

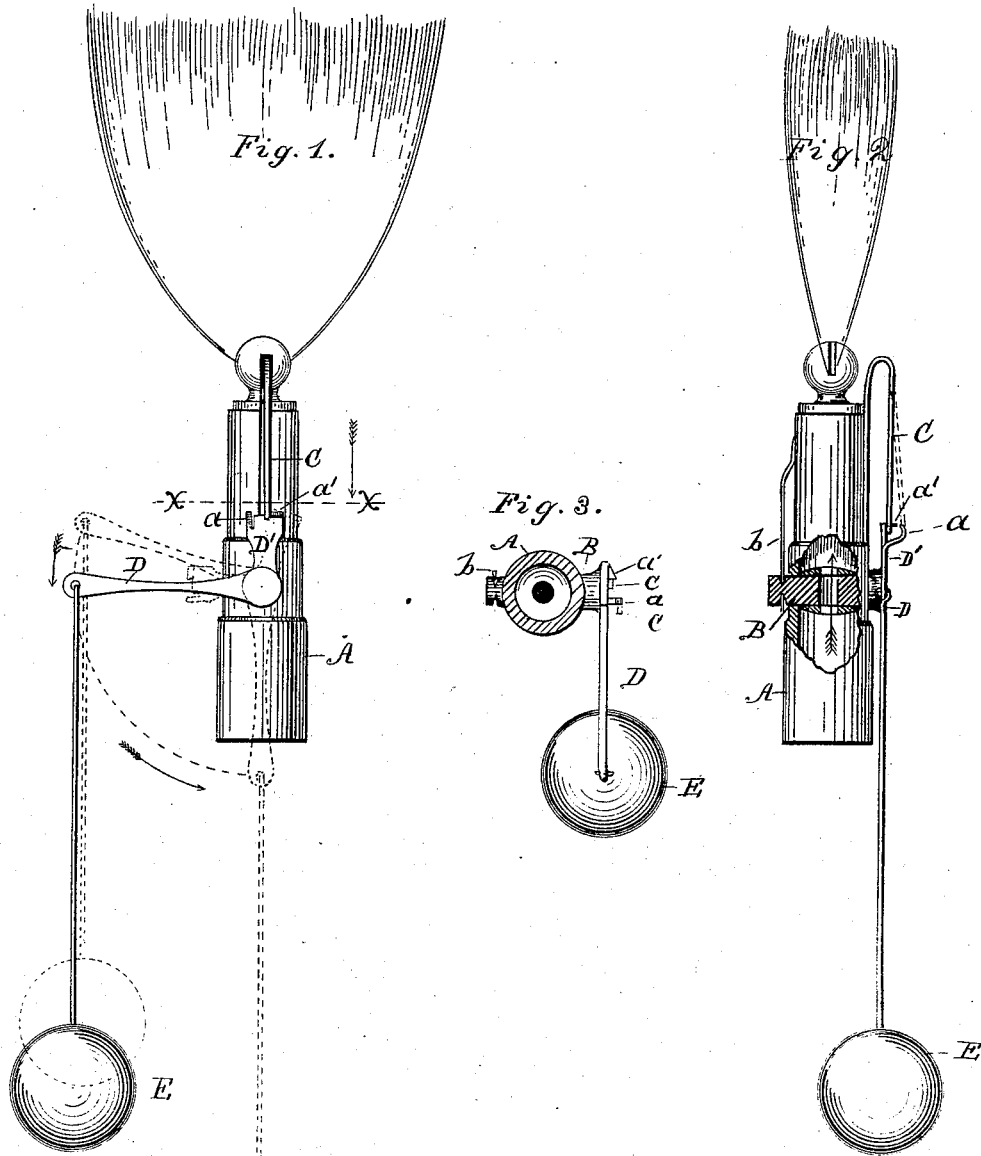
(No Model.)

G. W. METCALFE.

AUTOMATIC CUT-OFF FOR GAS BURNERS.

No. 264,320.

Patented Sept. 12, 1882.



WITNESSES:

Thos Houghton.

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UNITED STATES PATENT OFFICE.

GILL W. METCALFE, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF
TO S. SILBERSCHMIDT, OF SAME PLACE.

AUTOMATIC CUT-OFF FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 264,320, dated September 12, 1882.

Application filed June 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, GILL W. METCALFE, of Baltimore city and State of Maryland, have invented a new and Improved Automatic Cut-Off for Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view. Fig. 2 is a similar view taken at right angles to that shown in Fig. 1, and with a portion of the burner in section; and Fig. 3 is a transverse section through the line *xx* of Fig. 1.

My invention relates to a device to be attached to gas-burners for automatically turning off the gas if, from any accidental cause, the gas should be blown out or the flow stopped. It is an improvement upon the form of device for accomplishing the result in which a bent bar is arranged in close proximity to the gas-flame, and is held when expanded by the heat in a position where it strikes an arm on the gas-cock, and holds the latter open against the tension of a spring or weight, and which bent bar, when it cools and contracts from the extinguishment of the flame, passes to a position where it releases the gas-cock and allows the latter to close from the action of the weight or spring.

My invention consists in the peculiar construction and arrangement of said bent bar, which is bent in the middle, with its bend uppermost and near the gas-burner, and its two legs on the same side of the burner, one being attached thereto and the other free, in combination with the gas-cock, having rigidly attached thereto an elbow-lever, one arm of which carries a weight and the other of which is formed with two lugs or catches for co-operating with the expansible bent bar, as hereinafter more fully described.

In the drawings, A represents the gas-burner, having a cock, B, in the nature of a perforated plug passing through it at right angles and turning freely therein. This plug is made tapered and grooved at its small end, and a knife-edge, *b*, on the outside of the burner is made to fit in said groove to hold the plug in place.

Upon one side of the gas-burner is arranged the bent or expansible bar C, bent at its middle, so that its two legs are in a substantially

parallel position. This bent bar is arranged with both its legs upon the same side of the burner, with its bend at the top in close proximity to the gas-flame, one of its legs being soldered or otherwise fastened to the burner and the other free.

To the gas-cock is rigidly attached an elbow-lever, D D'. To the long arm D of this lever is attached a weight, E, while the short arm D' is arranged to play between the two branches of the bent bar, and is formed with two lugs, *a* *a'*, occupying different planes with respect to the free end of the bent bar. Of these lugs, *a* is in the plane of the free end of the bent bar when the latter is cold, and the other one of which lugs, *a'*, rests in the plane of said free end when said bar is expanded from the heat.

Now, in practice the elbow-lever is set with its lug *a* against the free end of bar C, as in dotted lines in Figs. 2 and 3, and the gas lighted. The expansion of the bent end of bar C then throws the lower or free end of the same inward to the burner, as shown in full lines, and said free end passes off lug *a* into the plane of *a'*, by which latter it is caught and held without any substantial change in the position of the gas-cock as long as the flame of gas exists. If, however, the latter is blown out or the flow temporarily stopped, then the bar C, upon cooling, contracts at its bend at the top and the lower portion of the free end passes gradually outward to the dotted position in Figs. 2 and 3 until it passes off the lug *a'*, at which time the cock, being no longer held, turns from the influence of the weight E and cuts off the gas.

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

The combination, with the gas-burner and the perforated gas-cock, of the bent bar C, having both legs on the same side of the burner, with its bent end uppermost, and one leg attached to the burner and the other free, and the elbow-lever, having one arm provided with lugs *a* and *a'*, in different planes with respect to the end of the bar C, and the other arm provided with a weight, substantially as shown, and for the purpose described.

GILL W. METCALFE.

Witnesses:

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