

W. A. LEONARD.

Self-Lighting Lamp.

No. 126,640.

Patented May 14, 1872.

Fig. 1.

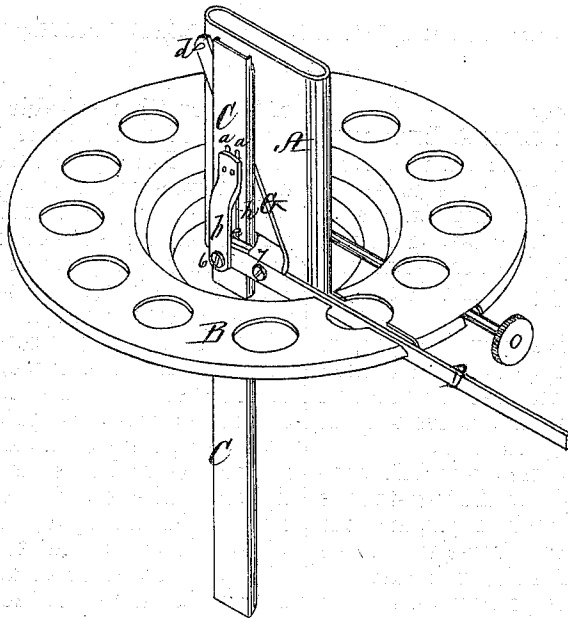


Fig. 2.

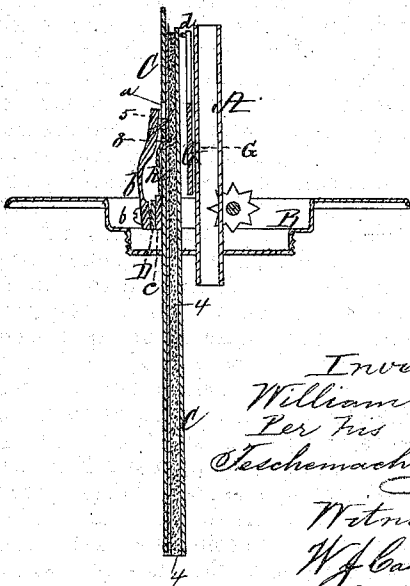
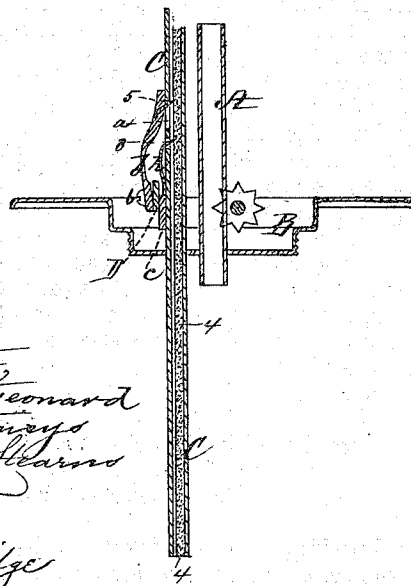


Fig. 3.



Inventor,
William A. Leonard
Per His Attorneys
Teschmacher & Kearns
Witnesses,
W. J. Cambridge
E. B. Whittier

UNITED STATES PATENT OFFICE.

WILLIAM A. LEONARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO EDWIN O. PRESBY AND EDWIN J. LANE, OF SAME PLACE.

IMPROVEMENT IN SELF-LIGHTING LAMPS.

Specification forming part of Letters Patent No. 126,640, dated May 14, 1872.

To all whom it may concern:

Be it known that I, WILLIAM A. LEONARD, of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented an Improvement in Self-Lighting Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of a portion of a lamp-burner with my improvement applied thereto. Fig. 2 is a vertical section through the same. Fig. 3 is also a vertical section, the position of the parts being changed.

In self-lighting lamps where a round friction-fuse is employed, one side of the fuse-tube is provided with a toothed rack or bar, and the other side of the tube with a fuse-elevator, the object of the toothed bar being to retain the fuse in its raised or lighting position during the descent of the elevator. It has been found in practice, however, that the elevator, pressing the fuse against the toothed bar, caused a portion of the fuse to become detached and to be deposited thereon, which soon clogged its teeth so that it would not retain the fuse, and, consequently, rendered it inoperative.

To overcome the above-mentioned objections is the purpose of my present invention, which consists in a pointed fuse-elevator and a pointed spring-retainer, independent of each other, and placed on the same side of the fuse-tube, by which arrangement the fuse is carried away from the points of the elevator during its descent and into contact with the smooth surface of the interior of the opposite side of the tube, whereby the requisite amount of friction is produced for retaining the fuse and its elevation at the proper times insured, the clogging incident to the employment of the toothed bar being also avoided.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing, A is the wick-tube, rising through the center of the burner B; also passing up through the burner at one side of the wick-tube, and removed a short distance therefrom, is a tube, C, for the reception of a fuse, 4, formed by coating one side of a piece

of tape or other suitable material with a composition of such nature that it will ignite by friction. Through the front of the fuse-tube C are cut two slits or openings, *a*, into and through which project two needle-points, 5, which incline at an angle of about forty-five degrees up from near the top of the inner side of a metal strip, *b*, the bottom of which is pivoted, at 6, to the inner end of a lever, D, the fulcrum 7 of which is formed by a screw passing through it into a horizontal cleat, *c*, secured to the front of the fuse-tube. The needle-pointed strip *b* serves as an elevator, the points 5 of which, on depressing the lever D, enter the uncoated side of the fuse and raise it into a position to be lighted. The top of the fuse in its lighting position extends slightly above the top of the wick-tube, so that the top of the fuse and that of the wick will be at about the same level. The top of the rear of the fuse-tube is cut away and inclines a little upward from left to right, so as to be out of the way of the point *d* of the igniting device as it moves across the inner surface of the fuse, and which will now be described. The lever D, near its inner end and just beyond its fulcrum 7, is provided with an arm, G, made in one and the same piece therewith, and rising up therefrom and so bent out as to move in close proximity to and across the rear of the fuse-tube when the lever D is moved up and down. Near the top of this arm, and from its side next the fuse, extends a point or projection, *d*, which is brought into contact with and ignites the fuse as the lever D is operated, the arm G and its projection serving as the igniting device. To prevent the fuse from dropping down in the tube when the points of the elevator are withdrawn on its descent, I employ a spring, *h*, the top of which is provided with one or more sharp points, 8, which are inclined upward at an angle of about forty-five degrees, and project into the tube so as to constantly bear against the fuse a little below the points 5 with a pressure sufficient to retain it on the descent of the elevator, the fuse being always kept snugly in contact with the interior of the opposite side of the fuse-tube, whereby the clogging incident to the use of a round fuse and a toothed bar is avoided.

From the foregoing it will be seen that the depression of the lever D causes the elevator

to raise the fuse simultaneously with which the projection *d* of the arm *G* is carried across the fuse to ignite it, and its flame is communicated to the wick to light it, as desired.

It is evident that my improvement may be applied to gas-burners if desired.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

A pointed fuse elevator, *b*, and a pointed fuse-

retainer, *h*, independent of each other and on the same side of the fuse-tube *C*, in combination with the igniting device *G d* and lever *D*, operating substantially in the manner and for the purpose set forth.

Witness my hand this 30th day of March, A. D. 1872.

WM. A. LEONARD.

In presence of—

P. E. TESCHEMACHER,
N. W. STEARNS.