Sept. 27, 1927. 1,643,607

H. KIELBERG

BURNER FOR RADIANT GAS HEATERS

Filed April 10, 1926

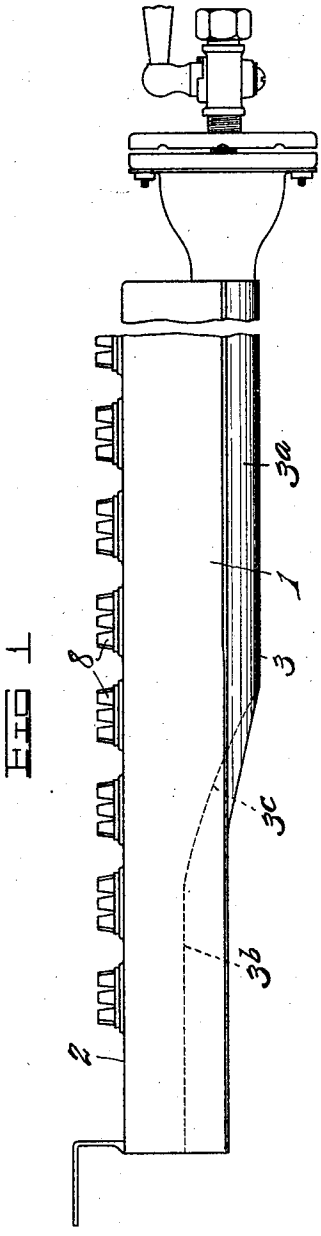


FIG 1

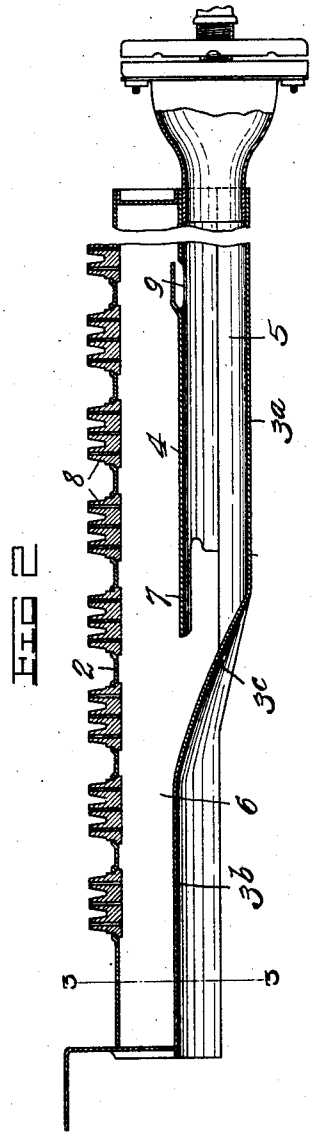


FIG 2

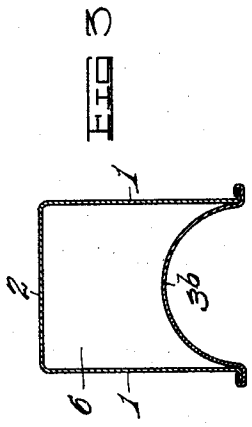


FIG 3

INVENTOR

Henry Kielberg

BY M. E. Dunlap Jr.

ATTORNEY

Patented Sept. 27, 1927. 1,643,607

UNITED STATES PATENT OFFICE.

HENRY KIELBERG, OF MARTINS FERRY, OHIO.

BURNER FOR RADIANT GAS HEATERS.

Application filed April 10, 1926. Serial No. 101,200.

This invention relates to burners for gas heaters, and it has for its primary object to provide a novel and improved gas burner for domestic gas heating stoves of that type in which the gas is supplied through a plurality of relatively spaced grids to tubular clay radiants superposed upon the burner.

A further object is to structurally improve the gas burner disclosed in Patent No. 1,486,665, granted March 11, 1924, to Holloway and Kielberg, for insuring a more uniform and even distribution of the gas to the various grids.

In describing the invention in detail, reference is herein had to the accompanying drawings, in which—

Figure 1 is a side elevation of the invention;

Figure 2 is a vertical longitudinal section of the same; and—

Figure 3 is an enlarged section on line 3—3, Fig. 2.

Referring to said drawings, 1 indicates the substantially upright side walls, and 2 the flat top of a horizontal burner shell or casing which is of approximately U-shape, inverted. Seamed to the lower edges of said side walls 1 are the opposite edges of a sheet metal member 3 which forms a bottom for said casing, said bottom member being downwardly bowed into semi-cylindrical form, as shown at 3^a, throughout a substantial portion, preferably about two thirds, of its length measured from the inlet end of the casing. The opposite end portion 3^b of said bottom member is upwardly bowed into substantially semi-cylindrical form. Otherwise expressed, said bottom member 3 is reversely bowed, or troughed, in opposite end portions thereof.

A semi-cylindrical sheet-metal member 4 complements the portion 3^a of the bottom 3 of the casing for forming a tubular passage 5, as in Patent No. 1,486,665 hereinbefore referred to, through which the gaseous mixture is conducted for delivery to the overlying distributing chamber or manifold 6. Said tubular passage terminates or opens into the manifold chamber at a point more or less closely adjacent to the inclined deflecting wall 3^c which is formed intermediate the reversely disposed trough portions 3^a and 3^b of the bottom, and the member 4, by preference, has formed on its inner end a narrow centrally-disposed longitudinally-extending tongue 7 which overhangs the adjacent portion of said deflecting wall 3^c and which is adapted partially to divide and spread the inflowing stream of the combustible mixture.

The tubular passage 5 whereby the mixture is conducted to or past the midway point in the length of the casing obviously restricts or lessens the capacity of the adjacent end portion of the chamber 6, and the provision of the upward or reverse cross sectional curvature of the bottom portion 3^b, disposing said portion in substantial alinement with the member 4, is designed correspondingly to reduce the capacity of the opposite end portion of said chamber, thereby substantially to equalize the capacity of the latter throughout its length.

The admission of the gaseous mixture to the distribution chamber 6 at a point somewhat past the midlength thereof effects a substantially uniform distribution of said mixture to the various grids 8 which are mounted in spaced relation in the top 2 of the burner casing. One or more suitably located ports 9 may, if need be, be provided in the member 4 for admitting to the inlet end of said chamber any additional quantity of the mixture required to more nearly equalize the supply pressure in said end with that of the opposite end.

What is claimed is—

1. A burner for radiant gas heaters, comprising a sheet metal manifold casing having burner grids mounted in the top thereof, said casing having depending side walls and a bottom attached to said side walls, said bottom having one end portion shaped to form an upwardly facing trough, a semi-cylindrical member located in complemental relation to said trough for forming a tubular fuel-conducting passage, the opposite end portion of said bottom being reversely troughed to present interiorly of said casing a wall substantially corresponding to and alined with said semi-cylindrical member and forming the bottom of a manifold chamber having uniform shape and capacity throughout, the last mentioned wall being spaced from the inner end of the latter to form a fuel delivery opening.

2. A burner for radiant gas heaters, comprising a manifold casing having a bottom shaped in opposite end portions thereof to form reversely facing longitudinal troughs, and a member located interiorly of said casing disposed in complemental tube-form-

ing relation to the inwardly facing trough and in substantially alined relation to the walls of the outwardly facing trough thereby to form a manifold chamber of uniform shape and capacity throughout its length, said member terminating at its inner end in spaced relation to the adjacent end of the last mentioned trough to form an intermediate fuel delivery opening.

3. A burner for radiant gas heaters, comprising a manifold casing having a bottom shaped in opposite end portions thereof to form reversely facing longitudinal troughs separated by an inclined wall, a member located interiorly of said casing complementing the upwardly facing trough for forming a tubular fuel supply passage, said member being terminated at its inner end in spaced relation to said inclined wall for forming a fuel delivery opening into the manifold chamber, the walls of the downwardly facing trough and the said member being substantially alined for equalizing the capacity of said chamber throughout the length of the latter, said complementing member having a port therein intermediate its ends.

In testimony whereof, I affix my signature.

HENRY KIELBERG.