

No. 872,134.

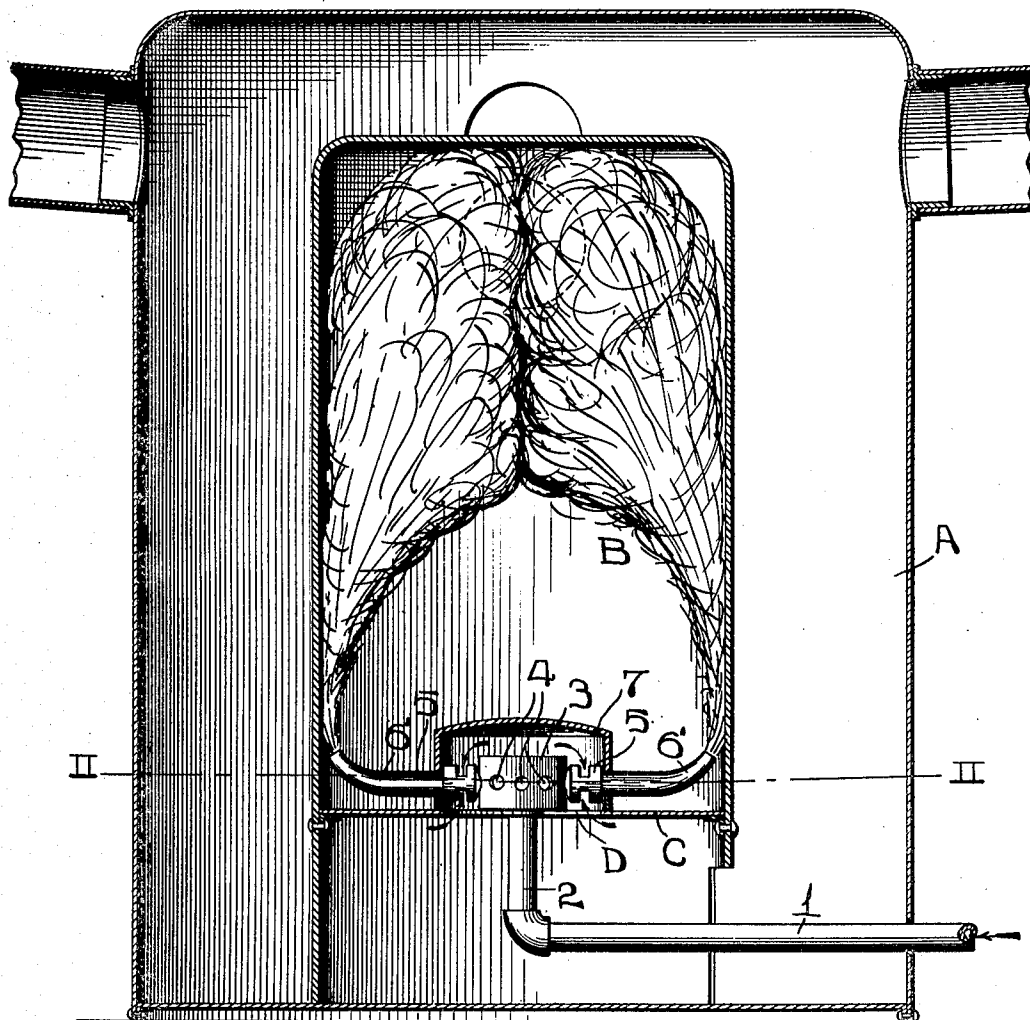
PATENTED NOV. 26, 1907.

W. KITCHING.
GAS BURNER.

APPLICATION FILED JULY 18, 1907.

2 SHEETS—SHEET 1.

FIG. 1.



ATTEST.

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2 SHEETS—SHEET 2.

FIG. II.

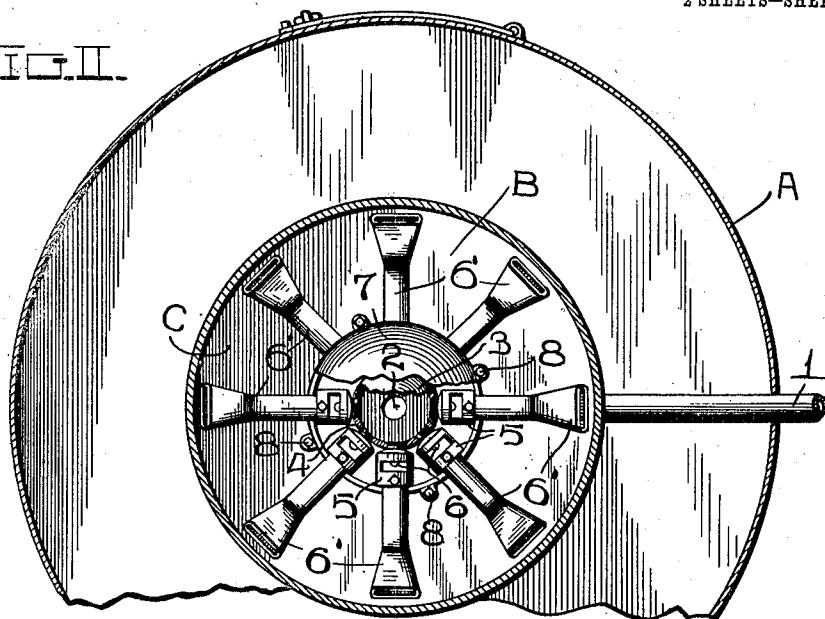


FIG. III.

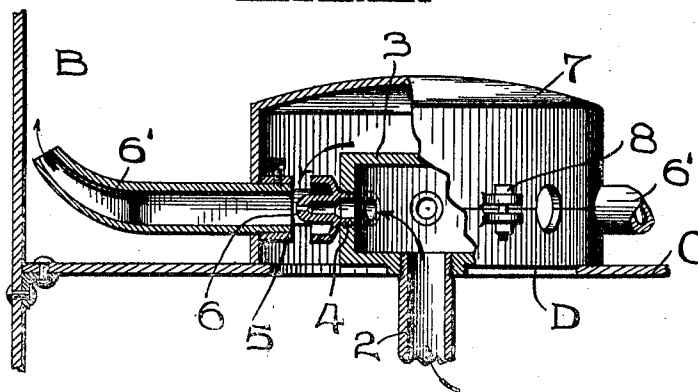
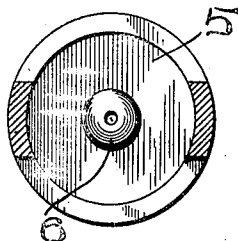


FIG. IV.



ATTEST.

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UNITED STATES PATENT OFFICE.

WILLIAM KITCHING, OF JOPLIN, MISSOURI, ASSIGNOR TO HAYNES-LANGENBERG MANUFACTURING COMPANY, OF ST. LOUIS, MISSOURI.

GAS-BURNER.

No. 872,134.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed July 18, 1907. Serial No. 384,383.

To all whom it may concern:

Be it known that I, WILLIAM KITCHING, a citizen of the United States of America, residing in Joplin, Jasper county, Missouri, have invented certain new and useful Improvements in Gas-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a burner for use in the consumption of gas as a fuel and more particularly intended for use in burning natural gas, the invention having for its object the production of a burner of this character of a simple form and in the use of which a high degree of heat may be secured.

Figure I is a vertical section taken through a hot air furnace with my burner shown in position therein in elevation, and part of the jet tubes and mixer couplings omitted. Fig. II is a view partly in plan and partly in horizontal section of the burner with the furnace illustrated in cross section on line II—II Fig. I. Fig. III is an enlarged view in part an elevation and in part a vertical section of the burner. Fig. IV is an enlarged cross section through one of the mixer couplings of the burner.

In the accompanying drawing A designates a hot air furnace containing a fire chamber B at the bottom of which is a shelf C that is provided with a central orifice D.

1 designates a gas conducting pipe that leads into the furnace A and is provided with a vertical member 2.

3 is a receiver attached to the upper end of the vertical member of the conducting pipe and into which the gas to be consumed in my burner enters from said pipe. In the wall of this receiver are a plurality of ports 4.

5 are mixer couplings having slotted walls and which are mounted in the ports of the receiver, the couplings being provided with nipples 6 located interior thereof and through which the gas escapes from the receiver to mingle with air entering into the couplings through the slots in their walls for the admixture of air and gas for proper combustion.

6' are jet tubes having their inner ends mounted in the mixer couplings 5 and which extend outwardly from said couplings and

relative to the receiver 3. There may be any desired number of these jet tubes and the mixer couplings by which they are supported to provide for a plurality of jets in the burner through which the gas escapes to be consumed by combustion for the production of heat.

7 designates a housing that incloses the receiver 3 of the burner and the mixer couplings 5 and its wall seated throughout its lower edge upon the shelf C in the furnace A. This housing has a closed top and is provided with apertures located in its wall in which the jet tubes 6' are snugly fitted and is preferably composed of two sections, namely a lower ring and a cap surmounting said ring, the sections being united by bolt 8 seated in ears projecting from the sections as seen most clearly in Fig. III. The housing 7 is open at its bottom in order that air may readily pass in an upward direction into the housing from the space beneath the shelf C on which the housing rests by passing through the orifice D in said shelf.

During the use of my burner the gas to be consumed passes from the conducting pipe 1 and its vertical member 2 into the receiver 3 and escapes from said receiver through the nipples of the mixer couplings into the jet tubes 6' to emerge at the end of said tubes and be burned as it so emerges. During the escape of the gas from the receiver the air which rises into the housing 7 gains access to the interior of the mixer couplings and the jet tubes as indicated by the arrows Figs. 1 and 3 to mingle with the gas. The receiver and mixer couplings of the burner being inclosed within the housing 7 the air that enters into said housing becomes highly heated before it is mixed with the gas and as a consequence the mixture of air and gas is rendered much more efficient as a heating medium and as a result of the gas receiver being closed at its top and throughout its wall, the gas and air must necessarily remain effectually confined within the housing until discharged through the jet tubes.

I claim:

In a gas burning furnace containing a fire chamber, a horizontal shelf at the bottom of said fire chamber provided with an orifice, a gas receiver located above said orifice, a con-

ducting pipe leading to said receiver, mixer
couplings fitted to said receiver, a housing
above said shelf inclosing said receiver and
mixer couplings and having a closed top and
5 a wall fitting throughout its lower edge
against the top of said shelf, and jet tubes
snugly fitted in the wall of said housing and

associated at their inner ends with said
mixer couplings, substantially as set forth.

WM. KITCHING.

In the presence of—

MARY E. ANDERSON,
S. L. McKEE.