No. 628,065. Patented July 4, 1899.

J. F. BARKER.

GAS BURNER.

(Application filed Dec. 27, 1898.)

(No Model.)

Fig. 1

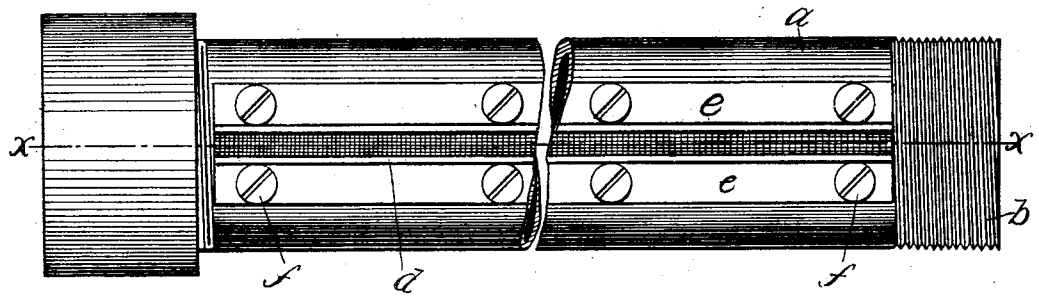
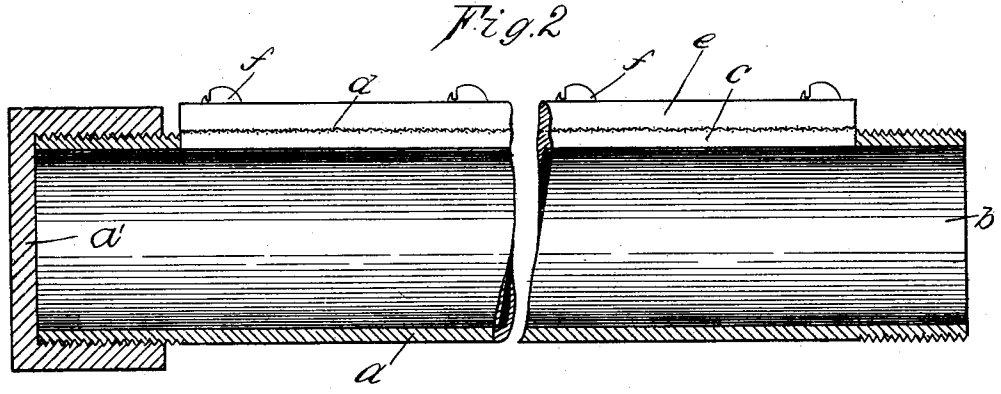


Fig. 2



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UNITED STATES PATENT OFFICE.

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GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 628,065, dated July 4, 1899.

Application filed December 27, 1898. Serial No. 700,303. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. BARKER, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a plan view of a burner embodying said improvement. Fig. 2 is a view thereof in vertical cross-section on the plane denoted by the dotted line *x x*.

This invention relates to burners for hydrocarbon or for a mixture of air and gas; and the object of the same is to produce a burner of this character for heating purposes whose parts will absorb considerable of the heat while the burner is lighted and give off the same by radiation after the flame has been extinguished. This object I accomplish by the construction set forth below.

This improvement pertains to that class of gas-burners in which the combustion is for the purpose of utilizing the heat in various processes of manufacture.

The embodied invention is intended to use a mixture of gas under pressure and atmospheric air.

The improvement finds its specially useful application in heating what are known as "enameling-ovens."

In the accompanying drawings the letter *a* denotes what may be called the "burner-pipe," standing about horizontal, one end being closed, as at *a'*, and the mingled air and gas being fed at the other end *b* on the Bunsen principle.

The letter *c* denotes a slot made longitudinally in the top of the burner-pipe. The letter *d* denotes wire-gauze covering that slot.

The letter *e* denotes heavy metallic heat radiating and conducting strips located on the top of the pipe and along the sides of the slot, and by the aid of the screws *f* they also serve to confine the wire-gauze to its place, yet permit its removal when desired. The gas which is permitted to enter the pipe escapes through the gauze and is fired above the same. It is essential that the pipe *a* and the strips *e* should be of a material which readily conducts and radiates heat. It is essential that the medium through which the gas passes from the pipe to its point of combustion be wire-gauze in contradistinction from holes drilled too far apart in the pipe, or the like. The use of the gauze for this purpose in contradistinction to the use of bored holes for one thing insures the lighting of the gas from end to end at a single flash when it is lighted at any one part, and the use of the heavy heat-radiating strips, in connection with the gauze, absorbs the major portion of the heat and prevents the gauze attaining that degree of heat which would not only readily destroy the gauze, but ignite the gas within the pipe. The use of the gauze also gives such freedom of passage to the gas as to prevent any blowing action of the flame.

From the above description it will be clear that the gas flowing along the pipe *a* rises through the gauze *d* and when ignited at any one point the flame quickly travels the entire length of the gauze, and the gas thereafter burns in a solid sheet between the two strips *e*. The latter, as well as the pipe *a*, becomes very much heated, and after the flame is extinguished these heavy metallic parts will give off heat by radiation for a considerable length of time, limited only by the size of parts and size of the chamber in which the burner is located.

I claim as my improvement—

In combination in a gas-burner, the horizontally-disposed burner-pipe made of heat-conducting material and provided with a slot along its top, wire-gauze covering said slot, the heavy heat-conducting strips located along the sides of the slot over the edges of the gauze, and screws adapted to confine said gauze between said pipes and said strips and hold it in position across the slot, all substantially as described and for the purposes set forth.

JOHN F. BARKER.

Witnesses:
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