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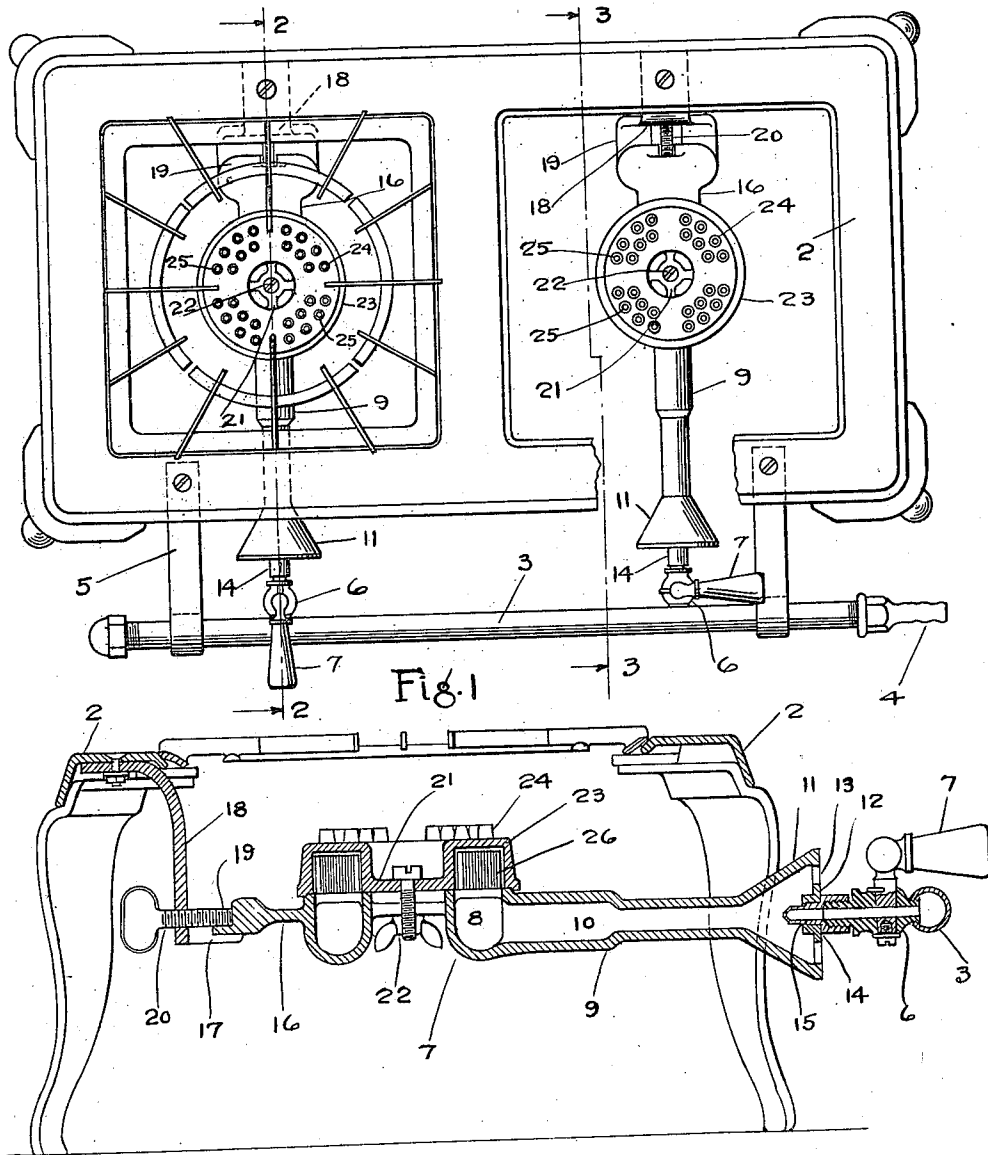


Fig. 1

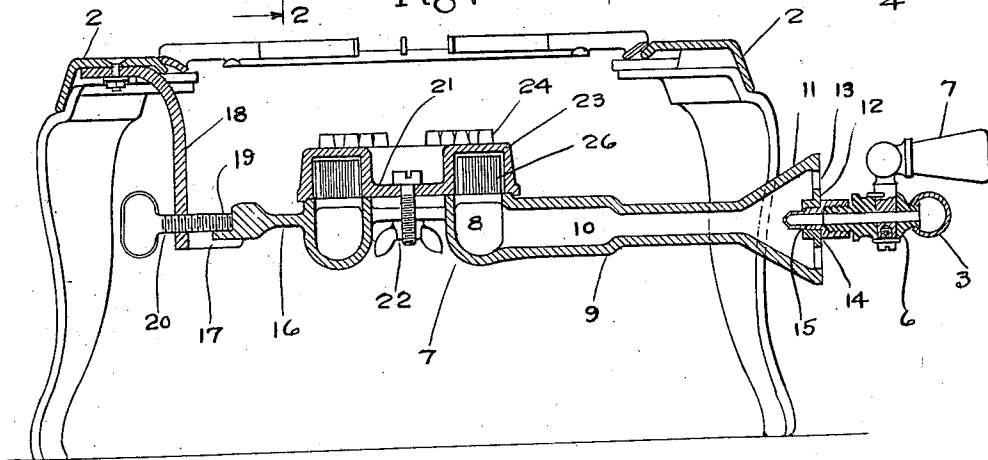


Fig. 2

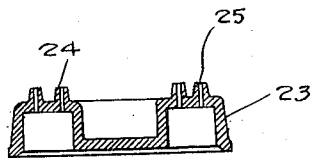


Fig. 4

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Patented Sept. 5, 1922.
2 SHEETS—SHEET 2.

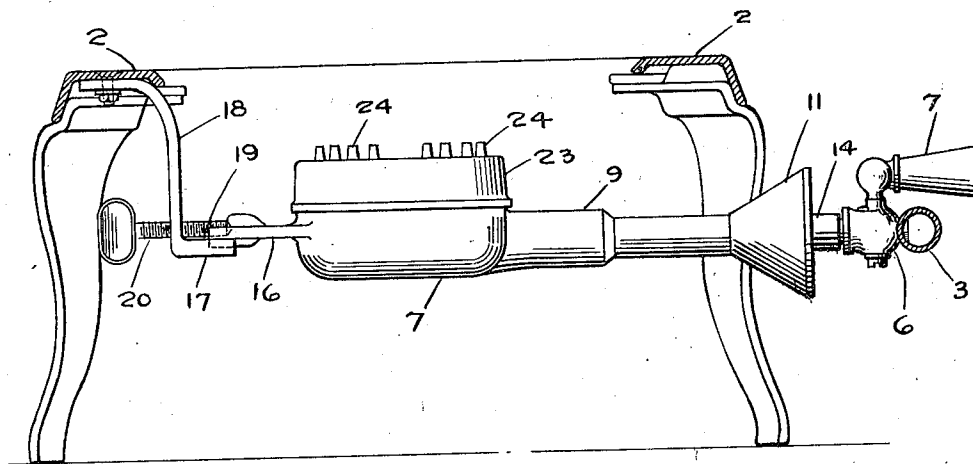


Fig. 3

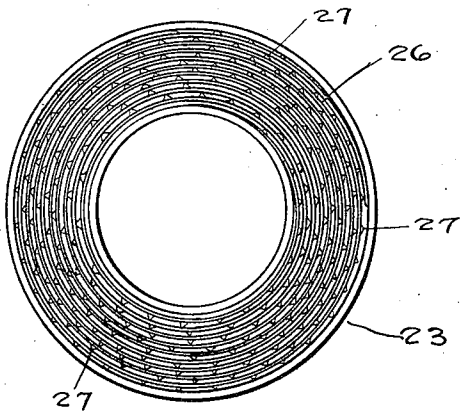


Fig 5

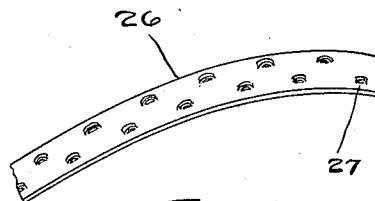


Fig 6

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UNITED STATES PATENT OFFICE.

CLAUD J. CLEFTON, OF OWATONNA, MINNESOTA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE CLEFTON COMPANY, OF OWATONNA, MINNESOTA, A CORPORATION OF MINNESOTA.

STOVE BURNER.

Application filed May 31, 1921. Serial No. 473,711.

To all whom it may concern:

Be it known that I, CLAUD J. CLEFTON, a citizen of the United States, resident of Owatonna, county of Steele, State of Minnesota, have invented certain new and useful Improvements in Stove Burners, of which the following is a specification.

The object of my invention is to provide a burner for cooking purposes using a gas, preferably acetylene, the burner being mounted in such a way that it can be easily and quickly detached from the stove for cleaning or other purposes.

A further object is to provide a burner of improved construction in which provision is made for spreading and distributing the gas flowing through the burner and preventing back-fire or popping of the gas in the burner.

Other objects of the invention will appear from the following detailed description.

In the accompanying drawings forming part of this specification,

Figure 1 is a plan view of a stove and burner embodying my invention,

Figure 2 is a sectional view on the line 2-2 of Figure 1,

Figure 3 is a sectional view on the line 3-3 of Figure 1,

Figure 4 is a detail view of the upper portion of the burner,

Figure 5 is a view of a portion of the burner, showing the gas spreading or distributing device therein,

Figure 6 is a detail view of a portion of this distributing device.

In the drawing, 2 represents the frame of the stove. I have shown the stove equipped with two burners but obviously any desired number may be employed. 3 is a pipe having a coupling 4 at one end for connection with a hose leading to the source of gas supply. Brackets 5 support this pipe on the frame of the stove burner. Regulating valves 6 having operating handles 7 are mounted in the pipe 3 and project inwardly therefrom. Each burner comprises a base 7, preferably substantially circular in form, having an annular gas chamber 8 therein. An arm 9 projects from this base on one side and has a passage 10 therein communicating with the chamber 8 and leading to the flaring end portion 11 of said arm, said end portion having a wall 12 provided with air intake openings 13 and a socket 14 for a gas nozzle 15 which communicates with the

valve 6 and projects into the flaring portion 11 concentric preferably with the gas passage 10 so that when the valve 6 is opened, the gas will flow into the passage 10, mixing with the air that is drawn in through the ports 13. The arm is not secured to the nozzle 15 but merely has a close fitting joint therewith and may be readily removed without the use of tools.

The opposite side of the base 7 has a projecting flange 16 that is adapted to rest on a shelf 17 carried by a depending bracket 18 and the flange 16 has a seat 19 therein for a clamping screw 20 that is mounted in the engagement with the flange 16 for clamping the burner solidly in the frame between the bracket 18 and the nozzle 15. When the screw 20 is loosened, and retracted, the burner may be lifted entirely clear of the stove frame without the use of wrenches, screw drivers or other means, the screw 20 having a finger grip on one end and being easily operable with the fingers for loosening or tightening the burner.

A cap 21 is provided for the burner base, secured thereon by suitable means, such as a screw 22, said cap having an annular portion 23 provided with points 24 and perforations 25 therein. Within this annular portion 23 is a coil 26 of comparatively thin sheet metal, the convolutions having little projections or teats 27 pressed therein in staggered relation, so that the convolutions will be separated from one another by narrow annular spaces, through which spaces the gas will flow from the chamber 8 to the exits of the burner. I have found that this narrow band with the annular gaps between the convolutions will have the effect of spreading and separating the gas, compelling it to flow evenly and uniformly and preventing popping or backfiring in the burner. The band is of sufficient depth so that the gas flowing therethrough can not pop back into the chamber beneath, as it might do in the case of a thin perforated plate.

I have determined by actual experiment that the band coiled in this way is very effective as a spreading means for the gas and as a means for preventing back-firing and popping in the mixing chamber. Access to this band may be had at any time upon the removal of the screw 22 at which time the

upper section or annular portion 23 can be easily separated from the base portion. Access may then be conveniently had to the mixing chamber and the passage 10.

5 I claim as my invention:

1. A gas burner comprising a base having a mixing chamber therein, an upper portion having perforations for the passage of the gas, and a gas spreading device comprising a flat band formed into a series of convolutions having continuous annular spaces between the convolutions fitting within said burner above said base and means for separating the convolutions of said band.

15 2. A gas burner comprising a base having a mixing chamber, a cap seated on said base and provided with an annular portion having a series of perforations in its upper wall and a gas spreading device mounted within said annular portion above said base and comprising a flat metallic band rolled to form a series of convolutions, one within the other, said band having projections or teats pressed therefrom for separating the convolutions one from the other and providing narrow annular passages between them through which the gas is compelled to pass to reach said perforations.

20 3. A gas burner comprising a suitable base having a chamber therein and a band of comparatively thin material rolled to form a series of convolutions, one within the other, fitting within said chamber, said band having means on its surface for separating the adjacent convolutions, one from the other, to provide narrow annular passages

between them, whereby the acetylene gas will be broken up and mixed in its passage through the burner.

4. The combination, with a stove frame 40 and gas supply pipe and gas nozzle therefor, of a burner base having a hollow arm on one side provided with air intake openings and a socket to receive said gas nozzle, a bracket supported on said stove frame opposite said nozzle, said burner base having an arm seated on said bracket and a thumb screw mounted in said bracket and having its end positioned to contact with said arm for forcing said burner base and said hollow arm 45 toward said gas nozzle.

5. A gas burner comprising a base having a hollow arm leading thereto and an annular passage in the lower part of said base, a cap fitting on said base and having perforations in the top thereof, and an annular passage communicating with the passage in said base, means fitting within the annular passage in said cap for spreading the gas in its passage to said perforations, and said spreading means consisting of a thin band rolled to form a series of convolutions, one within the other, and means for separating the convolutions of said band to provide narrow annular passages through which the gas flows to said perforations, said annular passages being continuous and substantially uniform.

In witness whereof, I have hereunto set my hand this 25th day of May 1921.

CLAUD J. CLEFTON.