March 19, 1929. C. E. METHUDY 1,706,070

GAS BURNER

Filed Feb. 3, 1928

Fig. 1.

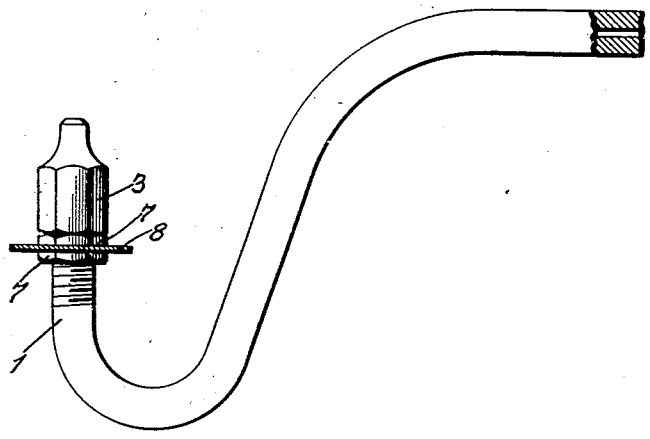
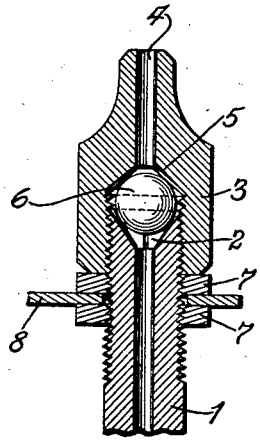


Fig. 2.



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Patented Mar. 19, 1929. 1,706,070

UNITED STATES PATENT OFFICE.

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GAS BURNER.

Application filed February 3, 1928. Serial No. 251,563.

This invention relates to gas burners, and an object is to provide an improved gas burner having an improved burner tip mounted on the gas pipe and cooperating therewith to control a valve regulating the passage of gas from the gas pipe through the burner tip.

Another object of the invention is to provide a device of the character mentioned, wherein the burner tip has adjustable connection with the gas pipe so that the valve will permit desired varying quantities of gas to pass from the pipe to the tip.

Other objects will appear from the following description, reference being made to the accompanying drawing in which—

Fig. 1 is a side elevation of a burner embodying the present invention.

Fig. 2 is a vertical sectional view.

Gas is conducted to the burner through a gas pipe which, in the form shown, comprises a vertically extended portion 1 exteriorly threaded and provided with an inverted conical recess 2 in its end. The wall of this recess is spotted, or knurled, or grooved so as to form irregularities comprising raised portions and depressed portions for cooperation with the valve.

The burner tip 3 is screwed onto the threaded extremity of the pipe 1 and has a gas outlet passage 4 opening at its inner end into the apex of a conical recess 5 matching and cooperating with the recess 2 to form a valve chamber. The wall of the recess 5 is spotted, knurled or grooved in such way as to form elevated portions and depressed portions to obtain interrupted contact with the valve.

The metal of the pipe 1 is preferably malleable. A ball 6 functioning as a valve, is mounted in the chamber, comprising the recesses 2 and 5 and seats upon the wall of the recess 2. That is to say, the valve 6 seats upon the elevated portions between the grooves or depressions in the wall of the recess 2 and, therefore, has spaced or interrupted contact with said wall, leaving the spaces or passages through which gas may constantly pass from the pipe to the burner tip. The burner tip may be screwed onto the pipe 1 until the wall of the recess 5 contacts with the valve 6 without substantial pressure, thus permitting a constant amount of gas to pass from the pipe 1 to the burner tip; or, the burner tip may be screwed further upon the pipe 1 to clamp the ball 6 against the softer metal of the wall of the recess 2, permitting a smaller amount of gas to pass. Further, the tip 3 may be adjusted so that the wall of the recess 5 therein is out of contact with the ball valve 6, so that the valve will permit more gas to pass from the pipe 1 than will pass when the burner tip contacts with the ball. If the pressure of the gas be sufficient, the ball valve will be disturbed or moved slightly to permit passage of a greater amount of gas.

Below the burner tip 3 two nuts 7 are shown screwed upon the pipe 1 and clamping between them an element 8 which may be regarded as the lower end wall of a pilot light casing, not shown. Thus, it will be understood that the present invention is designed and adapted specially, though not exclusively, for use as a pilot light burner in ignition devices of the type commonly used in connection with gas ranges.

I am aware that the construction and arrangement of the parts may be varied within equivalent limits without departure from the nature and principle of the invention.

I claim:

1. A gas burner comprising a pipe having a threaded end and an inverted conical recess in said end, the wall of which recess contains depressions, in combination with a burner tip screwed on said pipe and having a conical recess cooperating with said first named recess to form a valve chamber and having depressions in its wall, and a valve mounted in said chamber, said burner tip being adjustable to control said valve.

2. A gas burner comprising a pipe having a threaded extremity and an inverted conical recess therein provided with spaced depressed and raised portions in its wall, a ball valve seated in said recess upon said raised portion of said wall, a burner tip screwed on said pipe and having a conical recess opposite said recess in said pipe and receiving the outer portion of said ball, and being adjustable to hold said ball from being moved by the pressure of gas in said pipe.

3. A burner comprising a gas pipe having an inverted conical recess in its end, the wall of which contains depressions forming passages, a burner tip having adjustable connection with the end of said pipe and provided with a conical recess receiving said ball, said tip being adjustable to hold said ball upon the portions of the wall of said recess in said pipe between said depressions.

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