

(No Model.)

F. P. BARNEY.  
SELF CLOSING GAS BURNER.

No. 598,892.

Patented Feb. 15, 1898.

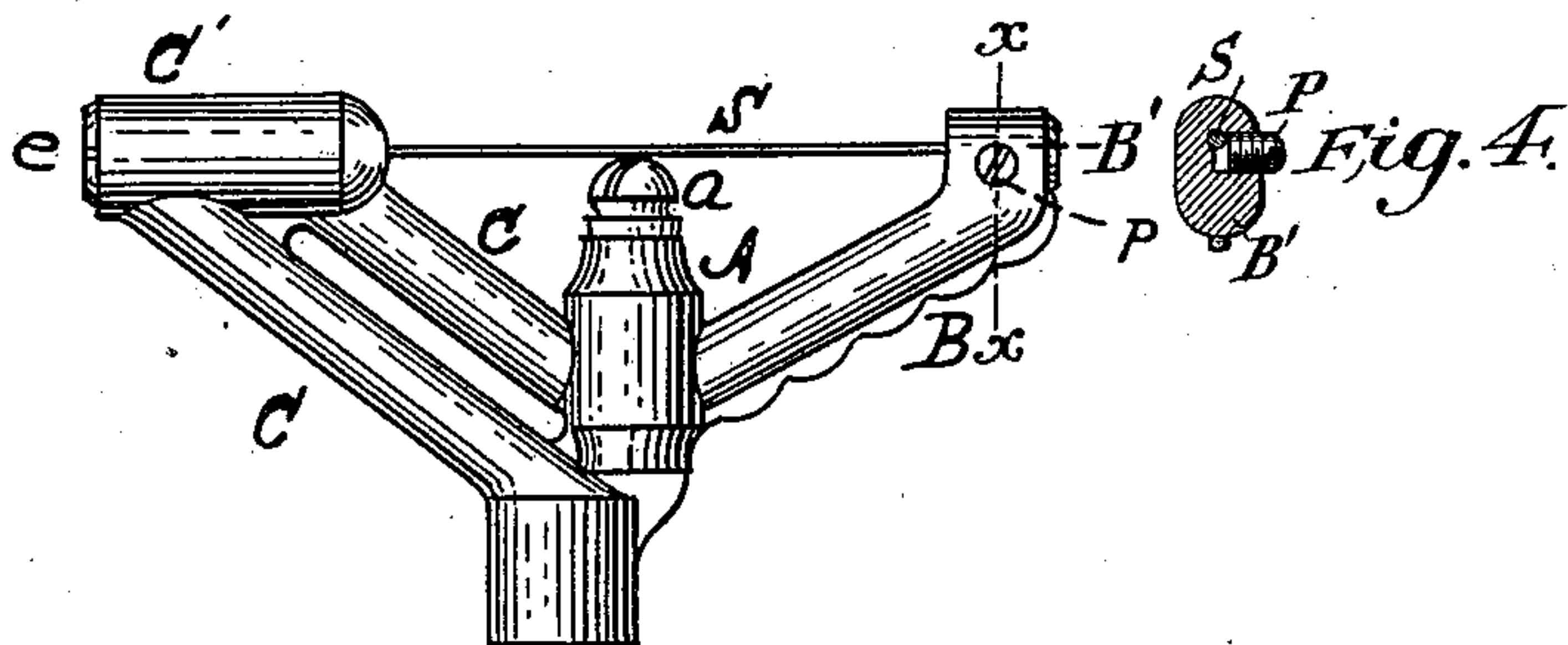


FIG. 1.

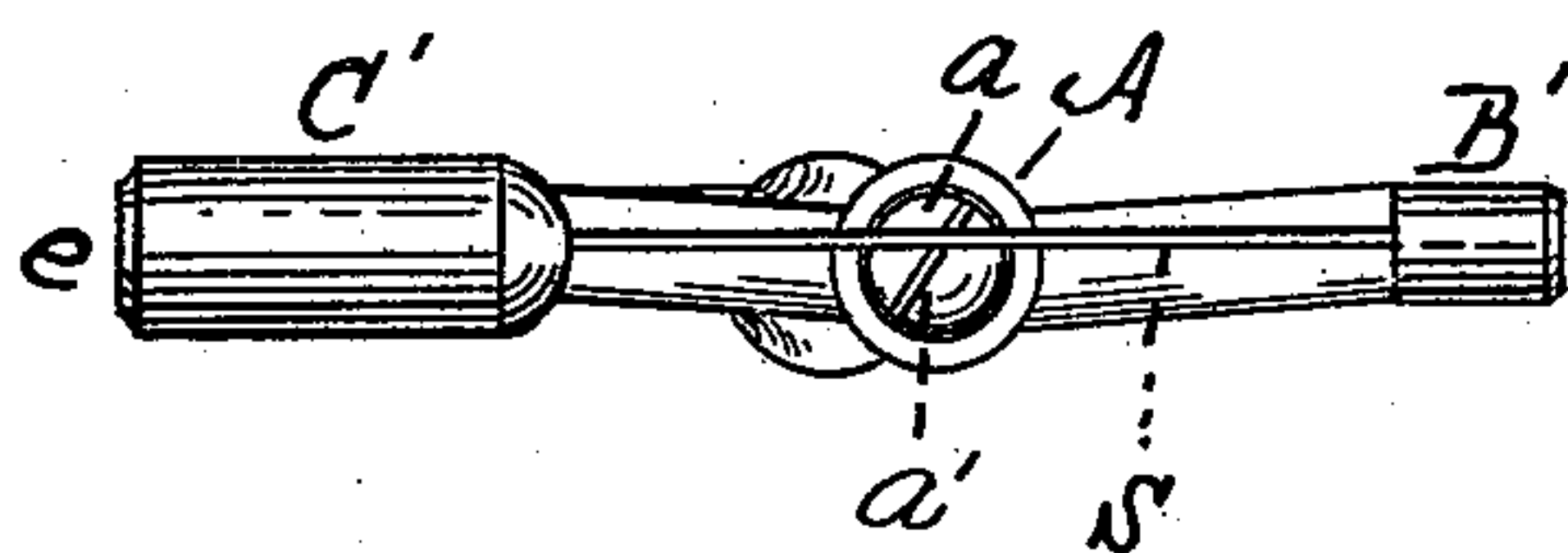


FIG. 2.

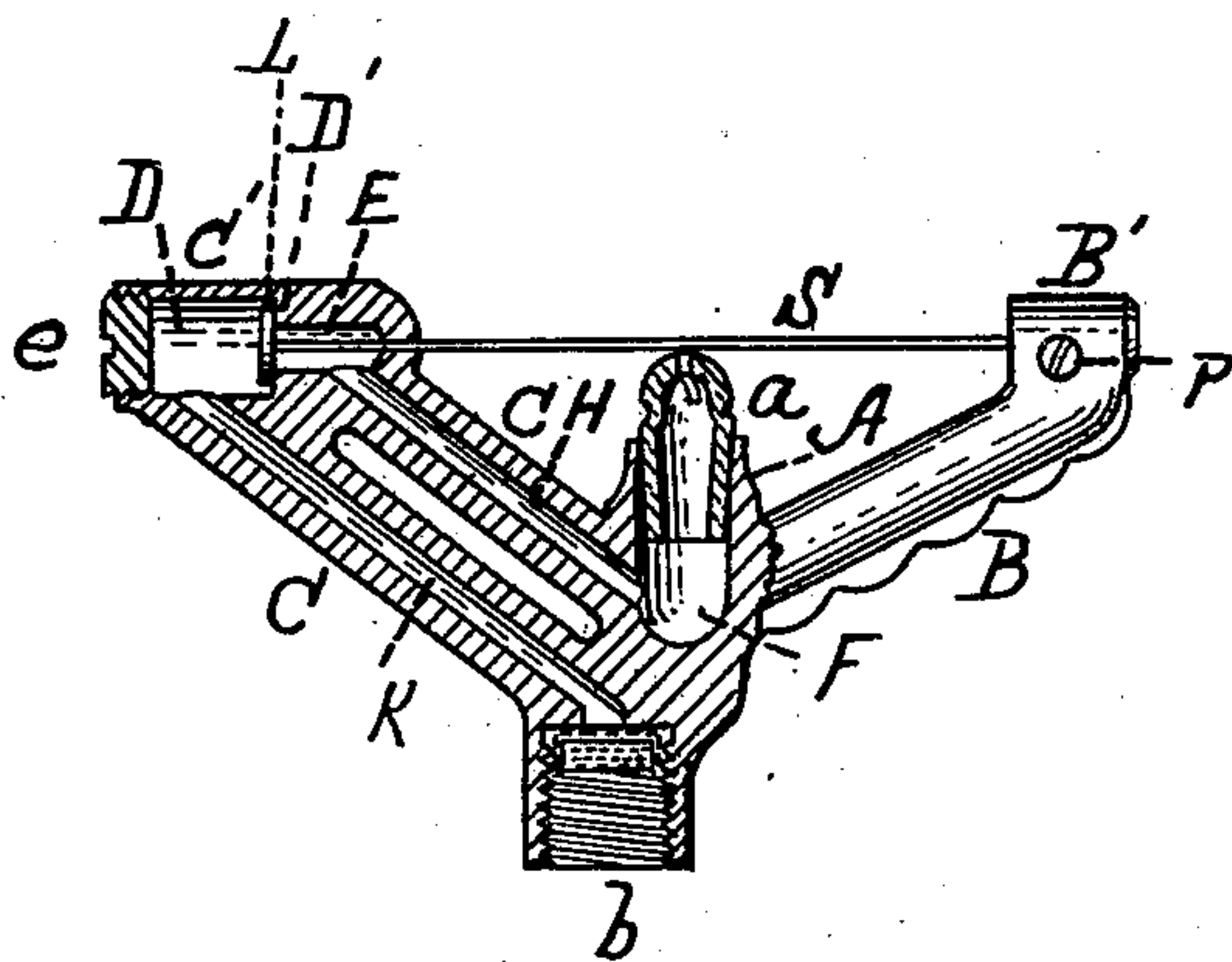


FIG. 3.

WITNESSES

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# UNITED STATES PATENT OFFICE.

FRANK P. BARNEY, OF NORTON, MASSACHUSETTS.

## SELF-CLOSING GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 598,892, dated February 15, 1898.

Application filed October 9, 1897. Serial No. 654,610. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK P. BARNEY, a citizen of the United States, residing in Norton, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Self-Closing Gas-Burners, of which the following is a specification.

This invention relates to a novel and improved construction whereby on the extinguishing of the flame the gas will be automatically shut off and on the application of a jet of flame—as from a burning match, for example—the gas will be automatically turned on; and the invention is intended to be an improvement over and upon the invention described and illustrated in Letters Patent of the United States granted July 6, 1897, and numbered 585,902.

The nature of the invention or improvement is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my improved gas-burner. Fig. 2 is a plan view of the same. Fig. 3 is a part elevation and part longitudinal vertical section of the same. Fig. 4 is a detail in section taken on line X, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the burner proper, and *a* the tip.

*b* is the gas-inlet.

Extending diagonally upward from the burner A on one side is a bracket B, which may be solid or tubular, as desired. Extending diagonally upward on the opposite side of the burner at substantially the same angle as the bracket B is a bracket C. The upper end C' of this bracket is enlarged and is provided with a horizontal chamber so counter-bored as to be divided into the large chamber D and the smaller chamber E, both of which are preferably or approximately round in cross vertical section. The outer end of the chamber D is closed by means of the plug *e*. The tip *a* is set into a chamber or socket F, which does not directly connect with the inlet *b*, but which is connected by the passage H in the bracket C with the chamber E. The inlet *b* is connected by a passage K in the bracket C with the chamber D. A valve-disk L is in the chamber D, and being larger in

diameter than the chamber E is prevented from entering said chamber by the shoulder D', which constitutes a valve-seat. A metallic wire S extends from this valve-disk horizontally through a suitable opening in the upper portion C' of the bracket C into the upper portion B' of the bracket B, its end being held rigidly within said portion B' by a binding-screw P. The brackets B C are so set with relation to the burner A that the wire intersects and extends across the burner on a line a trifle one side of the center of the tip, as seen in Fig. 2, so that were the slot *a'* in the tip made parallel with the wire it would not be exactly under it. When the right end of the wire is inserted in its socket in the part B', the binding-screw P is set against it, and being so placed with relation to the wire that its center is below said wire the screw when turned to the right operates to stretch and make taut the wire and draw the valve-disk L against its seat D'.

To light the burner, apply a flame, as from a lighted match, to the wire S and it will expand and move the valve-disk L from its seat, thus connecting the chambers D and E. The gas then flows from the inlet *b* through the passage K, chambers D and E, and passage H into the chamber F, and thence to the tip *a*, when it is ignited by the flame. Should the flame from the tip be blown out, the wire S contracts and draws the valve-disk L against its seat D', and thus shuts off the supply of gas.

As above mentioned, the tip is so set with relation to the wire that the wire does not extend centrally across it and thus intersect it at its center, where there is but little heat. Moreover, it will be noticed by reference to the drawings that the tip is so turned that the slot extends diagonally across the wire. The position of the tip with relation to the wire prevents the blaze from being cut or divided into two equal parts, and the angle of the slot serves to apply to the wire just the proper heat. If the slot were at right angles with the wire, there would be too little heat, inasmuch as the side of the flame would not radiate much heat toward the wire. On the other hand, if the slot were turned so as to be at a very acute angle with the wire the flame would present too much heat to the wire.



The angle indicated in the drawings applies about the proper heat to the wire without extending the flame along for too great a distance.

5 Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

10 In a self-closing gas-burner, the burner proper A provided with the chamber F; brackets extending upward from and on opposite sides of the burner, one of said brackets being provided with a horizontal chamber formed with a seat for a horizontally-operating valve and with passages connecting said

chamber on opposite sides of the valve-seat 15 respectively with the chamber F and the gas-inlet; a valve within said horizontal chamber; a wire extending therefrom over the burner-tip on one side of its center to the opposite bracket; and a binding-screw set against the 20 wire so that the wire intersects its binding end on one side only, thus enabling the screw to tighten the wire as it is turned, substantially as described.

FRANK P. BARNEY.

Witnesses:

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