2 Sheets—Sheet 1.

I. N. CLAWSON.
Cigar Lighter.

No. 202,150. Patented April 9, 1878.

Fig 1.

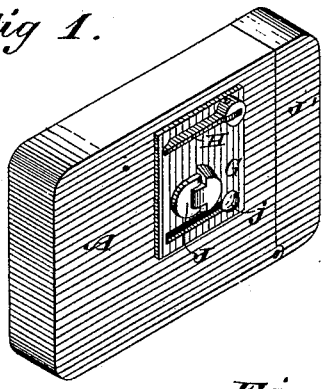


Fig 8.

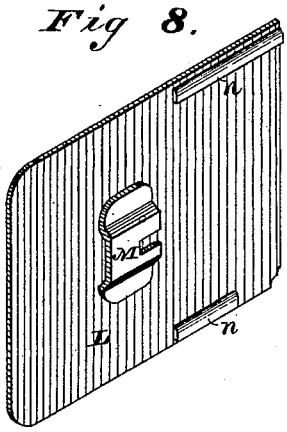


Fig 2.

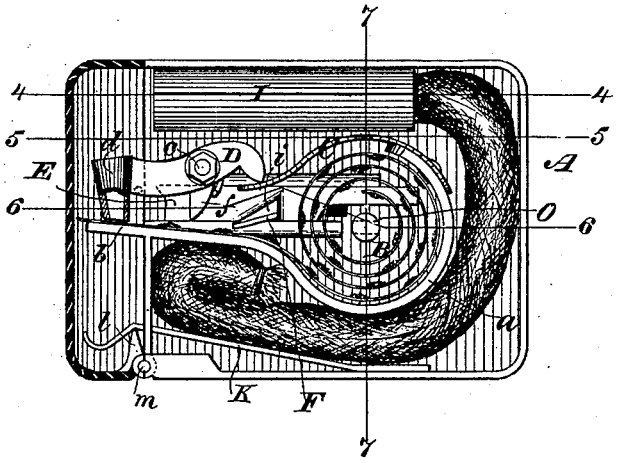
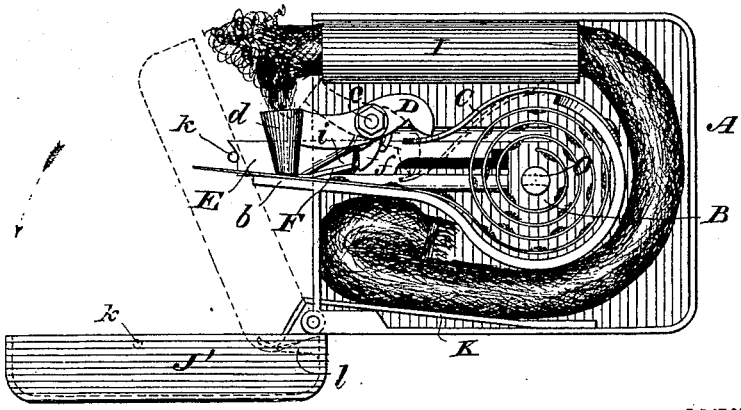


Fig. 3



WITNESSES

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By his Attorney

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2 Sheets—Sheet 2.

I. N. CLAWSON.
Cigar Lighter.

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Fig 4.

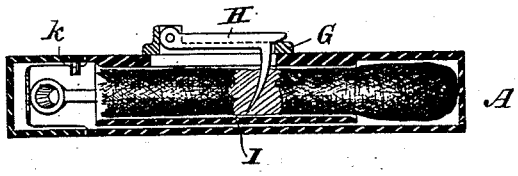


Fig 5.

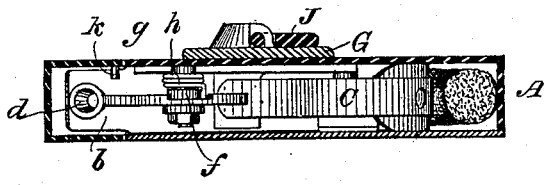


Fig 6.

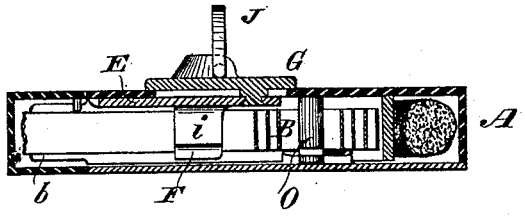
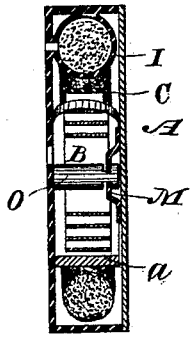


Fig 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

I. NEAL CLAWSON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CIGAR-LIGHTERS.

Specification forming part of Letters Patent No. **202,150**, dated April 9, 1878; application filed February 6, 1878.

To all whom it may concern:

Be it known that I, I. NEAL CLAWSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cigar-Lighters, of which the following is a specification:

My invention relates to that class of cigar-lighters in which a scroll of paper containing pellets of fulminate is fed forward from a magazine, and the pellets exploded by a blow from a hammer or exploder to ignite a wick or tinder from which the cigar is to be lighted, the mechanism being mounted within and upon a suitable box or case; but obviously some parts of my invention might be used in devices for other purposes differing materially in construction from this.

In the accompanying drawings, Figure 1 is a view, in perspective, of the box or case closed; Fig. 2, a plan or top view with the lid removed and exploder partly in section. Fig. 3 shows the positions the parts assume just before and at the instant an explosion takes place; Fig. 4, a vertical longitudinal section on the line 4 4 of Fig. 2; Fig. 5, a vertical longitudinal section on the line 5 5 of Fig. 2; Fig. 6, a vertical longitudinal section on the line 6 6 of Fig. 2; and Fig. 7 is a cross-section on line 7 7 of the same figure. Fig. 8 is a view of the under side of the lid.

Within a box or case, A, is secured a strip of metal, *a*, in such manner as to form, in part, the wall of a magazine, B, and its upper or outer end *b* serves as an anvil. To this strip is secured, by riveting or otherwise, a spring, C, also forming, in part, the magazine-wall, and bears against one end of a lever, D, pivoted to a post, *c*, secured to the case, and has at its opposite end an open tubular head or hammer, *d*, which hammer and lever together constitute a pellet-exploder and flame-conductor, and the post *c* is the point or axis about which it moves or vibrates. A pawl, *f*, pivoted to the post *c*, is held against a shoulder, *g*, on the lever by means of a coiled spring, *h*, encircling the post, with one end secured to the case and the other abutting against the pawl. A slide-bar, E, moving in guideways upon the inside of the case, has an arm, F, at right angles thereto, upon which is a cam or incline, *i*. To this bar, and upon the outer side of the case, is secured a plate, G, by a stud passing through a slot in the case. This plate is slotted at its opposite ends, and has a guide-pin, *j*, secured to the case, passing through one, and a hook, H, hinged to the plate, passing through the other and corresponding slots in the case and wick-tube I, engages with the wick, and closes the slot in the plate. A thumb-catch, J, is so hinged to this plate that it can either be turned up at right angles thereto or lie parallel therewith.

A cover, J′, hinged to one edge of the case, has a pin, *k*, against which the outer end of the slide-bar abuts, and a spring, K, secured to the inside of the case, pressing against a bracket or projection, *l*, upon the inner side of the cover at its hinge *m*, tends to hold the cover down when the box is closed, and also assists in lifting the cover after it has been raised slightly by the slide-bar. A lid, L, having flanges *n n* near its edges to prevent its movement sidewise, is held to the box by a slotted bracket, M, upon its under side, catching under flanges upon a post, O, or entering grooves therein as it is slid into place by pressure upon the outside.

The movements of the different working parts in relation to each other will readily be understood from the following operative description: The tinder and scroll being in the position as shown in Fig. 2, the box closed and in one hand, with the other the thumb-catch is raised and the slide-bar moved upward. As it advances the arm upon the slide approaches the anvil-strip, and, the incline coming in contact with the pawl, the arm is slightly moved or suddenly sprung toward the scroll, and presses it at a point just below or inside the outer pellet, and moves it out over the anvil under the exploder, which is being raised by the action of the pawl, which abuts against it as the incline upon the arm moves the pawl outward and upward. The tinder is brought into position by the hook. The cover is raised by the end of the slide-bar striking the pin therein, and thrown back by the action of the spring on the bracket or projection at its hinge. The incline passes the pawl, and the spring, acting upon the exploder, forces it suddenly against the pellet upon the anvil, when the explosion takes place, and the flame is flashed

through the conductor upon the tinder. Thus by one movement the tinder is ignited, and by moving the cover down the parts assume their normal position, and the tinder is extinguished.

It will be seen that as the incline upon the arm strikes the pawl it is moved backward upon its axis until the incline has passed it, when the spring, acting against it, throws it back against the exploder.

Although the opening through the hammer is shown as somewhat tapering and in a straight line, so as to conduct the flame direct to the tinder, it need not necessarily be so. Any opening that will allow the flame to pass will do; and, whether it be in a straight, curved, or irregular line through the hammer, it is immaterial, so long as the hammer or exploder is the medium through which the flame is conducted to the tinder.

Instead of an incline being placed upon the arm as an extra piece, it may be formed of the same piece, or the arm itself may be inclined sufficiently to answer the purpose; also, instead of the spring, as shown, acting upon the exploder in rear of its pivot or axis, any spring acting upon the exploder at any point to throw it forward at the desired moment will answer, so long as it is capable of being removed and replaced independently of the exploder; and, further, it will be seen that by my device the pellet to be exploded is the only one exposed outside the magazine, the arm or feeder acting as a shield to those behind it in the magazine, and thus prevents their being exploded, which is often the case in devices of this class where there is nothing to prevent the scattering of the flame.

I am aware that it is not new in an automatic lighting device to conduct the flame from an exploded fulminate through the anvil; and I am also aware that a reciprocating hammer or exploder having an opening through it is old; but I am not aware that a pellet-exploder having a vibrating movement and an opening through it for the passage of the flame from an exploded pellet is old; neither am I aware that the combination of a pellet-exploder and a conductor through which the flame from an exploded pellet is flashed, with a wick-tube having a longitudinal slot through one side for the passage of a wick-adjuster, was ever in use before my invention.

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

1. A pellet-exploder having an opening for the passage of the flame from an exploded pellet, in combination with a spring-pawl, substantially as shown and described.

2. The combination, with the slide-bar, of a pellet-feeder and pawl-operating cam, substantially as described.

3. The combination of the lid, having a slotted bracket and flanges upon its under side, with the post *c*, substantially as described.

4. The combination of the cover, having a bracket, *l*, at its hinge, and the pin or projection *k*, with the spring K, substantially as described.

5. The combination, with the slide-plate, of an anchor or hook for moving the wick into position and a slide-bar for raising the cover of the case, having a pawl-operating cam and pellet-feeder, substantially as described.

6. The combination of a pellet-exploder having an opening for the passage of the flame from an exploded pellet, an impelling-spring capable of being removed and replaced independently of the exploder, and a spring-pawl arranged to act against and raise the exploder when moved in one direction, but freed from the exploder in its movement in the opposite direction, substantially as described.

7. The case for pocket cigar-lighters having opposite parallel sides and rounded corners, a hinged cover with a pin or projection, *k*, upon the inside, a bracket at the hinge, and a spring secured to the case, acting upon the bracket, substantially as described.

8. The combination of a pellet-exploder having a vibrating movement and flame-conductor moving therewith, with a tube, through which a wick is extended transversely to the line of flame from an exploded pellet, substantially as shown and described.

I. NEAL CLAWSON.

Witnesses:
W. STEWART WRAY,
GEO. A. THOMPSON.