W. R. HANKS.

Gas-Burner for Heating Purposes.

No. 165,095. Patented June 29, 1875.

Fig. 1.

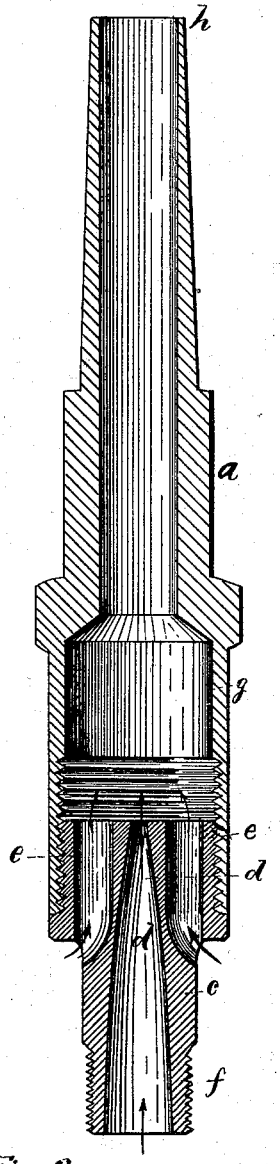
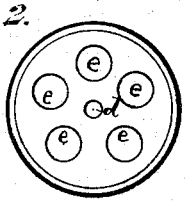


Fig. 2.



Witnesses.
Wm Pratt.
S. B. Kidder.

Inventor.
William R. Hanks
per Crosby & Gregory
Att'ys.

UNITED STATES PATENT OFFICE

WILLIAM R. HANKS, OF WELLESLEY, MASSACHUSETTS, ASSIGNOR TO SAMUEL G. REED, OF SAME PLACE.

IMPROVEMENT IN GAS-BURNERS FOR HEATING PURPOSES.

Specification forming part of Letters Patent No. **165,095**, dated June 29, 1875; application filed December 22, 1874.

To all whom it may concern:

Be it known that I, WILLIAM R. HANKS, of Wellesley, in the county of Norfolk and State of Massachusetts, have invented Improvements in Gas-Burners for Heating Purposes, of which the following is a specification:

My invention relates to improvements in gas-burners for heating purposes; and consists in a gas-burner having at and within its inclosed base a gas-discharging orifice, and parallel, or nearly so, with such gas-passage, air-supplying passages communicating with the chamber in which the gas is discharged.

In the drawing, Figure 1 is a section of my invention on an enlarged scale. Fig. 2 is a top view of the plug having the gas and air passages.

The tube of the burner is shown at *a*. The plug *f*, provided with a screw-thread, is attached to a pipe connected with a reservoir of gas. This plug has a central passage, *d*, through which gas passes, and from which it is discharged into the chamber *g* of the tube. Atmospheric air is allowed to enter the chamber *g* through the openings *e*, arranged about the opening *d*. The gas flowing from the tube *a* of the burner is ignited at *h*, and forms a hot current, which ascends rapidly, and draws the atmospheric air in through the openings *e*, thereby supplying the gas with an additional amount of oxygen, and acting to give the blaze force. The burner may be applied to any purposes where heat is desired.

I am aware that it is not new to supply a burner of this class with atmospheric air through lateral openings in the burner made at or near the opening that supplies the burner with gas, and I am aware that an ordinary burner has been covered or surrounded with a large shell almost entirely open at bottom, and air has been admitted about the enlarged base of the shell in great quantities; and with such burners, when tipped into or below a horizontal position, the gas flows from and ignites at these air-supplying passages, which is very objectionable and destroys the force of the blaze.

In this my improved burner the air-supplying passages *e e* are substantially parallel with the gas-passage *d*, and both lead into a chamber, *g*, closed, except at the end *h*, where the flame issues. The atmospheric air is drawn, owing to the current produced by the consuming gas, rapidly and with a considerable force into the chamber *g*, through the openings *e*, the air forming a circular blast about the gas, giving it additional impulse, making the flame issuing from the end *h* very steady and strong; and this burner may be used in any position, for the flame will issue properly when the end *h* is turned up or down, and the gas will not ignite back of the end *h*.

I claim—

The combination of the tube *a* with the removable end plug *f*, having a central gas-passage and a series of air-passages encircling the gas-passage, and leading into a chamber, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM R. HANKS.

Witnesses:

S. B. KIDDER,

L. H. LATIMER.