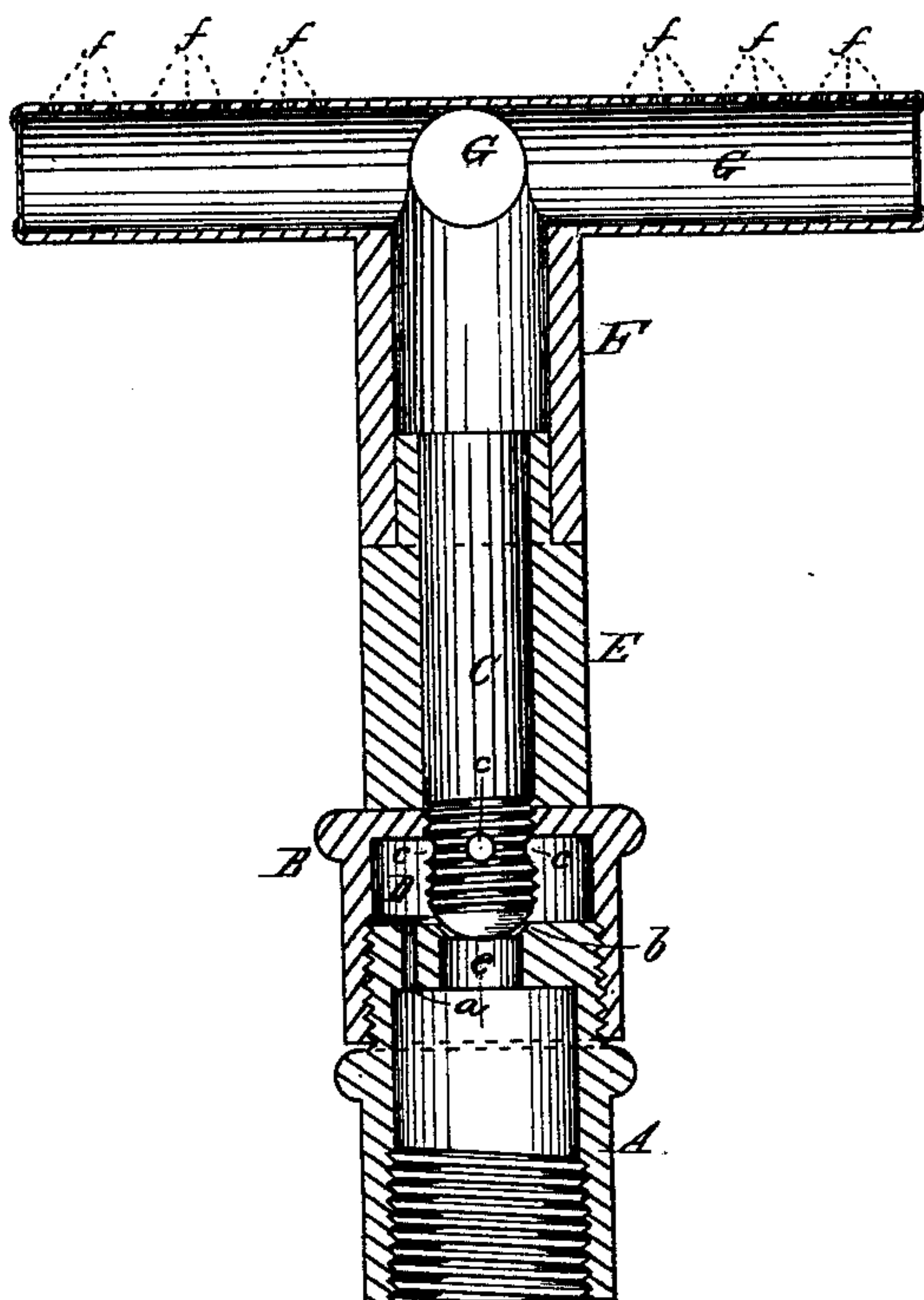


J. F. BARKER.  
Gas Burner.

No. 231,256.

Patented Aug. 17, 1880.



Witnesses.  
C. C. Curtis  
F. C. Curtis

Inventor.  
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# UNITED STATES PATENT OFFICE.

JOHN F. BARKER, OF SPRINGFIELD, MASSACHUSETTS.

## GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 231,256, dated August 17, 1880.

Application filed May 13, 1879.

*To all whom it may concern:*

Be it known that I, JOHN F. BARKER, of Springfield, in the State of Massachusetts, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, and to the letters of reference marked thereon.

My invention has for its object the regulation of the flow of gas from the pipe through the burner; and to this end my invention consists of a pillar perforated and provided with a valve-orifice, and with a burner-base screwed to its upper part, which base is provided with a valve arranged to close the orifice in the pillar below, and which valve is perforated to allow the gas to escape to the burner from the regulating-chamber, all of which will be more fully hereinafter described.

The figure of the drawing is a vertical section through the axis of a radial gas-burner having my invention applied thereto.

In the drawing, A is the pillar, provided with a screw-thread in its lower part to secure it to a gas-pipe, and provided at the top with a central circular valve-orifice, *e*, and also with a small escape-orifice, *a*, and with a screw-thread on its upper portion outside.

B represents a base provided with a screw-thread on the inside, and into the top of this base is secured a tube, C, (shown in elevation,) whose lower end is made solid, and projects down into the chamber of the base, and is of such partially spherical form at its extreme lower end and is so fitted to the seat *b* of the valve-orifice as to close the latter when the base B with its valve is turned down for that purpose. This valve is also provided with apertures *c* below the top of the base, so that the gas in the chamber D within the base B and above the pillar A may escape and pass up into the arms G of the burner, which radiate from the post F.

To prevent the base B and pillar A from becoming heated by the flame of the gas-jet, the valve C may extend upward in the form of a tube to any desired length, and be se-

cured at its upper end to the foot of the burner-post F with some substance which is a non-conductor of heat, such as plaster-of-paris, placed around the tube between the base B and the burner-post F. In this case the base will always remain sufficiently cool to be seized with the fingers to turn it either up or down.

The base, tube C, non-heating substance, and burner-post F are thus all firmly secured together; and if the quantity of gas escaping through the holes *f* of the burner is too great, causing too much flame, the base B is turned down farther upon the pillar A, so that the lower end of the tube or valve C more nearly approaches the valve-orifice *e*, decreasing the flow of gas from the pipe and pillar A up through the valve-orifice, and causing a decreased gas-pressure in the chamber D above the pillar, and also in the burner-arms G, so that two separate and distinct gas-pressures are provided, one in the chamber D and one in the pillar A, the reduced pressure being on the screw which secures the base B to the pillar A, and there is consequently much less liability of the gas to leak out around the screw when the pressure is reduced to give the flame the proper height.

In order that the gas may not be accidentally entirely shut off from the burner-arms G by turning down the valve and base too far, I provide a small escape-orifice, *a*, in the top of the pillar, through which a small amount of gas may always escape, the area of this orifice being less than the aggregate area of the orifices *c* in the valve C.

If the material E were not used as a non-conductor of heat, it is evident that the foot of the burner-post F might be secured firmly to the top of the base B, in which case the tube C would not be required to extend above the top of the base, and the latter would form the foot of the burner-post.

I am aware that a substance has heretofore been used as a non-conductor of heat to prevent portions of gas-burners from becoming heated, and that gas-burners have heretofore been constructed so that the flow of the gas from the pipe to the tip could be controlled,

and I do not claim the same, nor any part thereof, irrespective of my construction and arrangement.

Having thus described my invention, what I  
5 claim as new is—

1. The pillar A, provided with the aperture *a* and the valve-orifice *c*, in combination with the base B and the valve C, having the orifices *c*, all substantially as and for the purpose  
10 specified.

2. The combination of the base B, the post F, having the burner-arms G radiating therefrom, the valve-tube C, and the non-heating portion E, substantially as herein described.

JOHN F. BARKER.

Witnesses:

A. J. PLUMER,  
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