C. H. PRENTISS.

Gas-Heaters.

No. 136,383. Patented March 4, 1873.

Fig. 1.

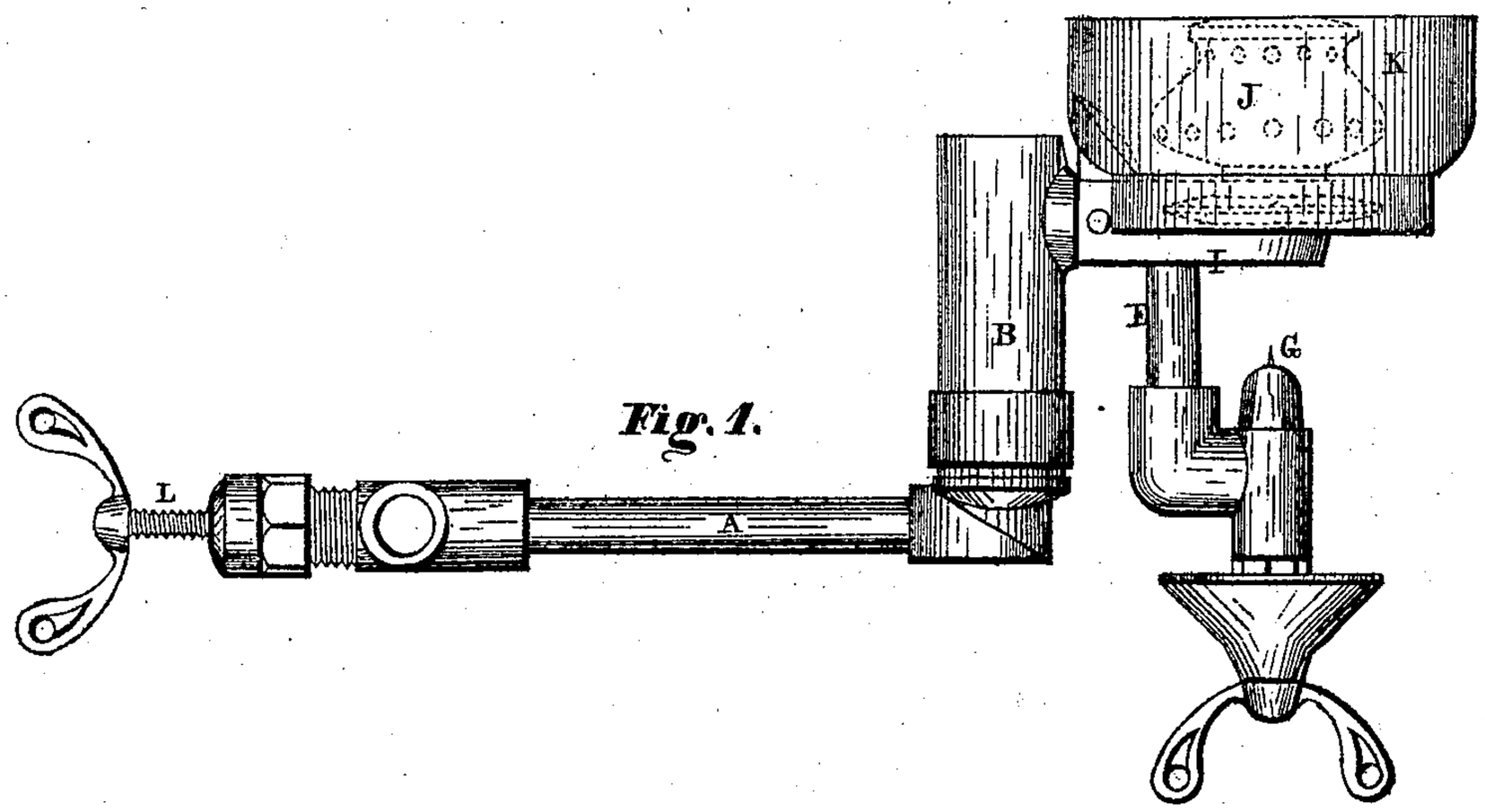
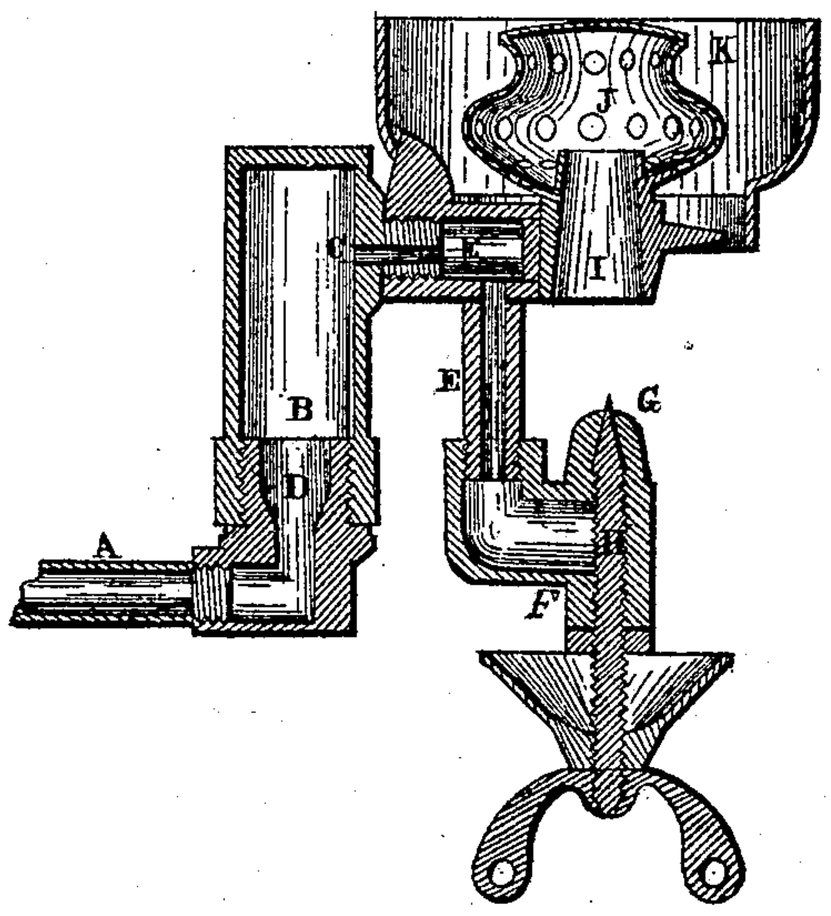


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES H. PRENTISS, OF CLEVELAND, OHIO.

IMPROVEMENT IN GAS HEATERS.

Specification forming part of Letters Patent No. **136,383**, dated March 4, 1873.

To all whom it may concern:

Be it known that I, CHARLES H. PRENTISS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Vapor-Burner; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figure 1 is a side view of the burner. Fig. 2 is a vertical section.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a gas or vapor burner; and it consists in the construction and arrangement of parts, as hereinafter more fully described and pointed out by the claim.

Of the construction and operation of said burner the following is a more full and complete description:

In the drawing, Fig. 1, A represents a tube leading from a fount or reservoir in which the fluid is held, and which may be more or less distant and elevated above the burner. To said tube is secured a chamber, B, having in its upper end an outlet, C, of small size in comparison to the inlet D at the lower end. Said outlet opens into a small heating-chamber, E, from which is an outlet, F, leading to and terminating in a jet-point, G, in which is fitted a screw-valve, H, for regulating the flow of vapor. Immediately above the jet is a tapering passage-way or funnel, I, into which the jet of vapor flows, and is thereby conducted to the hollow perforated head or shell J for being burned. K is a shell or cup, the purpose of which is to prevent the flame from spreading too much.

The practical operation of the burner is as follows: A fount or reservoir containing a fluid from which the gas is to be generated is so placed in relation to the burner as to be elevated above it. The flow of the fluid therefrom to the chamber B is regulated by a valve operated by a screw, L. The pressure of the fluid, in consequence of the height of the fount, forces it into said chamber B, wherein it becomes heated and thereby vaporized. The vapor passes at once into the chamber E, in which it becomes superheated, and in this condition it flows to and out of the jet-point G, more or less in quantity, as the adjustment of the valve H will permit. The gas-jet flows directly from the point into and through the wide mouth of the funnel I, thence to and into the shell or burner J. In the passage of the vapor from the point G to the funnel a certain amount of oxygen is drawn in therewith, which is heated therein and thoroughly intermingled with the vapor, thereby perfecting it for burning.

In the ordinary gas-burner the flame is often flickering and not uniform in volume; this is mainly caused by a pulsation of the current of gas induced by a variable pressure. To avoid this flickering of the flame, and to produce a steady and uniform one, is the purpose of the chamber B, which, in consequence of the large amount of vapor it contains, opposes an elastic resistance to the pulsating current, so that a more uniform jet is thereby produced, and, consequently, a steady and uniform flame. The shell or head J being of large capacity, and therefore holding a large volume of gas, it serves to check a direct escape of the gas through its perforations; hence it flows therefrom with less violence than if the holding capacity of the head were small, the result of which is that the jets burn without noise.

As aforesaid, the special purpose of this apparatus is for culinary uses and for heating purposes. For these purposes the burner is supported in a frame for the convenience of holding the utensils over the flame in which the cooking, &c., is being conducted.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The chambers B and E, outlet C, jet-point G, and screw-valve H, combined with the funnel I, burner J, and cup K, the several parts being constructed and arranged as and for the purpose specified.

CHARLES H. PRENTISS.

Witnesses:
W. H. BURRIDGE,
JOHN K. ROBINSON.