L. STOCKSTROM & H. H. PARPERT.

GAS BURNER.

APPLICATION FILED AUG. 27, 1913.

1,091,253. Patented Mar. 24, 1914.

Fig. 1.

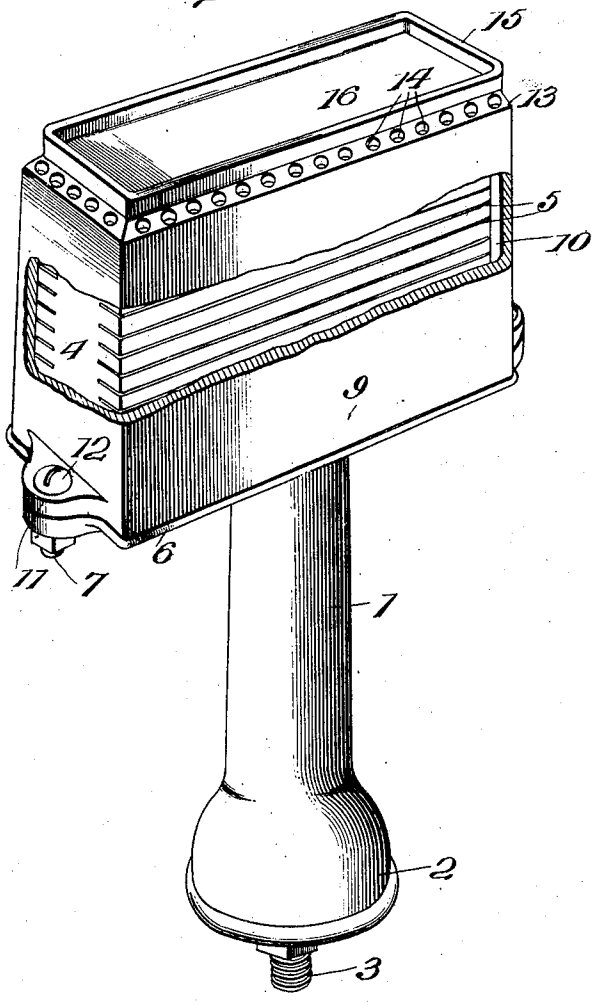
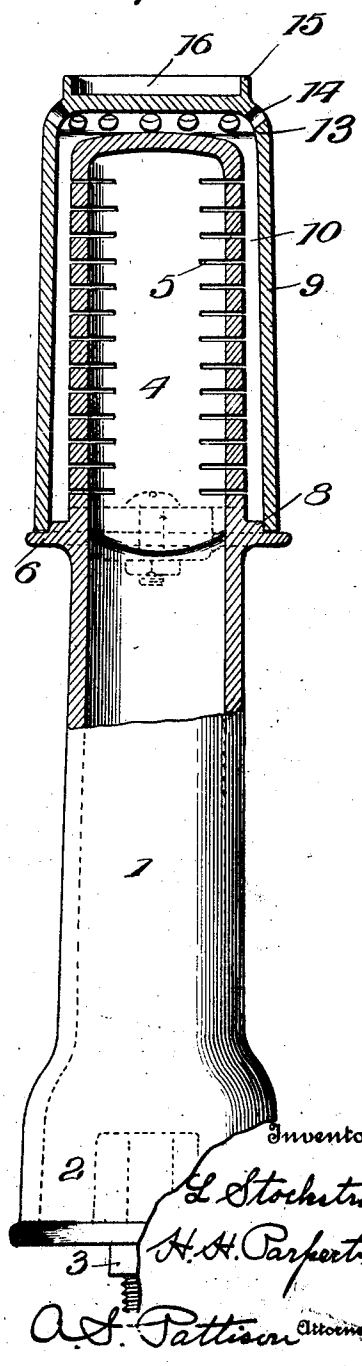


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS STOCKSTROM AND HERMAN H. PARPERT, OF ST. LOUIS, MISSOURI, ASSIGNORS TO AMERICAN STOVE COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

GAS-BURNER.

1,091,253. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed August 27, 1913. Serial No. 786,927.

To all whom it may concern:

Be it known that we, LOUIS STOCKSTROM and HERMAN H. PARPERT, citizens of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification, reference being had therein to the accompanying drawing.

Our invention relates to improvements in gas burners.

The object of our invention is to provide a burner in which the air and gas is more thoroughly mixed and at the same time absolutely preventing the flame from working back and burning in the mixing chamber.

Another object of our invention is to provide a simple, cheap and more effective burner having certain details of structure and operation hereinafter more fully set forth.

In the accompanying drawings—Figure 1 is a perspective view of our improved burner showing the outer casing partly broken away. Fig. 2 is a vertical transverse sectional view of our improved burner.

Our improved burner is more particularly designed to be used on automatic water heaters and consists of a combined air and gas supply tube 1, having at its lower end the enlarged mouth portion 2, which is provided with the gas supply pipe 3, and around this gas supply pipe is arranged a shutter of the usual form by means of which the amount of air passing into the tube may be readily controlled. The outer end of the tube 1 is provided with an enlarged rectangular shaped mixing tube 4, having in its sides the horizontally arranged slots 5, extending along the entire side thereof and around the ends a short distance, as clearly shown in Fig. 1 of the drawings. These slots are comparatively close together and allow the escape of the air and gas from the mixing chamber 4.

The mixing chamber 4, at its lower end, is provided with a flange 6 entirely encircling the same and said flange at the ends is provided with ears 7, the purpose of which will be hereinafter more fully described. Surrounding the flange 6, adjacent its outer edge is a shoulder 8, and resting upon the flange beyond the said shoulder is a housing 9 of rectangular form, and spaced a short distance from the mixing chamber 4, leaving the space 10, as will be hereinafter more fully described. This housing 9 is provided with ears 11, corresponding to the ears 7, and passing through the ears 7 and 11 are bolts 12, whereby the housing is clamped to the flange and firmly held thereto. The upper end of the housing 9 is drawn inwardly at 13, and said inwardly drawn portion is provided with opening 14, entirely around the housing. The housing 9, above the inwardly drawn portion 13, is provided with a flange 15, which forms a receptacle or pocket 16, which is adapted to retain any of the dripping from the coils of the burner and prevent it from running down into the openings 13 to the space 10 between the mixing chamber 4 and the housing 9.

As heretofore stated, the gas is supplied through the pipe 3 to the tube 1, and at the same time air is drawn into the enlarged portion 2 of the tube and enters the mixing chamber 4. The air and gas is thoroughly mixed within this chamber and passes through the horizontal slots 5 into the space 10 between the mixing chamber and the housing 9. The mixture then passes upwardly through the space 10 and out through the openings 14 and burns at these points.

From this description it will be seen that the air and gas is more thoroughly mixed and the openings 14 are small enough to prevent the flame from burning within the space 10 on the outside of the mixing tube. The horizontally arranged slots 5 are also small enough to absolutely prevent the flame from burning in the mixing chamber 4, should it possibly work its way down into the space 10 between the mixing chamber and the housing 9. The housing 9 prevents any deposit or liquid from engaging the mixing chamber and clogging the horizontally arranged slots and the flange 15, carried by the upper end of the housing, catches and retains any drip from the coils of the heater.

Having thus described our invention, what we claim and desire to secure by Letters Patent is—

1. A burner comprising a mixing chamber, a combined air and gas supply for said chamber, a removable housing surrounding the mixing chamber and spaced therefrom, and a gas discharge opening at the upper end of the housing above the mixing chamber.

2. A burner comprising a mixing chamber having horizontally arranged slots, a combined air and gas supply for said mixing chamber, a housing surrounding the mixing chamber and spaced therefrom, and discharge openings in the upper end of the housing above the mixing chamber.

3. A burner comprising a mixing chamber, having horizontally arranged slots, a combined air and gas supply for said mixing chamber, a housing surrounding the mixing chamber and spaced therefrom, said housing having discharge openings above the mixing chamber, and a drip-pan formed in the upper end of the housing, substantially as shown and described.

4. A burner comprising a mixing chamber, having horizontally arranged slots in its sides and extending partially across the ends, a combined air and gas supply for said mixing chamber, a flange carried by the lower end of the mixing chamber, a housing supported by said flange and spaced from the mixing chamber and entirely inclosing the same, and said housing having discharge openings at its upper end.

5. A gas burner comprising a mixing chamber, having horizontally arranged slots in its sides and extending partially across the end thereof, a combined air and gas supply for the mixing chamber, a flange carried by the lower end of the mixing chamber, a housing inclosing the mixing chamber and supported by the flange, said housing having an inwardly drawn upper end provided with openings, and an upwardly extending flange on the inside of said openings forming a drip pan across the entire upper end of the housing.

6. A burner comprising a mixing chamber having slots in its sides, a combined air and gas supply for the mixing chamber, a flange carried by the lower end of the mixing chamber and having outwardly extending ears at its ends, a housing resting upon the flange and surrounding the mixing chamber, ears carried by the housing and corresponding to the ears carried by the flange, bolts passing through the ears of the housing and flange, said housing having an inwardly drawn upper end provided with openings entirely around the same, and said housing having an upwardly extending flange inside of the said openings and forming a drip-pan.

7. A burner comprising a mixing chamber of an elongated form and having horizontally arranged slots in two opposite sides, a combined air and gas supply for the lower end of the mixing chamber, a flange carried by the lower end of the mixing chambe and having a thickened portion forming a ledge entirely surrounding the mixing chamber, ears carried by the flange on opposite ends, a housing resting upon the flange on the outside and abutting the ledge and surrounding the mixing chamber, ears carried by the housing and corresponding to the ears carried by the flange, and means carried by the ears for securing the housing to the mixing chamber, said housing having its upper end drawn inwardly and provided with openings entirely around the same and said housing having an upwardly extending flange on the inside of the said openings and forming a drip pan.

8. A burner comprising a combined air and gas supply, an enlarged mixing chamber formed integral therewith at its outer end, said mixing chamber having openings in opposite sides, a flange carried by the lower end of the mixing chamber at the point of junction of the mixing chamber and air and gas supply, and a housing surrounding the mixing chamber and space therefrom and supported and secured to the flange and said housing having discharge openings in the upper end thereof above the mixing chamber.

9. A burner comprising a mixing chamber having openings therein, a combined air and gas supply for said mixing chamber, a housing surrounding the mixing chamber and spaced therefrom, said housing having discharge openings above the mixing chamber, and a drip pan formed in the upper end of the housing, substantially as shown and described.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

LOUIS STOCKSTROM.
HERMAN H. PARPERT.

Witnesses:
GEO. E. BAKER,
GEORGE F. FISKE.