F. C. BALUSS.

GAS HEATER FOR FURNACES.

APPLICATION FILED OCT. 23, 1920.

1,405,386. Patented Feb. 7, 1922.

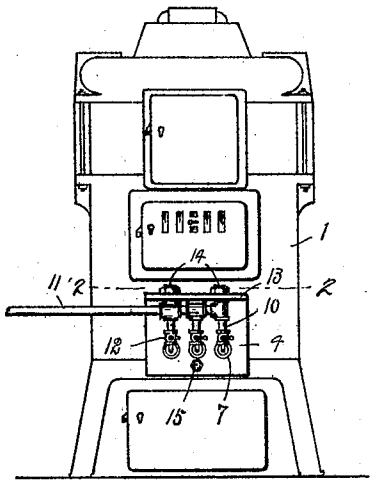


Fig. 1.

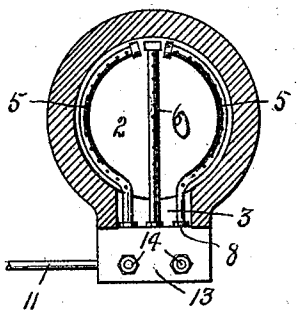


Fig. 2.

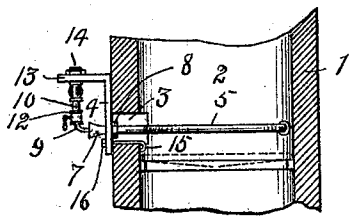


Fig. 3.

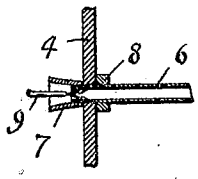


Fig. 4.

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GAS HEATER FOR FURNACES.

1,405,386. Specification of Letters Patent. Patented Feb. 7, 1922.

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To all whom it may concern:

Be it known that I, FRED C. BALUSS, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Gas Heaters for Furnaces, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to gas burners and has special reference to a burner designed for use in a furnace such as used in connection with household heating purposes.

The object is to provide a simple form of burner which may be readily attached to a standard furnace for heating purposes.

Another object is to produce a device of this character which may be quickly installed or removed during the fall and spring months when maximum heating requirements do not prevail.

Still another object is to provide a convenient novel form of burner support which in no way interferes with the furnace structure.

Other objects and advantages of the peculiar structure will appear in the further description of the invention.

Referring now to the drawings accompanying this application and in which like reference characters indicate like parts:

Figure 1 is a front elevation of a furnace, with my improved heater installed therein;

Figure 2 is a cross section on the line 2—2, Figure 1; showing a plan view of the burner and holder;

Figure 3 is a side elevation of the burner, showing the manner of installation within the furnace; and

Figure 4 is an enlarged vertical central sectional view of the mouth of one of the burner pipes.

1 represents an ordinary furnace and 2 the combustion chamber therein, while 3 represents the door opening into the fire box and 4 is an inverted L-shaped combination closure for the door opening and support for the different sections of the burner.

The burner comprises two arcuately shaped perforated pipes 5—5, they being disposed oppositely to each other and having therebetween a straight piece of perforated pipe 6. The closure 4 has formed, in the upright body portion thereof, three properly spaced holes for the reception of the ends of the pipes 5—5 and 6 which pass therethrough and each pipe has screw threadedly mounted upon the end which extends through the closure, a funnel shaped member 7. A jam nut 8 is provided on the opposite side of the closure for holding the pipes tightly in place within the closure. By this means it is evident that the pipes 5—5 and 6 may be readily separated or disconnected from the closure or supporting device during the process of installing or removing the burner in connection with the furnace. It will be noted that the ends of the pipes 5—5 and 6 terminate adjacent each other, but are not in any way connected, each pipe burning independently of the other.

The funnel shaped members 7 are for the reception of the ends 9 of the discharge pipes 10, which are extensions from the main gas pipe 11 and in each pipe 10 is installed a valve 12 for controlling the gas which is discharged into the members 7. The ends 9 of the pipes 10 do not bottom in the inner ends of the funnel shaped members, but extend therein opposite the mouth of each pipe 5—5 and 6 so that when gas is admitted through the ends 9 of the pipes 10 it will carry with it, by a syphoning effect, a portion of air, thus improving the combustion of the gas when burning.

As before stated, the pipes 10 each have installed therein a common control valve 12 and are connected to the main gas pipe 11 in any desired manner, and I have shown the connections to the outermost pipes 10 as extending upwardly and secured to the horizontal portion 13 of the closure as at 14; thus the closure becomes a support for the entire burner.

As a means for holding the closure and burner in position within the furnace, I am employing a goosenecked bolt 15, which is carried adjacent the lower edge of the closure and extends inwardly within the furnace and hooks over the lower edge of the opening 3, when it may be drawn taut by means of the nut 16 and thus hold the closure tightly against the outer face of the opening 3, while the weight of the pipes 5—5 and 6 will tend to hold the upper side of the closure more securely in position. When the burner is employed in connection with a furnace it is intended that the door of the furnace be removed or swung clearly out of the way of the closure 4 so that the latter

will be unobstructed in its application to the door opening in the furnace.

From the foregoing it is evident that I have devised a simple and inexpensive burner which may be applied to a hot water or other furnace very quickly and economically for a mild heating of the furnace during the fall or spring months, and, if surrounding conditions are such as to warrant, it may be used continuously, if desired.

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

1. A burner of the character described comprising an inverted L-shaped supporting member, a plurality of perforated pipes removably attached to the body portion of the supporting member, means carried by the body portion for attaching the burner to the furnace and a manifold gas pipe carried by the supporting member and supplying gas to the perforated pipes.

2. A burner of the character described comprising an inverted L-shaped holder, a plurality of perforated pipes fastened within the holder, each pipe having a funnel shaped member at the receiving end thereof, a manifold gas pipe carried by the horizontally projecting portion of the holder and depending valve controlled L-shaped pipes extending from the manifold into the funnel shaped mouths of the perforated pipes, whereby when gas is discharged into said latter pipes it will be supplied with air for improvement in its combustion, substantially as described.

3. A holder for a gas burner applicable to the door opening of a furnace comprising an inverted L-shaped closure for said opening, perforated burner pipes attached to said closure and projecting into the furnace, a manifold gas supply pipe carried by the horizontally projecting portion of the closure, depending valve controlled L-shaped pipes extending from the manifold and supplying gas to the burner pipes, substantially as described.

4. A holder for a gas burner applicable to the door opening of a furnace comprising a closure plate for said opening, burner pipes carried by said plate and extending inwardly into the furnace, and a gooseneck bolt extending inwardly from the plate beneath the burner pipes for holding engagement against the inner lower edge of the door opening of the furnace, substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses:

FRED C. BALUSS.

Witnesses:

D. E. STEVENS,

S. C. BRONSON.