

Apr. 17, 1923.

1,451,716

G. E. SHARPE

GAS BURNER

Filed Feb. 15, 1922

Fig. 1.

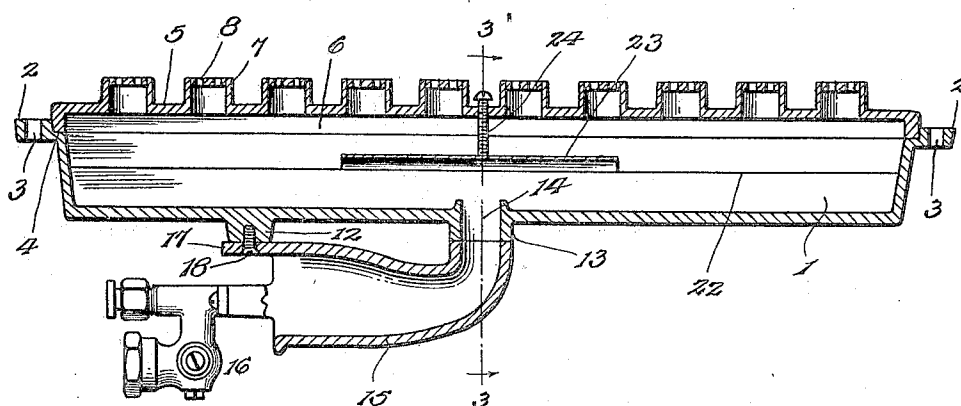


Fig. 2.

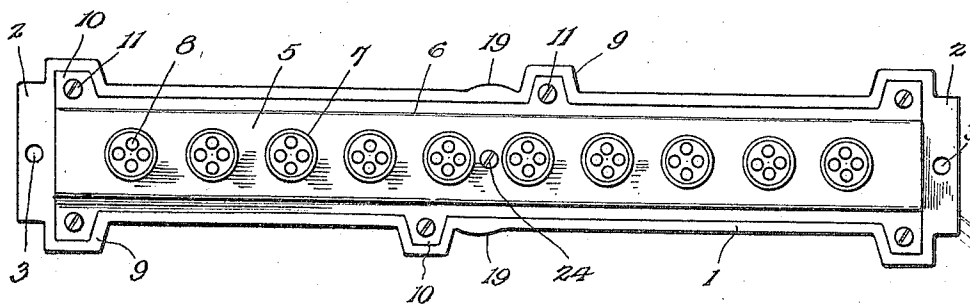
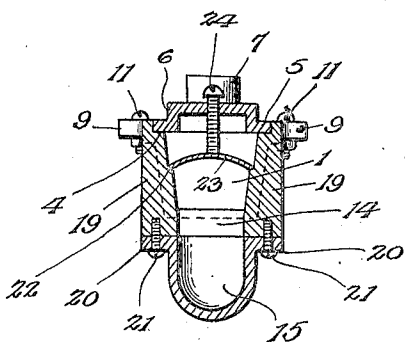


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE E. SHARPE, OF STEUBENVILLE, OHIO.

GAS BURNER.

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To all whom it may concern:

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

My present invention relates to gas burners which may be employed in fireplaces, stoves, or otherwise, to burn gaseous fuel and obtain an even flow of the fuel to the points of combustion and effect complete combustion at said point. The invention also seeks specifically to provide a novel and simple construction of gas burner which will effect an even distribution of the fuel to the several burner tips and which will facilitate cleaning or repairing. The invention is illustrated in the accompanying drawings and will be hereinafter fully set forth.

In the drawings—

Figure 1 is a central longitudinal section of a gas burner embodying my present improvements;

Fig. 2 is a plan view of the same;

Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

As shown in the drawings, the main body of the burner is a rectangular trough 1 provided at its ends with lugs or flanges 2 having openings 3 therethrough whereby the body may be secured within a stove or to a fixed support. This body may, however, be oval or elliptical in outline and is provided along its upper edges with an internal shoulder 4 upon which the cover or burner plate 5 may rest. The said cover 5 has its intermediate portion raised slightly above its edge portions, as indicated at 6, and disposed along its central longitudinal line are bosses or tips 7 having one or more openings 8 therethrough to permit the flow of fuel. The trough or body 1 is provided at intervals along its upper edge with recessed lateral projections 9 which receive lateral lugs 10 on the side edges of the cover, and cap screws 11 are inserted through the said lugs 10 and the bottoms of the recessed projections 9 to secure the cover in place, and it will be readily noted that the edges of the cover fit closely against the internal shouldered portions of the trough so that movement of the cover relative to the trough will be positively prevented. If desired, packing may

be fitted between the opposed surfaces of the trough and the cover so as to prevent possible leakage of gas, but such packing is not essential in actual practice and has not been illustrated. On the under side of the trough is a lug or projection 12 and spaced from said lug or projection is a boss 13 having an admission opening 14 therethrough. A mixer 15 is fitted against the boss 13 and the lug 12 and conveys the gas from the admission and controlling valve 16 to the opening or port 14 in an obvious manner, air being drawn in through the mixer around the discharge from the valve 16, as will be readily understood. The mixer is provided with a lip 17 adjacent the valve 16, and a cap screw 18 is inserted through said lip into the boss 12 to secure the mixer in place. At opposite sides of the boss 13, the trough is provided with lateral enlargements 19 and lugs or ears 20 are provided on the sides of the mixer to bear against the lower ends of the said projections, as shown clearly in Fig. 3, cap screws 21 being inserted through said ears 20 into the lower ends of the enlargements so as to secure the mixer in place and aid in supporting the same. If desired, a gasket may be inserted between the opposed surfaces of the mixer and the boss 13 to prevent leakage, and the mixer may be constructed and attached as shown in Letters Patent, No. 1,399,470, granted to me November 29, 1921. The longitudinal walls of the trough 1 converge downwardly and may be provided with internal shoulders 22. A baffle 23 is arranged over the inlet port 14 and has its side edges resting upon the side walls of the trough or upon the shoulders 22 thereon, as shown most clearly in Fig. 3. This baffle may be a flat plate but is preferably arched and is held to its support by a set screw 24 mounted in the cover 5 and bearing upon the baffle, as clearly shown. The baffle should be so arranged that its ends are at opposite sides of the inlet port and equi-distant therefrom so as to obtain an even distribution of the inflowing mixed gas and air and it may be longer or shorter according to the quality of the fuel.

While I have illustrated the inlet port as being located at the center of the trough, it may be located at some other point thereof without involving any departure from the operation of the invention, and the baffle

plate may be flat but is preferably arched as the pressure exerted thereon by the set screw will be more effectually utilized to hold the baffle in place. Furthermore, the
5 arched baffle is somewhat more efficient than a flat baffle in diverting and distributing the inflowing fuel. The fuel may be ignited as it issues from the openings 8 in the burner tips or said tips may be supplied
10 with gauze cages or otherwise fitted as may be desired. My burner is exceedingly simple in the construction and arrangement of its parts and will be found very efficient in practice. The cover may be readily removed
15 from the trough by withdrawing the cap screws 11, and the set screw 24 will be removed with the cover, after which the baffle plate may be obviously lifted from the trough. The cleaning of the trough
20 or the placing of a new cover with its burner tips thereon is thus facilitated and, if the trough itself should become warped through long continued use and it be desired to substitute a new trough therefor, it is necessary
25 merely to release the screws 18 and 21 and remove the bolts through the openings 3, whereupon the entire burner may be lifted from its support. The burner may be readily fitted in place or removed therefrom without requiring the use of skilled
30 labor and the baffle plate will be firmly held in position by the pressure exerted thereon through the set screw whereby the edges of the baffle are caused to bear firmly
35 against the downwardly converging side walls of the trough.

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

- 40 1. A gas burner comprising a trough, a cover secured upon the trough and provided with burner tips, the trough being

provided with an inlet port in its bottom, a baffle disposed within the trough over the inlet port and resting on the side walls of the trough, and means carried by the cover
45 for retaining the baffle in place.

2. A gas burner comprising an elongated body having recessed projections on its sides, a cover having lateral lugs fitting
50 in said recessed projections, securing devices inserted through said lugs and the said projections, burner tips on the cover, an inlet in the bottom of the body, a baffle within the body over the inlet, and means
55 carried by the cover for retaining the baffle in place.

3. A gas burner comprising a trough having an inlet port in its bottom and provided with downwardly converging side
60 walls, a cover secured upon the body and provided with burner tips, a baffle plate resting upon the side walls of the trough and extending over the inlet port, and a set screw mounted in the cover and bearing
65 upon said baffle plate.

4. A gas burner comprising a trough having an inlet port in its bottom and provided on its sides adjacent said port with lateral enlargements, a cover secured upon
70 the trough and provided with burner tips, a baffle disposed within the trough over the inlet port, a mixer fitted against the bottom of the trough and provided with lateral lugs bearing against the lower ends of the
75 lateral projections on the sides of the trough, and fastening devices inserted through said lugs into the lower ends of said projections.

In testimony whereof I affix my signature.

GEORGE E. SHARPE. [L. S.]