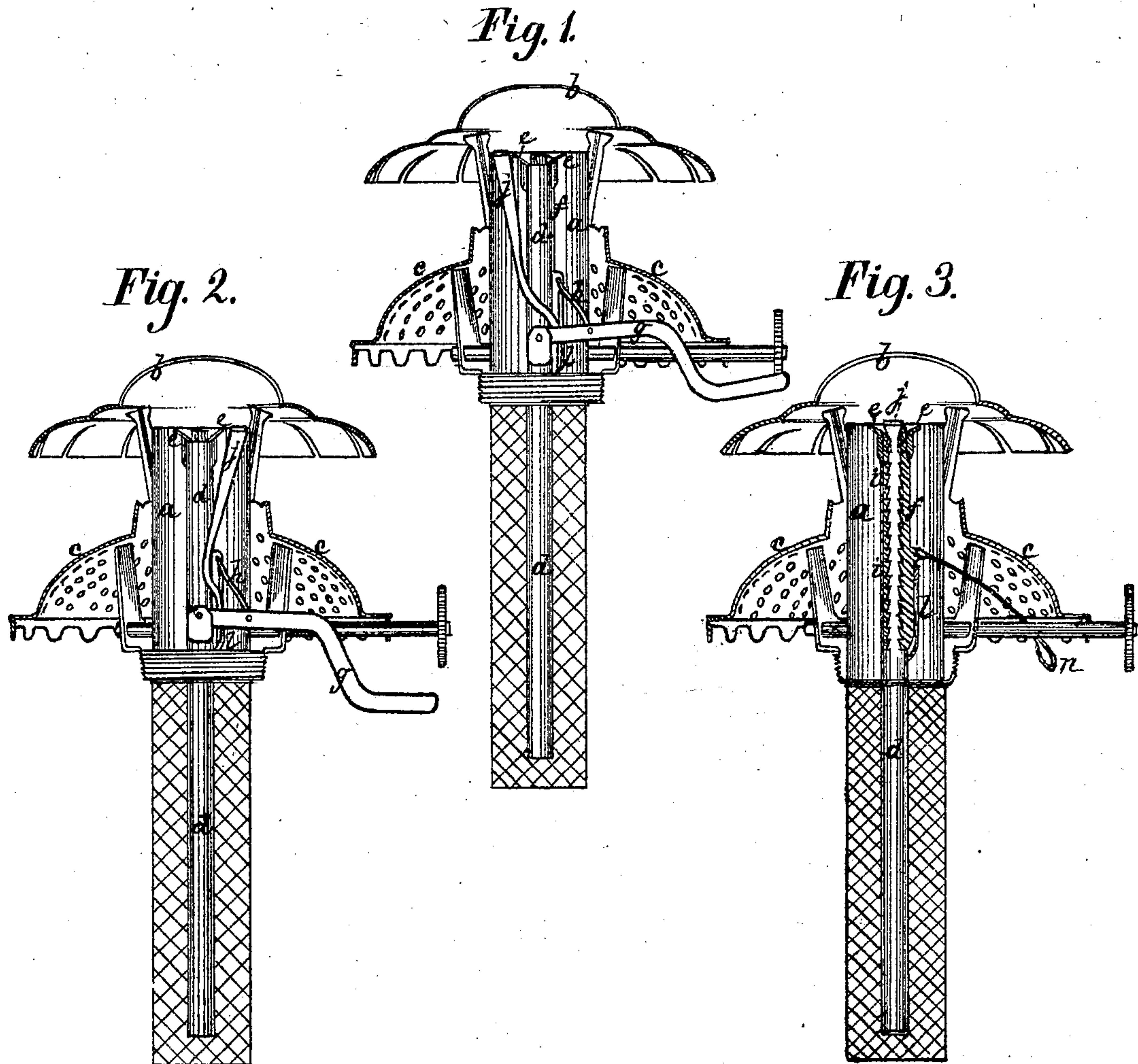


WILLIAM W. BATCHELDER.

Improvement in Self-Lighting Lamps.

No. 119,497.

Patented Oct. 3, 1871.



Witnesses:

Wm B Dyer  
R R Edelen.

Inventor:

William W. Batchelder  
by Johnson, Klauke & Co  
his attorneys.



# UNITED STATES PATENT OFFICE.

WILLIAM W. BATCHELDER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND MATTHEW RILEY, OF SAME PLACE.

## IMPROVEMENT IN SELF-LIGHTING-LAMPS.

Specification forming part of Letters Patent No. 119,497, dated October 3, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM W. BATCHELDER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Self-Lighting Lamp-Burners, of which the following is a specification:

My improvements relate to devices for lighting lamp-burners automatically by the ignition of a fuse connected therewith.

In the accompanying drawing, Figure 1 represents a side elevation of the cap, wick, and fuse-tubes of a self-lighting lamp-burner, the fuse-severing arm being at one extreme of its movement. Fig. 2 represents a similar view, the fuse-severing arm being at the extreme of its other movement. Fig. 3 represents a vertical section of the same.

The wick-tube *a* and burner-caps *b c* may be of the usual or any approved construction and arrangement. The fuse-tube *d* is secured to the side of the wick-tube *a*, and extends into the liquid-chamber of the lamp. Its upper end is on a level with the top of the wick-tube, and is provided on each side with severing-lips *e* for the igniting instrument, the action of which will be presently described. Within a slot in the fuse-tube I arrange a movable bearded slide, *f*, connected to the operating lever *g* by a pivoted link, *h*, for feeding the fuse to be severed. I also arrange within a slot in said tube a fixed bearded strip, *i*, to hold the fuse when fed above the tube, and prevent it from being pulled back again within the tube by the descent of the feeding-slide. The operating lever *g* is pivoted to a bracket on the fuse-tube *d*, and the severing-instrument *j* is secured to the lever *g* just back of the said pivot, so that its severing end will occupy a position between the fuse-supporting lips *e* when the lever is in horizontal position and be ready to act upon either or both of the lips. The object of this and the double lips *e* is to allow the severing-instrument *j* to have a double action to ignite the fuse—that is to say, in the event of the failure of the fuse to ignite when the lever *g* is raised to move the severing-instrument over one lip *e*, then its movement may be reversed to bite the fuse against the other lip *e*, and so on back and forth until the fuse does ignite. This advantage is of the highest importance in the use of self-lighting fuses, as it often happens

that the action of the cutting-instrument is not certain in its first movement, and this capacity fully compensates for such uncertainty. Moreover, by the arrangement of the fixed barbed strip *i*, the descent of the movable slide *f* will not affect the position of the fuse, and by this means I am enabled to throw the cutter *j* over both lips of the tube without pulling down the fuse. The severing-instrument is bent horizontally at its end, so as to pass directly over the double lips of the tube and bear the fuse over upon and against either lip. The feeding barbed slide is raised and lowered by means of a link, *h*, pivoted to it and the hand-lever, and the slide is kept in position so that its barbs will bite gently into the fuse by means of a spring, *l*. The fixed barbed strip does not project within the inner diameter of the fuse-tube, and the feeding-slide may be pulled out a little laterally by means of a wire, *n*, secured to it and extending beneath the cap so as to be handled. This arrangement allows the fuse to be easily inserted within its tube at its open end, its lower end being sealed to keep the fuse dry.

Having described my invention, I claim—

1. In a self-lighting lamp-burner, the interior fixed barbed check-strip *i*, in combination with the feeding barbed slide *f*, pivoted link *h*, and operating lever *g*, as and for the purpose set forth.

2. The double-supporting lips *e* of the fuse-tube, in combination with the severing-instrument *j* arranged to pass over and in contact with either lip *e* by a double movement to insure the ignition of the fuse in the event of the failure to produce an ignition by the first movement of the severing-instrument, as described.

3. In a self-lighting lamp-burner, the combination of the fuse-tube *d* with its fixed and sliding barbed strips *f i*, the double-supporting lips *e*, the severing-instrument *j* with its pivoted link *h* and operating handle *g*, the several parts being constructed, arranged, and operating as described.

In testimony whereof I have hereunto set my hand this 9th day of September, 1871, in the presence of two witnesses.

WILLIAM W. BATCHELDER.

Witnesses:

A. E. H. JOHNSON,  
J. W. HAMILTON JOHNSON.