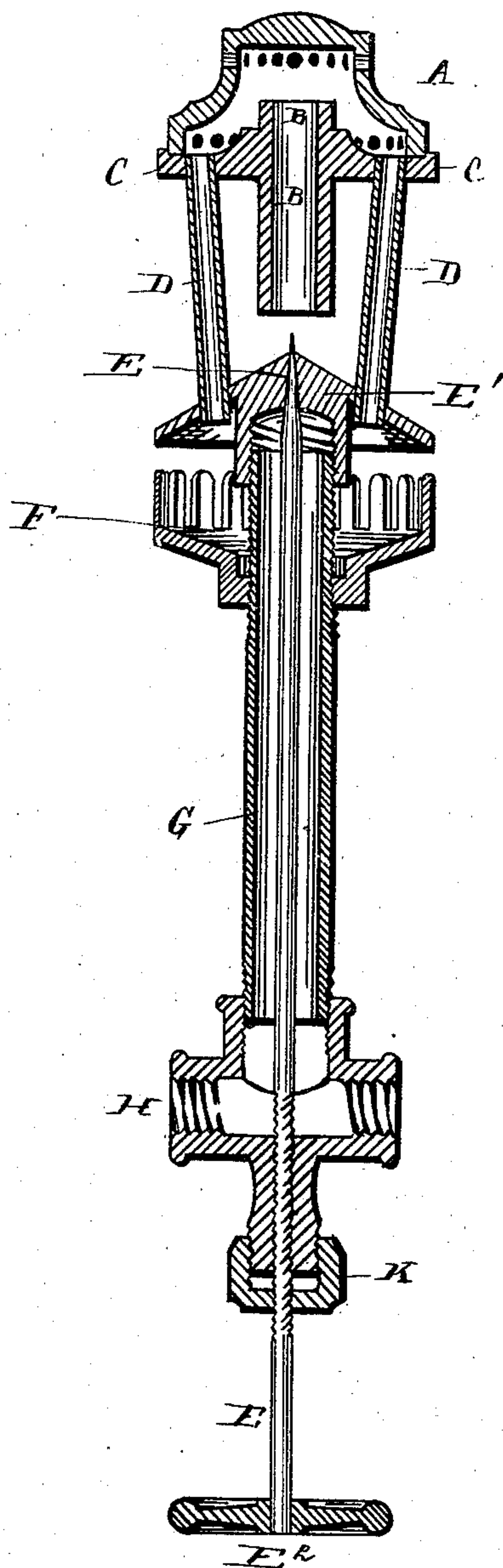


(No Model.)

W. G. AMOR.  
Vapor Burner.

No. 231,887.

Patented Sept. 7, 1880.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM G. AMOR, OF CLEVELAND, OHIO.

## VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 231,887, dated September 7, 1880.

Application filed July 3, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM G. AMOR, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to vapor-burners. It consists in certain details of construction and combination of parts, as will hereinafter be described, and pointed out in the claims.

The drawing accompanying this specification illustrates, in longitudinal vertical section, a burner constructed according to my invention.

A is the enlarged bell or crown, made of cast-iron, perforated, and resting loosely upon its seat C.

The burning-chamber A need not be of the exact or equivalent shape shown in the drawing. Its shape and its method of perforation may be indefinitely varied, as in this particular feature my invention does not consist.

C is the seat of the burner A, and is a disk, through the center of which passes the short tube B, centrally placed within the disk C, and serving as a guide and director to the vapor from the valve E beneath it to the chamber A, within which it terminates.

Supporting the chamber A, disk C, and tube B are one, two, or more tubes, D. These tubes, at their lower ends, pass through and are supported by the plate E'. This plate E' has a central perforation controlled by a valve, E, and it is screwed or otherwise fixed upon the upper end of the tube G, through the length of which tube passes the stem of the valve E. Fixed upon the tube G, and located just below the plate E', is the cup F. It will be observed that a partially-closed chamber is formed between the lower surface of the plate E' and the upper surface of the cup F, and that the tubes D communicate between this partially-closed chamber and the chamber of the bell or crown A.

H is a plumber's T-joint. This, of course, is not an essential part of the device. A single feed-pipe supplies several burners, the ends

of said feed-pipe screwing into the horizontal portion of the joint H.

E<sup>2</sup> is a handle fixed upon the end of the stem of the valve E, which passes downward through the joint H, having a screw-thread cut upon its lower end, as shown, and feeding with a female screw cut in the joint H.

K is any suitable stuffing-box for preventing the escape of burning-fluid at the joint to which it is applied.

The operation of my device will be readily understood.

The valve E being open, the gasoline, or whatever burning-fluid is employed, will rush up into the enlarged bell or crown A, down through the tubes D into the cup F. When full the flow of burning-fluid is checked, and such as has been caught in the cup F is ignited, thus heating all the parts above and surrounded by the cup F until sufficiently hot to vaporize the fluid passing upward. When this is done the valve E is again opened, and now nothing but vapor will escape through the central perforation of the plate E'. This vapor passes upward through the tube B, where it is commingled with the air which is mixed within the chamber A, and, escaping through the perforations of said chamber A, is burned. A portion, however, of this vapor, instead of escaping through the perforations of the bell or crown A, passes downward through the tubes D and is burned beneath the plate E', thus keeping said plate E' always hot enough to vaporize the fluid passing to it.

One feature peculiar to my invention will be readily recognized, and that is that the amount of the vaporizing-flame at the lower end of the tubes D will always be proportioned to the amount of vapor to be consumed and to the amount of fluid to be vaporized, inasmuch as the amount of vapor passing down through the tubes D must depend upon the amount escaping past the valve E.

It will be observed that my entire burner is governed by a single valve instead of two valves, as is customary, one for controlling the feed of the burning-fluid and another for controlling the escape of vapor.

What I claim is—

1. In a vapor-burner, the combination, with the drip-cup F and heater-plate E', of the burn-



ing-chamber A and one or more tubes, D, connecting the burning-chamber and heater-plate E', substantially as set forth.

2. In a vapor-burner, the combination, with  
5 the drip-cup F and heater-plate E', of one or more tubes, D, short tube B, and burning-chamber A, substantially as set forth.

3. In a vapor-burner, the combination, with  
10 tube G, drip-cup F, and heater-plate E', the latter screwed upon the upper end of tube G

and provided with downwardly-flaring outer portion, of the burning-chamber A and one or more tubes, D, substantially as set forth.

In testimony whereof I have signed my name  
to this specification in the presence of two sub- 15  
scribing witnesses.

WILLIAM G. AMOR.

Witnesses:

JNO. CROWELL, Jr.,

A. W. BRIGHT.