

(No Model.)

C. J. LUTHER.

GAS BURNER.

No. 285,049.

Patented Sept. 18, 1883.

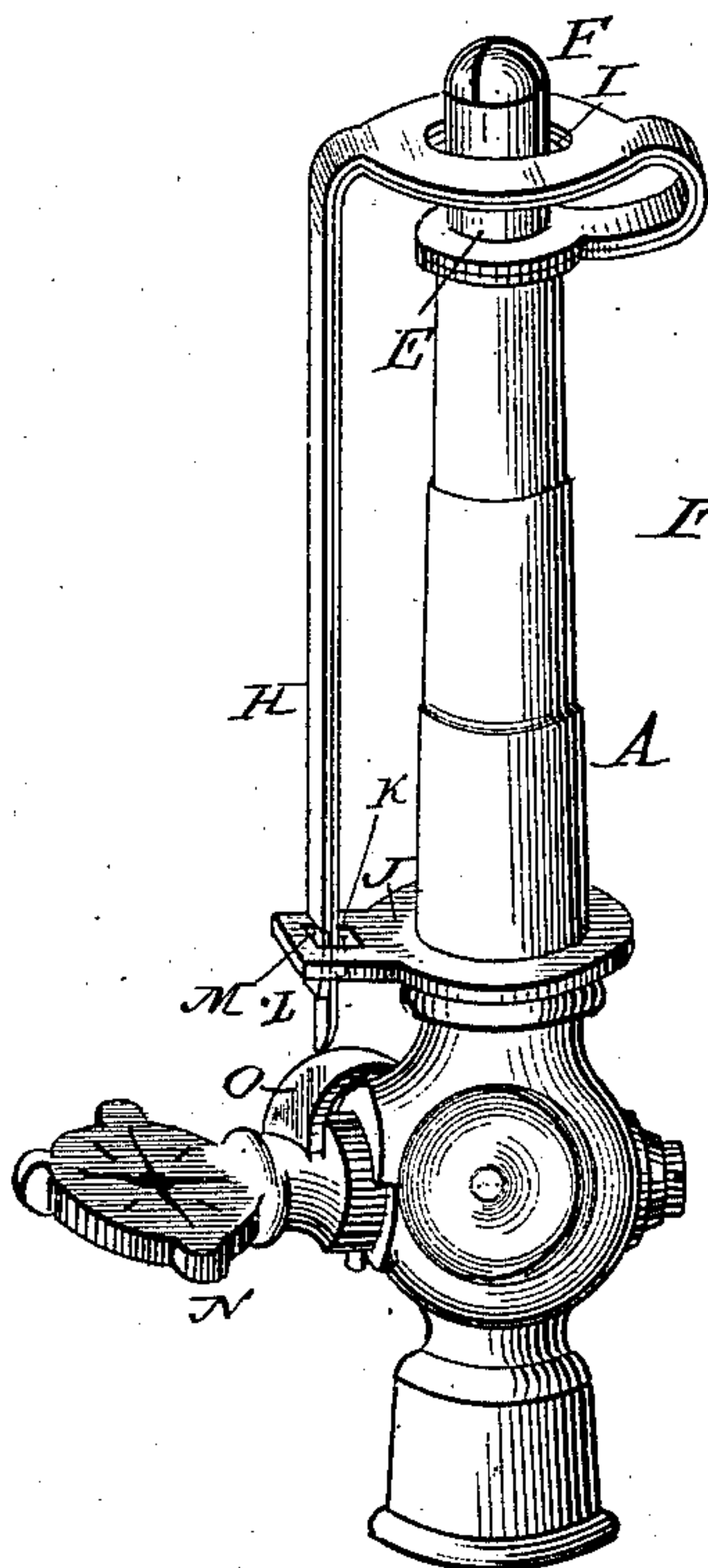


Fig. 1.

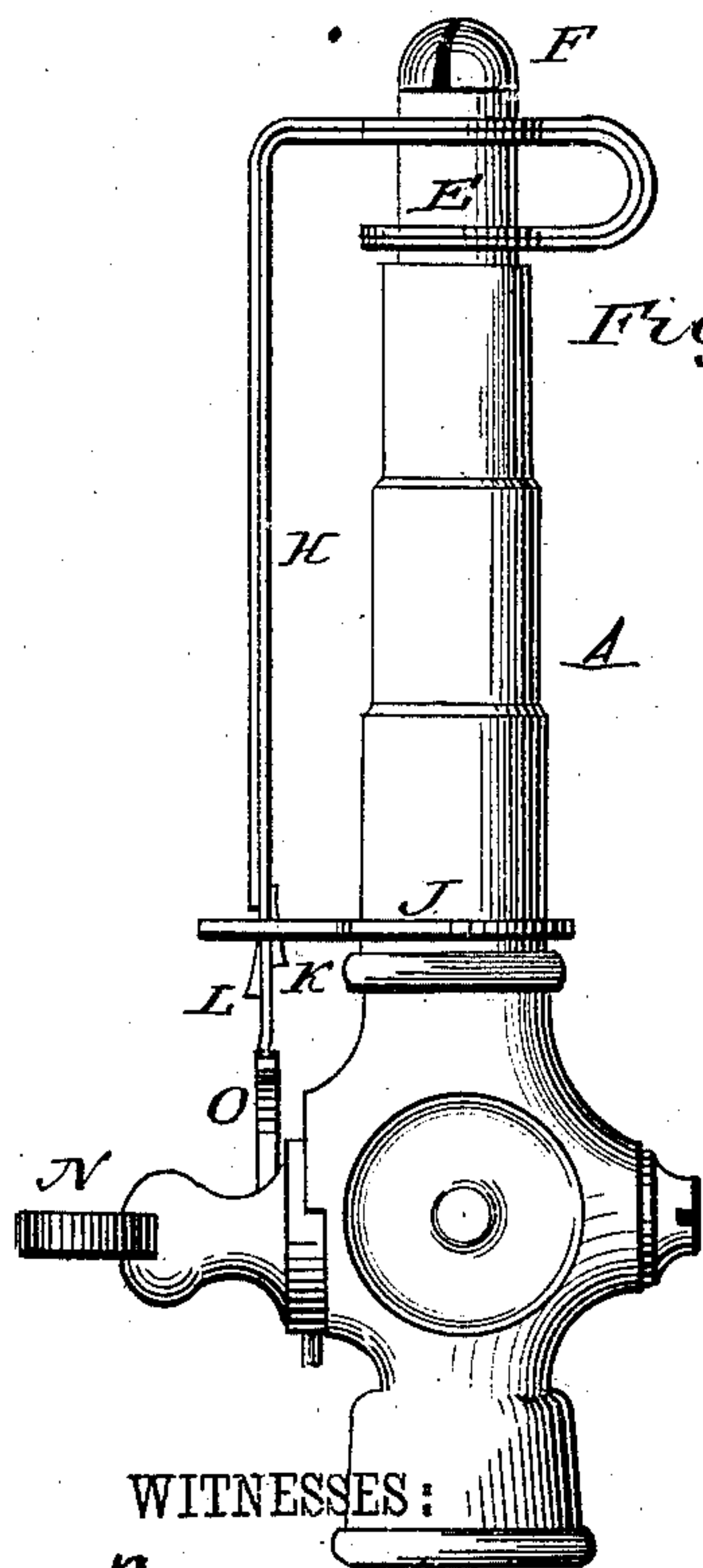


Fig. 2.

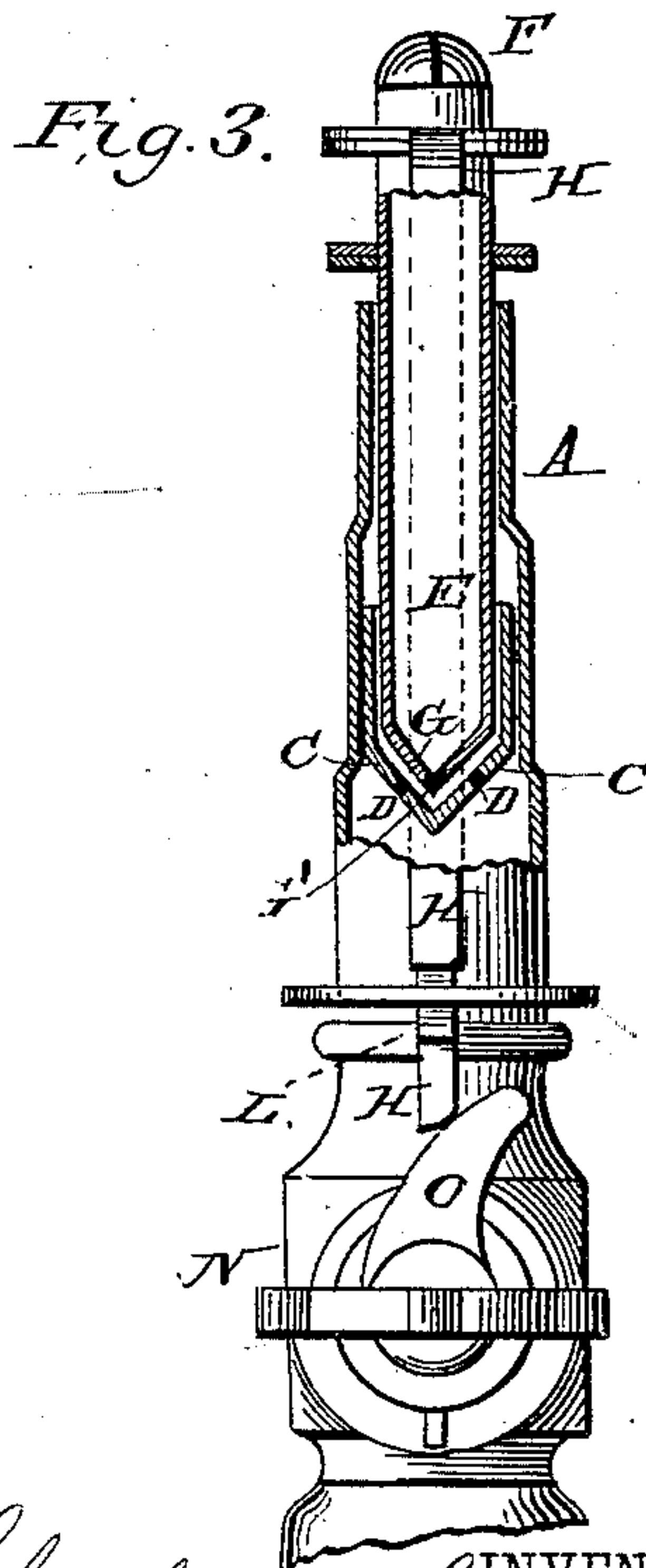


Fig. 3.

WITNESSES:

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CHARLES J. LUTHER, OF YONKERS, NEW YORK.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 285,049, dated September 18, 1883.

Application filed August 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. LUTHER, a citizen of the United States, and a resident of Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved gas-burner. Fig. 2 is a side view of the same; and Fig. 3 is a side view, partly in section, taken at right angles to Fig. 2.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to gas-burners; and it consists in the improved construction and combination of parts of a gas-burner which is adapted to automatically cut off the flow of gas when the flame has been accidentally blown out, as will be hereinafter more fully described and claimed.

In the accompanying drawings, A represents a burner having secured within it a seat, C, which is provided with two or more perforations, D, as shown in Fig. 3 of the drawings.

E represents a sliding tube, which slides within the upper part of the burner, and has upon its upper end a tip, F, of ordinary construction, and upon its lower end a conical end piece, G, adapted to fit closely upon the seat C, the end piece, G, having an aperture, G', at its lowest central point.

H represents the spring or expansion bar, which is made of two pieces of metal, one of steel and the other of brass, which are cut of the same size and shape and soldered or otherwise rigidly secured together, with the brass piece upon the outside. One end of the steel and brass spring or expansion bar H is firmly secured to the upper part of the sliding tube E, the spring being then bent back so as to pass over the tip of the burner, the spring or expansion bar being enlarged at that point and provided with an orifice, I, through which the tip of the burner protrudes to a sufficient height to admit of all of the flame being above the

said bar. The free end of the expansion-bar passes down parallel to the burner, and through a guide-plate, J, secured to the lower part of the burner. Upon the free end of the expansion-bar are secured catches K and L, one on either side of the bar, the combined width of the two catches being greater than the width of the opening M in the guide-plate J and the catch K, which is upon the inner side of the bar, being secured a little above the opposite catch, L, for the purpose hereinafter described. Upon one side of the cock N is a cam, O, against which the lower free end of the expansion-bar H bears.

The manner in which my improved burner operates is as follows: The burner being in a closed position, as shown in Fig. 1, to turn on the gas the operator turns the cock N to the left, when the cam O, coming in contact with the free end of the spring-bar or expansion-bar H, will raise the said bar upward, the bar carrying up with it the sliding tube E, thereby lifting the lower conical end of the sliding tube off of the conical seat C, as shown in Fig. 3, when the gas can freely pass through the perforations D and the central aperture, G', and out through the slotted tip of the burner in the usual manner. When the cam O has raised the expansion-bar to its highest point, the catch L, which, as before stated, is the lower of the two catches and is secured upon the outer side of the expansion-bar, will engage with the upper side of the guide-plate J, when the elasticity of the expansion-bar will hold the catch L in this locked position. Although the combined width of the catches K L is greater than the width of the aperture M in the guide-plate J, by arranging the said catches upon the expansion-bar in the manner described, one catch above the other, the catches will readily pass through the opening M. The gas being now lighted, the flame heats the upper brass surface of the circular part of the expansion-bar, when, by reason of the greater expansibility of the brass portion of the combined brass and steel expansion-bar, the free part or end of the said bar, which is parallel to the burner, will be moved in toward the burner, so as to free the outer catch, L, from the upper side of the guide-plate J, and cause the upper inner catch, K, to engage with the upper surface of the guide-

plate. When the flame is extinguished, either accidentally or otherwise, the upper circular part of the expansion-bar cools, when the natural spring of the said bar causes the catch K
5 to slip off of the guide-plate, and the weight of the bar H and of the tube E itself will cause the sliding tube to fall down into its closed position, thereby cutting off the supply of gas.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved gas-burner will readily be understood without requiring further explanation.

It will be seen that my improved gas-burner
15 is simple in construction, and that it may be manufactured at a comparatively small cost, while waste of gas and loss of human life may be prevented by its use.

Having thus described my invention, I claim
20 and desire to secure by Letters Patent of the United States—

1. As an improvement in gas-burners, the burner A, having a conical perforated valve-seat, C, sliding tube E, having a conical valve,
25 G, provided with a central aperture, and expansion-bar H, adapted to automatically adjust the sliding tube E, as and for the purpose shown and set forth.

2. The combination of the burner A, having
30 a conical perforated valve-seat, C, sliding tube E, having a conical valve, G, provided with a

central aperture, G', secured upon its lower end, expansion-bar H, secured at one end to the upper end of the sliding tube E, and having that portion which passes over the tip of
35 the tube enlarged and provided with an aperture, I, through which the tip of the tube E protrudes, and having upon its free end the catches K L, guide-plate J, having aperture M, and cam O, adapted to raise the expansion-
40 bar, all constructed and arranged as and for the purpose shown and described.

3. The expansion-bar H, consisting of two strips, one of brass and the other of steel, rigidly secured together, with the strip of brass
45 upon the upper side, and adapted to be secured at one end to the upper part of the sliding tube E, and having that portion which is bent back over the tip of the tube enlarged and provided with an aperture, I, through
50 which the tip of the tube protrudes, and provided on its lower free end with catches K L, adapted to engage with the top of the guide-plate, as set forth.

In testimony that I claim the foregoing as
55 my own I have hereunto affixed my signature in presence of two witnesses.

CHARLES J. LUTHER.

Witnesses:

LEWIS C. PARKER,
BENJAMIN M. BERRY.