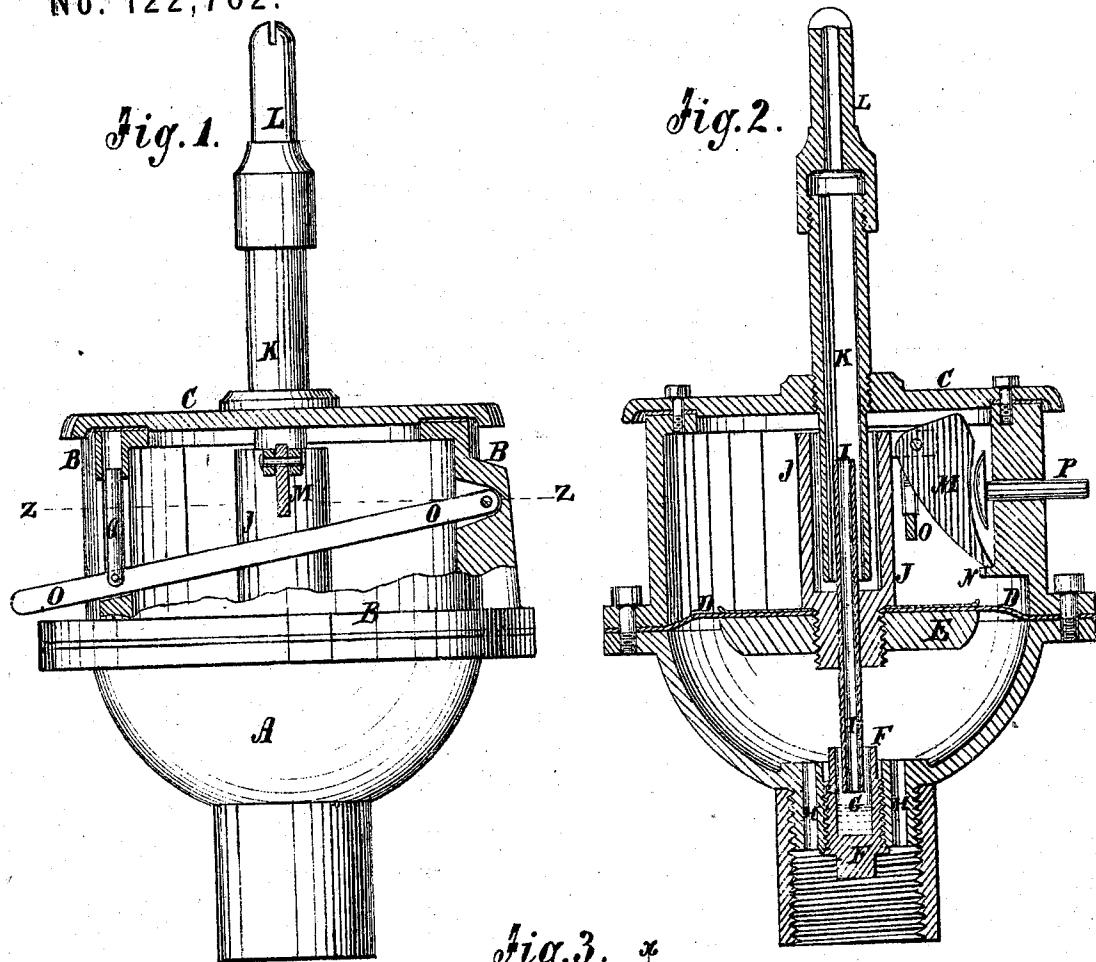


GEORGE S. DUNBAR.
 Extinguisher for Street Gas Lamps.
 No. 122,762.

Patented Jan. 16, 1872.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE S. DUNBAR, OF PITTSFIELD, MASSACHUSETTS.

IMPROVEMENT IN EXTINGUISHERS FOR STREET-LAMPS.

Specification forming part of Letters Patent No. 122,762, dated January 16, 1872.

Specification describing a new and useful Improvement in Extinguisher for Street Gas-Lamps, invented by GEORGE S. DUNBAR, of Pittsfield, in the county of Berkshire and State of Massachusetts.

Figure 1 is a side view of my improved apparatus, partly in section, through the line *x x*, Fig. 3. Fig. 2 is a detail vertical section of the same taken through the line *y y*, Fig. 3. Fig. 3 is a horizontal section of the same taken through the line *z z*, Fig. 2.

My invention has for its object to improve the construction of my gas-light extinguisher, for which Letters Patent No. 119,455 were issued to me October 3, 1871, so as to make it more satisfactory in operation, enabling the lights to be extinguished by a slightly increased pressure of the gas; and it consists in the construction and combination of various parts of the operating mechanism, as hereinafter more fully described.

A represents the lower part of the case, which is made with an outwardly-projecting flange around its upper edge, to which is bolted an outwardly-projecting flange, formed around the lower edge of the upper part *B* of the case. *C* is the cover of the case, which is bolted to the upper edge of the upper part of the case. *D* is a flexible diaphragm, the edges of which are clamped between the adjacent edges of the parts *A* *B*, and to the middle part of which is attached a weight, *E*, sufficient to depress the diaphragm against the ordinary pressure of the gas from the gas-pipe, but not sufficient to hold the said diaphragm down against a slightly-increased pressure of the gas. Around a hole in the bottom of the lower part *A* of the case is formed a tubular flange, having a screw-thread cut upon its outer and inner surfaces. Upon the outer screw-thread of said flange is screwed the end of a gas-pipe or a coupling to receive said pipe. Into the inner screw-thread of said flange is screwed a plug, *F*, having a cup or recess, *G*, formed in its upper end to receive liquid for a seal. The gas is admitted through holes *H*, formed in the said flange around the plug *F*. Through the center of the diaphragm *D* and weight *E* passes a short vertical tube, *I*, the lower end of which enters the cup *G*, and, when the diaphragm *D* drops down, enters the liquid in said cup, and thus

effectually prevents the passage of gas to the burner. The upper part of the tube *I* is surrounded with a cup, *J*, which is securely connected with the diaphragm *D*, and which is designed to receive liquid to form a seal. The cup *J* should be made enough larger than the tube *I* to furnish space to receive the lower end of the tube *K* which surrounds the tube *I*, and the lower end of which enters the liquid in the cup *J* to such a depth that the movements of the diaphragm *D* can never uncover its lower end. The tube *K* is connected with the cover *C*, and extends through the said cover *C* to receive, or has a short tube connected with it to receive, the burner-tip *L*. *M* is a catch, which is pivoted to a lug formed upon or attached to the upper part of the cup *J*. Upon the side of the lower part of the part *B* is formed a shoulder or flange, *N*, to receive the lower end of the catch *M*, and support the diaphragm *D* and its attachments when raised to allow the gas to pass to the burner. *O* is a lever, one end of which is pivoted to the side of the upper part *B* of the case. The lever *O* passes through the cavity of the case *A* *B* *C*, above the diaphragm *D* and below the catch *M*, and passes out through a slot in the side of the part *B* of the case.

By this construction the lamp-lighter, when about to light the lamp, raises the outer end of the lever *O*, which raises the diaphragm *D* and its attachments, raising the lower end of the tube *I* out of the liquid in the cup or cavity *G* and allowing the gas to pass to the burner. At the same time the lever *O* forces the catch *M* outward till its lower end catches upon the shoulder or flange *N*, which thus supports the diaphragm *D* and its attachments. When the catch *M* rests upon the shoulder *N* the outer corner of its upper end is the higher. If, now, the pressure of the gas in the pipes is increased, the pressure will slightly raise the diaphragm *D* and its attachments, which causes the outer end of the upper edge of the catch *M* to strike against the cover *C*. This throws the lower end of the catch *M* inward, so that when the increased pressure of the gas is stopped, which is done almost instantly, and the diaphragm *D* is depressed by its own weight, the lower end of the catch *M* will not catch upon the shoulder *N*, and the lower end

of the tube I will sink into the liquid in the cup G, stopping the passage of gas to the burner, and thus extinguishing the light.

P is a pin passing in through a hole in the side of the part B of the case, in such a position that its inner end, or a button or head formed upon its inner end, may strike against the outer edge of the catch M and push said catch off the shoulder or flange N, extinguishing the lamp. This arrangement is especially designed for burners that may be required to burn all night, and which may be extinguished by hand by simply pressing the pin P inward. Q is a pin, the lower end of which is connected with the lever O, and its upper end works up and down in a socket in the upper part of the case. The pin Q is designed to close the slot in the case in which the lever O works to prevent snow and rain from beating in through said slot should the glass of the lantern be broken.

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

1. The combination of the lever O, catch M, and shoulder or flange N with the flexible diaphragm D and its attachments, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the pin P with the catch M, flexible diaphragm D, and case B, substantially as herein shown and described, and for the purpose set forth.

3. The combination of the pin or slide Q with the lever O and the slot in the case B in which the said lever works, substantially as herein shown and described, and for the purpose set forth.

GEORGE S. DUNBAR.

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