

C. H. PRENTISS.

Vapor-Burner.

No. 167,471.

Patented Sept. 7, 1875.

Fig. 1.

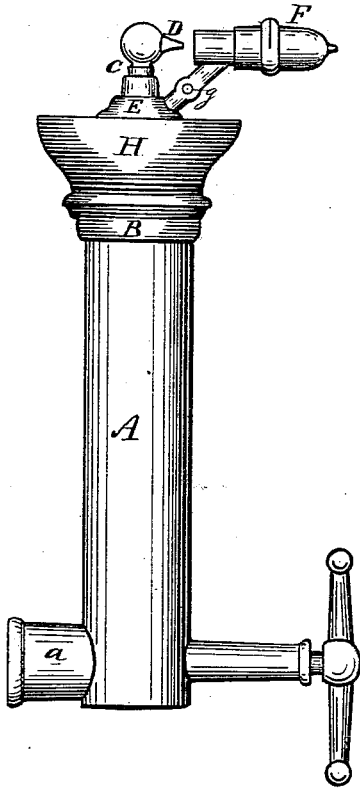
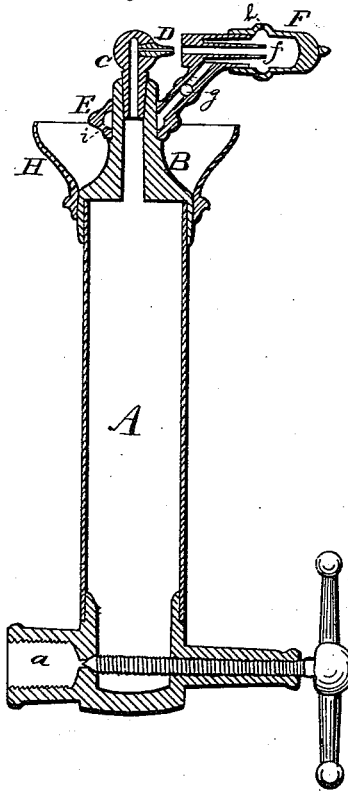


Fig. 2.



Witnesses.

Henry P. Tibbitts

Frank R. Tibbitts

Inventor.

Charles H. Prentiss

By Geo. W. Tibbitts, Atty.

UNITED STATES PATENT OFFICE

CHARLES H. PRENTISS, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN P. HUMPHREY, OF SAME PLACE.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 167,471, dated September 7, 1875; application filed March 3, 1875.

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 Vapor-Burner, of which the following is a specification:

This invention relates to a new construction of vapor-burners for illuminating purposes; and consists of a vapor-generating tube or chamber, having at the top a cup, inside of which is a tube, having a small nozzle directed toward and into another tube, having a chamber from which, through a slit, the vapor arises and is burned. Leading from this last-mentioned chamber is a passage into an annular chamber surrounding the tube leading from the generating-chamber, said annular chamber having a few small holes from which jets of vapor are burned for the purpose of heating the cup, by means of which the vapor is generated in the said generating-chamber, the said devices combined and arranged for operating, as hereinafter described and claimed.

The following is a description in detail of the above, aided by the accompanying drawing, in which—

Figure 1 is a side elevation, and Fig. 2 is a vertical section.

A is a tube comprising the generating-chamber, having a base or bottom, with a connection, *a*, for attaching it to a pipe, said base also having a thumb-screw for closing the passage into the chamber A. B is a cap fitted onto the top of the tube A, terminating at the top in the form of a tube, into which is fitted a hollow plug, C, having a small nozzle, D, in one side. Surrounding the tube B is a ring, E, having an annular chamber in its interior surface, from which, through a branch leading from said ring, is a passage communicating with a chamber in the burner-tip F. This

tip consists of a tube having a small tube, *f*, in its center, and in line with the small nozzle D. In the branch from the ring E is placed a small cock, *g*. Surrounding the cap B is a cup, H.

The operation of this burner is as follows: The fluid entering the chamber A, in which it is vaporized, and issuing through the nozzle, forces air before it into the tube and into the chamber in the tip F, where it is thoroughly mixed with the air, and is burned at the slit *h*. From the chamber in the tip the vapor is conducted through the passage in the branch to the annular chamber in the ring E, the quantity being regulated by the small cock *g*, to be burned at the jets *i*, for the purpose of heating the cup H, and thus conveying heat to the tube A for generating vapor.

By the arranging the nozzle to force the air before it, in the manner shown, enables the burner-slit to be made thinner, thus making a thinner flame and producing a whiter and brighter light.

Having thus described my invention, I claim as follows:

1. The heating-burner E, provided with a regulating-cock, *g*, in its supply-pipe, and combined with the mixing chamber and heater of a vapor-burner, substantially as specified.
2. The mixing-chamber F, provided with the slit *h* and tube *f*, combined with the escape-nozzle of a vapor-generator, substantially as specified.
3. The combination of the escape-nozzle C, mixer F, heater H, and burner E, substantially as and for the purpose described.

C. H. PRENTISS.

Witnesses:

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