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F. H. LE COMPTE

2,125,678

GAS BURNER

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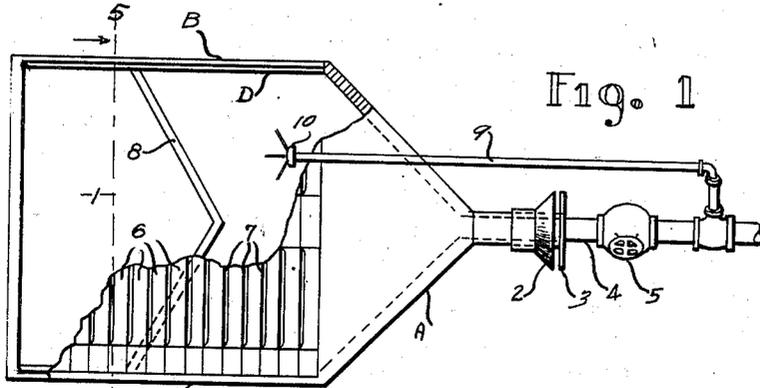


Fig. 1

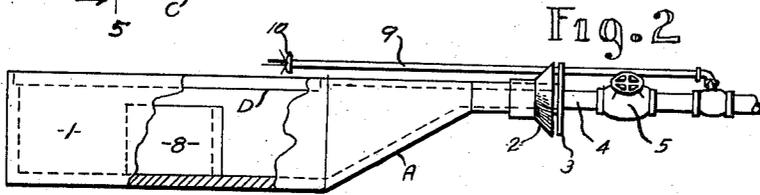


Fig. 2

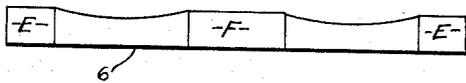


Fig. 3



Fig. 4

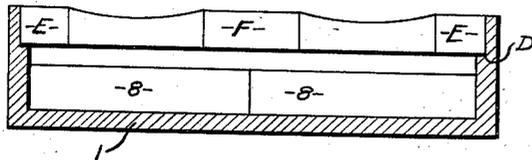


Fig. 5

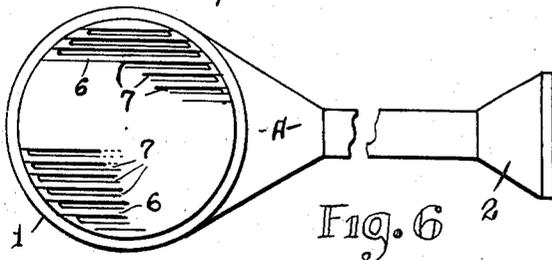


Fig. 6

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GAS BURNER

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2 Claims. (Cl. 158-99)

My invention relates to a gas burner.

The principal object of my invention is to provide a burner having removable parts for the convenience of cleaning the same, and more particularly the jets.

A further object of my invention is to provide a gas burner with removable members that form the sides of the jets, the said members removable and replaceable without the use of tools.

A still further object of my invention is to provide a mixing chamber for the fuel in direct communication with the jets, and a baffle plate as distributing means for the fuel to the jets, and also an inlet admitting air to the chamber simultaneously with the gas injection, and means to control the air supply.

A still further object of my invention is to provide a series of jets formed to avoid contraction of the flame ascending therefrom to a point, and furthermore the ignition and burning operations are practically noiseless.

These and other objects will be hereinafter more fully explained, reference being had to the accompanying drawing forming a part of this specification in which like characters will apply to like parts in the different views.

Referring to the drawing:

Fig. 1 is a plan view of the burner, parts removed for convenience of illustration.

Fig. 2 is a side view of Fig. 1, partly in section.

Fig. 3 is an enlarged side view of one of the bars, forming the jets, and showing the spacing lugs.

Fig. 4 is a top view of a plurality of the bars showing their relative positions.

Fig. 5 is a sectional view of the mixing chamber taken on line 5-5 in Fig. 1, looking in the direction of the arrow.

Fig. 6 is a plan view of the burner modified to make it adaptable to kitchen ranges, or the like.

The invention herein disclosed consists of a mixing chamber, 1, substantially rectangular in form for the main portion of the body, but having one side wall funneled, extending outward as at A, to which is connected an air inlet having a mouth, 2, with an air controlling plate, 3, axially aligned in front of the mouth and removable to and from the same, by which means the air enters the gas chamber simultaneously with the gas as supplied by pipe, 4, the flow thereof being controlled by a valve, 5, substantially as shown.

Along the upper inside edge of each of the oppositely disposed side walls, B and C, is a shoulder, D, spaced downward which form bearings

for the ends of a plurality of bars, 6, closely engaging to cover the entire area of the open portion of the chamber, and each bar has integrally formed spacing lugs on one side thereof as at E and F, by which means, when the said bars are snugly assembled as shown in Fig. 4, a series of slots, 7, are formed functioning as jets, through which the fuel ejects for ignition, the method of which is later described.

The upper edge of each bar is arcuate in form inward, or concave extending from lugs E to F, respectively, as shown in Figs. 3 and 5, by which means the vertical extension of the flame from each jet is varied longitudinal of the same to avoid convergence thereof, it being understood that two series of the jets are arranged, one being on each side of the said lugs, F.

Extending across the mixing chamber is a baffle plate, 8, obliquely diverging from the center each way as shown in Fig. 1, the said plate being joined to the bottom and side walls of the chamber, respectively, the upper edge of which plate is spaced downward from the lower edge of the said bars, 6, by which means the fuel is distributed and further mixed by diversion thereof by the plate to each side and thence over said plate into the rear portion of said chamber body.

It is advisable that a pilot light be employed for large burners functioning in heating plants, in which case I have arranged a pipe, 9, having an orifice jet, 10, on the discharge end thereof, positioned in close proximity to the flow line of fuel through the jets, the other end of said pipe being connected to the supply pipe, 4, outward from the valve, 5, for continuous burning, by which means, where the said gas burner is thermostatically controlled, the fuel supply at all times will be ignited by the pilot.

It is now clearly shown that the mixing chamber of said gas burner thus arranged is easily cleaned by removing the bars as accessible means to the interior thereof, and each bar is easily cleaned from sediment accumulation, after which said bars are replaced in their order, namely, the smooth side of each bar abutting the lug side of its adjacent bar as said bars are placed in the opening of the mixing chamber, the noiseless feature of said burner being due to the elongation and position of the jets and by a liberal sized mixing chamber co-acting therewith.

While I have shown rectangular and circular mixing chambers and an inward arc for one edge of the jet bars, I do not wish to be confined to such form alone, as the same may be modified to

suit such conditions as lie within the scope of the appended claims.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

- 5 1. A gas burner comprising a mixing chamber and means to supply the same with gaseous fuel, the chamber being open at one side, a plurality of bars spanning the opening, each of said bars
- 10 having one straight side and a plurality of spacing lugs integrally joined and extending from the opposite side, there being one lug adjacent each end of the bar, whereby a depression is formed

between said lugs, the said lugs adapted to space the straight side of a similar bar from the depressions to form a jet for the flow of gas from the said chamber, and the said end lugs being means to close the space between the bars from the outer extremity of each end a short distance inward, the upper surface of each bar being arced inwardly between the lugs, all substantially as shown.

2. As an element of a gas burner, an elongated bar carrying a plurality of spacing lugs, and having a longitudinally concave upper surface.

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