(No Model.)

M. L. PENCE.

SAFETY GAS BURNER.

No. 312,892. Patented Feb. 24, 1885.

Fig. 1.

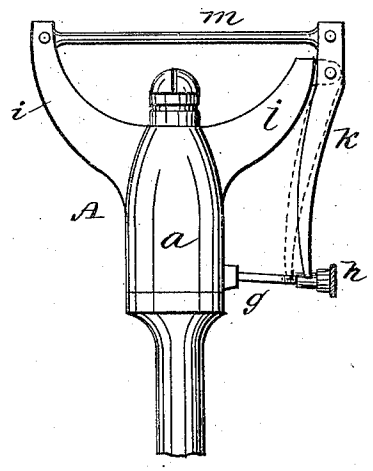


Fig. 2.

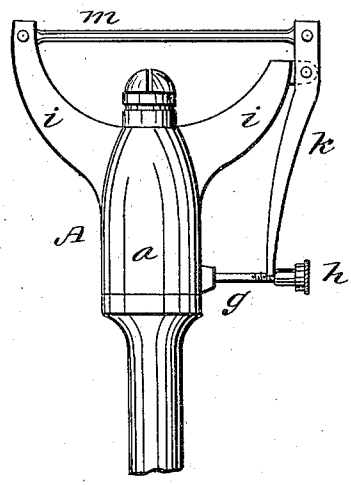


Fig. 3.

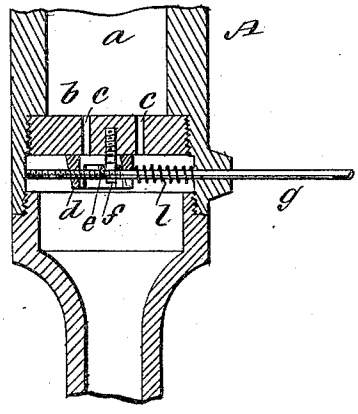
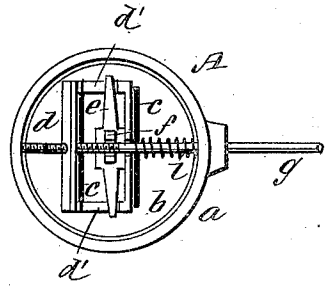


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MERRY L. PENCE, OF LEXINGTON, KENTUCKY.

SAFETY GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 312,892, dated February 24, 1885.

Application filed June 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, MERRY L. PENCE, of Lexington, in the county of Fayette and State of Kentucky, have invented a new and Improved Safety Gas-Burner, of which the following is a full, clear, and exact description.

The object of my invention is to provide for cutting off the escape of gas at burners by devices acting automatically when from any cause the flame is extinguished without the cock or valve being closed. To that end it consists in an expansion-rod, a lever, and a valve, combined with a burner, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the safety gas-burner, with the parts in position for lighting the gas. Fig. 2 is a similar view with the parts in the position they assume when the gas is lighted. Fig. 3 is a longitudinal section of the valve, and Fig. 4 is an inverted plan view of the valve and seat.

The body *a* of the burner A is fitted with a diaphragm, *b*, in its lower portion, having a hole or holes, *c*, to allow passage of gas to the tip.

Upon the under side of the diaphragm is a slide-valve, *d*, of suitable form, which is held to its seat by a flat spring, *e*, attached to the diaphragm by a screw, *f*.

g is a stem of spring metal, having its ends resting in notches *d'* of the valve, and screwed into the valve so as to be adjusted, and passing out at the side of the burner, the outer end having a nut, *h*, upon it. The stem rests in the notch of the screw *f*, and upon the stem between the valve and side of the burner is a spring, *l*, acting to open the valve.

At opposite sides of the body *a* are arms *i i*, extending above the tip, and to one arm is pivoted a lever, *k*, the long arm of which is forked or grooved at its end to take upon the stem *g*. A small rod, *m*, of brass, silver, or other metal having a high rate of expansion under heat, is connected to the short arm of the lever *k*, and to the arm *i* at the other side of the burner.

By adjustment of nut *h* to the end of lever *k* the valve is moved over the apertures, and thus retained when the burner is not in use. When the gas is to be lighted, the nut *h* may be turned out so that spring *l* may open the valve, and the nut screwed up against the lever when the flame has been burning long enough to fully expand the rod *m*. It will, however, generally be best not to allow change in the adjustment of the nut, but open the valve by pushing the stem inward until the lever end rests on the nut, as shown in Fig. 1, and the parts will be restored to the position shown in Fig. 2 by the expansion of rod *m*. In case the flame is blown out, the valve will be moved and the apertures *c* closed by contraction of the rod *m*.

I prefer to have two inlet-apertures, as shown, as they can be closed by a shorter movement of the valve than a single aperture of their combined area could be, and I do not limit myself to the special form of valve shown.

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

1. The combination, with a gas-burner provided with an apertured diaphragm, an expansion rod or piece above the burner, and a lever pivoted to the burner and one end of the said rod, of a slide-valve held to the under surface of the diaphragm, and a rod secured to the valve and projecting through the burner, and provided with a nut on its end, substantially as herein shown and described.

2. In a gas-burner, the combination, with lever *k*, that is fitted for movement by an expansion-piece, of stem *g*, nut *h*, spring *l*, and slide-valve *d*, substantially as described.

MERRY L. PENCE.

Witnesses:
THOS. WATKINS,
JUNIUS A. WOOLFOLK.

Correction in Letters Patent No. 312,892.

It is hereby certified that in Letters Patent No. 312,892, granted February 24, 1885, upon the application of Merry L. Pence, of Lexington, Kentucky, for an improvement in "Safety Gas-Burners," the following corrections should be read therein: In lines 34 and 35 of the printed specification the following words should be omitted: "having its ends resting in notches *d'* of the valve, and" and inserted and read after the words "flat spring *e*" in line 32; that the proper corrections have been made in the files and records pertaining to the case in the Patent Office, and should be read in said Letters Patent to make it conform thereto.

Signed, countersigned, and sealed this 14th day of April, A. D. 1885.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.