

A. G. HAMAKER.

Gas Burner.

No. 29,486.

Patented Aug. 7, 1860.

Fig. 2

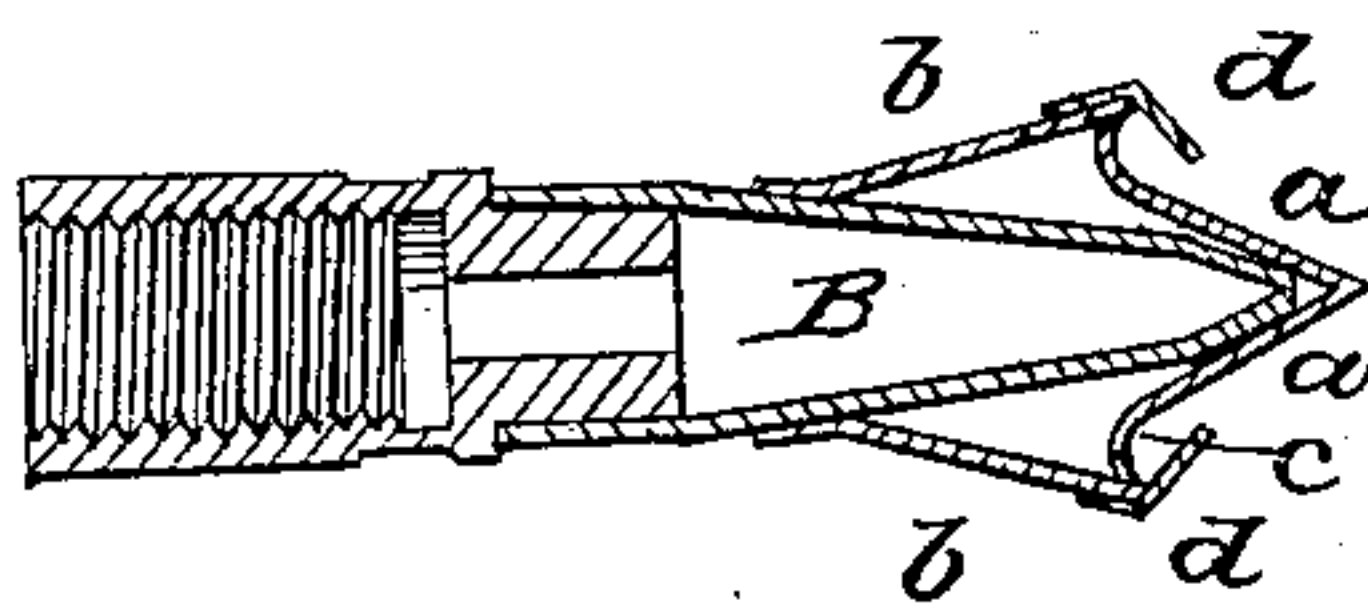
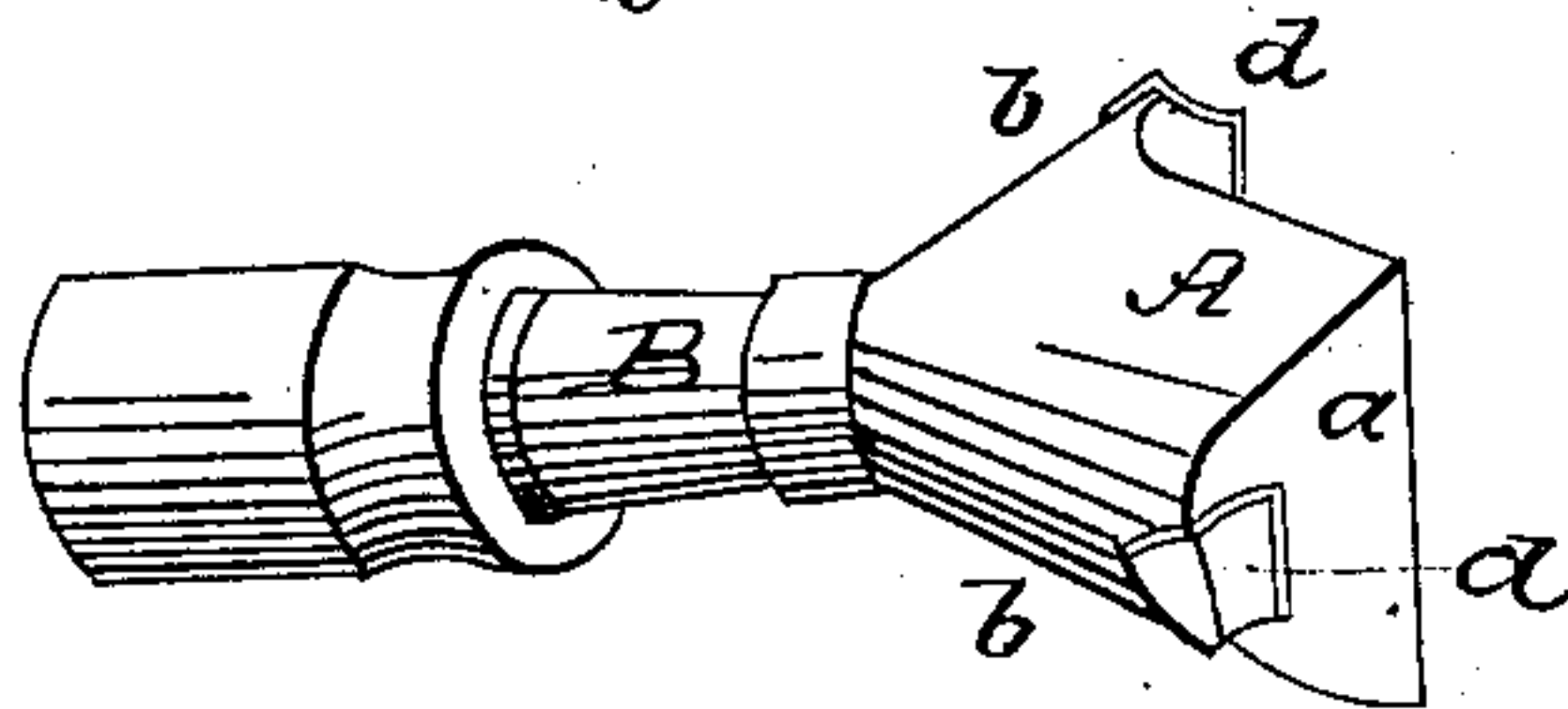


Fig. 1.



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ABRAHAM G. HAMAKER, OF PEORIA, ILLINOIS.

GAS-BURNER.

Specification of Letters Patent No. 29,486, dated August 7, 1860.

To all whom it may concern:

Be it known that I, ABRAHAM G. HAMAKER, of the city and county of Peoria, State of Illinois, 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, in which—

10 Figure 1 represents a perspective view of a gas burner embracing my improvements. Fig. 2 represents a vertical sectional elevation of the same.

My improvements in gas burners relate to that class in which a heating chamber for the gas is formed in some part of the tube of the burner, so that the heat of the inflamed gas will cause the rarefaction of the gas within the chamber in order to render its combustion more perfect.

The object of my improvements is to facilitate the heating of the gas within the chamber, by means of the inflamed gas issuing from the jet holes of the burner; and my invention for effecting this object consists in forming an enlargement, or chamber in the upper part of the burner with a cuneiform termination, and arranging the jet holes of the burner at or near the base of the sloping sides of the chamber, so that a single jet hole on each side will cause the upper portion of the chamber to be enveloped by the flame of the gas.

The second part of my invention consists in combining with the cuneiform terminated chamber deflecting plates, so arranged in relation to the jet-orifices as to cause the flame to be deflected, along the sloping sides of the chamber, and to unite in one sheet above the apex of the cuneiformed termination.

The third part of my invention consists in arranging an interior tube within the chamber, through which the gas passes from the pipe to the chamber, with its orifices of discharge above the jet orifices of the burner, by which means the gas issuing from the internal pipe is caused to impinge upon the highly-heated sloping sides of the

cuneiform terminated chamber, and is thus heated more rapidly than it would otherwise be, were the orifices of discharge from the internal tube placed below the jet orifices of the burner.

In the accompanying drawings is represented a gas burner embracing my improvements, which consists of two parts a chambered burner (A) and a central feeding tube entering the base of the burner. This burner is made of thin metal, the upper part of which is cylindrical with a cuneiform termination, the sloping sides (*a*) of which are slightly concave. Joined to the base of the upper portion is a hollow frustum of a cone (*b*) through the small end of which passes the central pipe or tube (B) to conduct the gas to the chamber. Near the base of the sloping sides of the upper portion of the burner are jet orifices (*c*) through which the gas issues, and extending over them are deflecting plates (*d*) to deflect the flame as it issues from the jet orifices, and cause it to pass over the surface of the sloping sides of the burner, and unite at the apex, in a single unbroken sheet of flame. The central feeding pipe (B) entering the base of the chamber extends above the jet orifice, so that the gas issuing from the pipe, comes in contact with the sloping sides of the chamber and then descends to pass through the jet openings. By this arrangement the gas is brought first in contact with the upper and more highly heated part of the chamber so that it is more highly heated and rarefied than it would be, if the opening in the feed pipe was below the jet orifice.

I do not confine myself to the precise construction arrangement or form of the burner provided it is of such form that the flame can be caused to envelop the upper portion of the heating chamber and then be concentrated so as to unite in a single sheet above the top of the burner.

Having thus described my improvements in gas burners, what I claim therein as new, and desire to secure by Letters Patent, is—

1. Constructing the heating chamber of the burner substantially as described or in

an equivalent manner so that the different jets shall act upon the sides of the burner and unite in a single flame above its apex.

2. Arranging over the jet orifices a deflecting plate constructed substantially as described, so as to deflect and give the required direction to the jet of flame.

3. The combination of a chambered burner with a central pipe so arranged that

its orifice or orifices of discharge will be 10 above the jet-orifices of the burner.

In testimony whereof I have subscribed my name.

ABRAHAM G. HAMAKER.

Witnesses:

JAMES DELANO,
JOB SMITH.