertically movable burner tube and a stationary mixer tube, a sliding telescoping connection between the burner tube and the mixer tube, the telescoping end of the burner tube being provided with a helically arranged slot, a pin on the mixer tube adapted to engage the edges of the slot, and a series of steps arranged on the upper edge of said helical slot, said steps being adapted for selective engagement with the pin to support the burner tube in any one of a plurality of different vertical positions.

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

JAMES B. SHERIDAN.

Witnesses:
WM. H. PARMELEE,
LOIS WINEMAN.