G. E. PICKUP.

GAS BURNER.

APPLICATION FILED MAY 21, 1917.

1,260,442.

Patented Mar. 26, 1918.

Fig. 1.

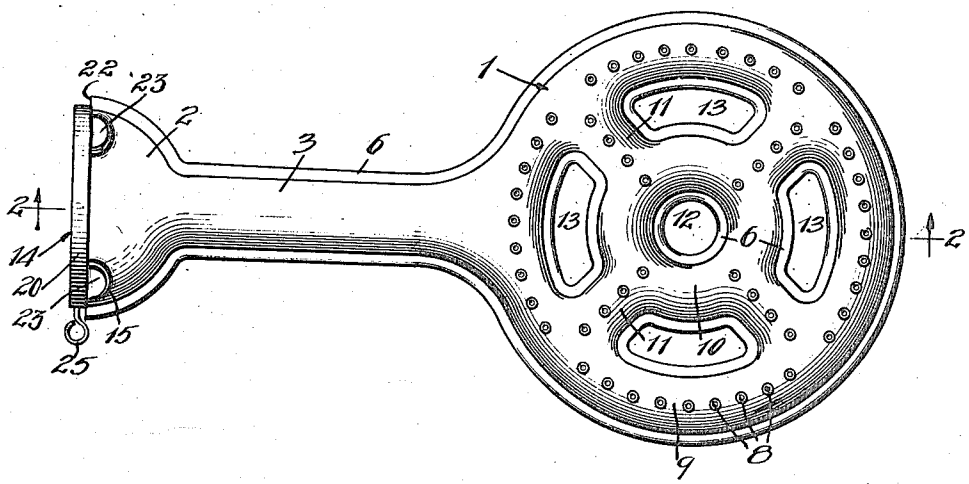


Fig. 2.

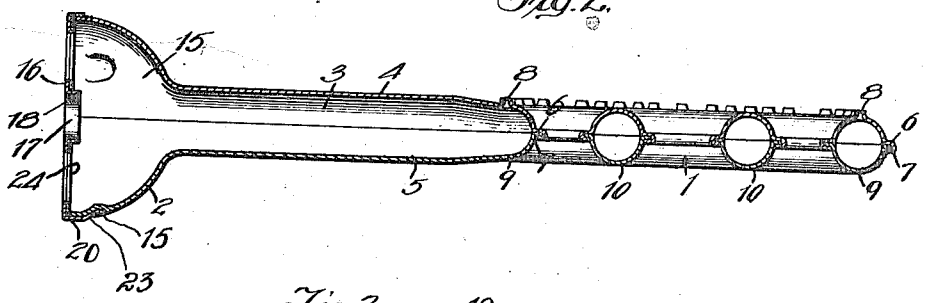
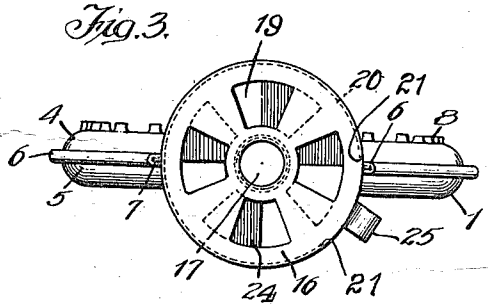


Fig. 3.



Witnesses:
W. P. Kilroy
Harry R. L. Wolcott

Inventor:
George E. Pickup
By Miller Chrisdahl & Parker
Attys.

UNITED STATES PATENT OFFICE.

GEORGE E. PICKUP, OF NEWARK, OHIO, ASSIGNOR TO THE WEHRLE COMPANY, OF NEWARK, OHIO, A CORPORATION OF OHIO.

GAS-BURNER.

1,260,442. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed May 21, 1917. Serial No. 169,843.

To all whom it may concern:

Be it known that I, GEORGE E. PICKUP, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification.

This invention relates to the art of gas burners and has for one of its objects to provide a burner of novel and improved construction which is made entirely of sheet metal.

A more specific object of the invention is to provide a gas burner wherein the burner head, the supply tube and the mixing bowl are formed up from a pair of sheet metal parts of complementary shape having their meeting edges secured together.

A further object of the invention is to provide a gas burner having a novel arrangement of intercommunicating chambers and conduits which will rapidly distribute the mixture of air and gas throughout the entire burner head.

The invention also refers to the details of construction which will be more fully pointed out in the following description.

In the accompanying drawings, Figure 1 is a top plan view of a burner embodying the features of my invention. Fig. 2 is a sectional view taken on line 2—2 of Fig. 1. Fig. 3 is an end elevational view.

In the preferred embodiment of my invention illustrated in the accompanying drawings, 1 indicates a burner head, 2 a mixing bowl and 3 a supply conduit connecting them. These parts are formed up from two substantially similar pieces 4 and 5 of suitable sheet metal. Each piece is formed to make one-half of the mixing bowl, supply conduit and burner head. When the pieces are placed back to back, the angular edges 6 and 7 of said pieces or half sections lie parallel and close to each other and are secured together to form a gas-tight joint. In the present instance, the edges 6 on the top piece are wider than the edges 7 and are bent around and under the latter as shown clearly in Fig. 2.

The burner head 1 is provided with gas outlets 8 by perforating the piece 4 only. These outlets are slightly raised above the surrounding surface to prevent liquid that may be accidentally spilled on the burner from draining into the interior of the burner head.

Herein I have shown the burner head in the form of two annular concentric chambers 9 and 10 joined by the communicating radial chambers or conduits 11 providing a central opening 12 and a plurality of arcuate openings 13. In providing these chambers each section of the head is pressed to form troughs or concavities of generally semi-cylindrical shape in cross section arranged to match the troughs of the other section.

By reason of the formation of the burner head 1 and supply conduit 3 in similar sections, the supply conduit is disposed in the same lateral plane as the annular chambers 9 and 10 and thus communicates directly with the outer chamber 9; and the conduits 11 also lie in the same lateral plane as the chambers 9 and 10 which they connect. Preferably the supply conduit communicates with the chamber 9 at a point substantially midway between two connecting conduits 11, but the ends of each of the conduits 11 are rounded or flared outwardly and are spaced a relatively short distance from the opposite sides of the supply conduit, so that the mixture of gas and air passes rapidly from one chamber to the other. Thus the air and gas mixture becomes rapidly distributed throughout the entire burner head.

The mixing bowl 2 is of hemispherical form, the spherical end thereof communicating with the conduit 3, and the other end being suitably closed by a shutter valve 14. The mixing bowl is provided with depressions 15 in which means upon the shutter valve are seated for securing the same to the bowl.

The shutter valve comprises a stationary outer disk plate 16 provided with a central opening 17 and an inturned flange 18 outlining the same. The plate is sectorially apertured as at 19 and on its outer edge carries an inturned flange 20, a portion of which is cut away as at 21 (see Fig. 3) for a purpose to be described hereinafter. Herein I have shown the seamed edges 6 and 7 on the bowl sections cut away as at 22 so that the inturned flange 20 may embrace the bowl edge. Integral with said flange 20 are lugs or ears 23 which when pressed into the bowl depressions 15 secure the outer

disk to the bowl. A regulating member is herein shown as a disk plate 24 which is similarly apertured. This second disk is rotatable upon the inturned flange 18 (see Fig. 3) between the outer disk plate 16 and the mixing bowl 2. The rotatable disk plate has an outwardly extending lug 25 forming a handle by which the plate is rotated to control the openings in the fixed disk plate 16 in the well-known manner of shutter valves. The cut-away portion 21, previously referred to, permits the lug or handle 25 to extend beyond the peripheral flange 20. The edges of the flange 20 defining the cut-away portion 21 are shown herein as forming stop portions for indicating the extreme positions of the rotatable disk.

While I have herein described in considerable detail the preferred embodiment of my invention, I would have it understood that I do not intend to limit myself thereby, the scope of the invention being pointed out by the appended claims.

I claim as my invention:

1. A gas burner formed from two substantially similar sections secured together by a gas-tight joint and comprising inner and outer annular chambers, a plurality of separate conduits connecting said chambers and having flared ends, and a supply conduit having a flared end communicating directly with the outer annular chamber substantially midway between two connection conduits.

2. A gas burner formed from two substantially similar sections secured together by a gas-tight joint and comprising inner and outer annular chambers, a plurality of radial conduits spaced apart and connecting said chambers, and a supply conduit communicating directly with the outer chamber substantially midway between two connecting conduits, the two last mentioned conduits having flared outer ends in substantially direct communication with the supply conduit.

3. A gas burner formed from two substantially similar sections of sheet metal secured together by a gas-tight joint and shaped to form between them inner and outer annular chambers, a plurality of connecting conduits between said annular chambers, each having flared ends, and a supply conduit communicating directly with the outer annular chamber at a point between two of said connecting conduits and communicating substantially directly with the flared outer ends of the two last mentioned connecting conduits.

4. A gas burner having, in combination, a burner head, a mixing bowl, and a connecting supply conduit, formed from two substantially similar sheet metal sections having outwardly protruding edges secured together to form a gas-tight joint, said mixing bowl having valve means for admitting air thereinto including a plate having an inturned peripheral flange fitting over the ends of the sections forming the bowl, the outwardly protruding edges of the joined sections being cut away adjacent the end of the mixing bowl to enable the peripheral flange on said plate to be slipped over the end of the bowl.

In testimony whereof, I have hereunto set my hand.

GEORGE E. PICKUP.