

E. L. MEGILL.  
Lighting Device.

No. 227,987.

Patented May 25, 1880.

Fig. 2.

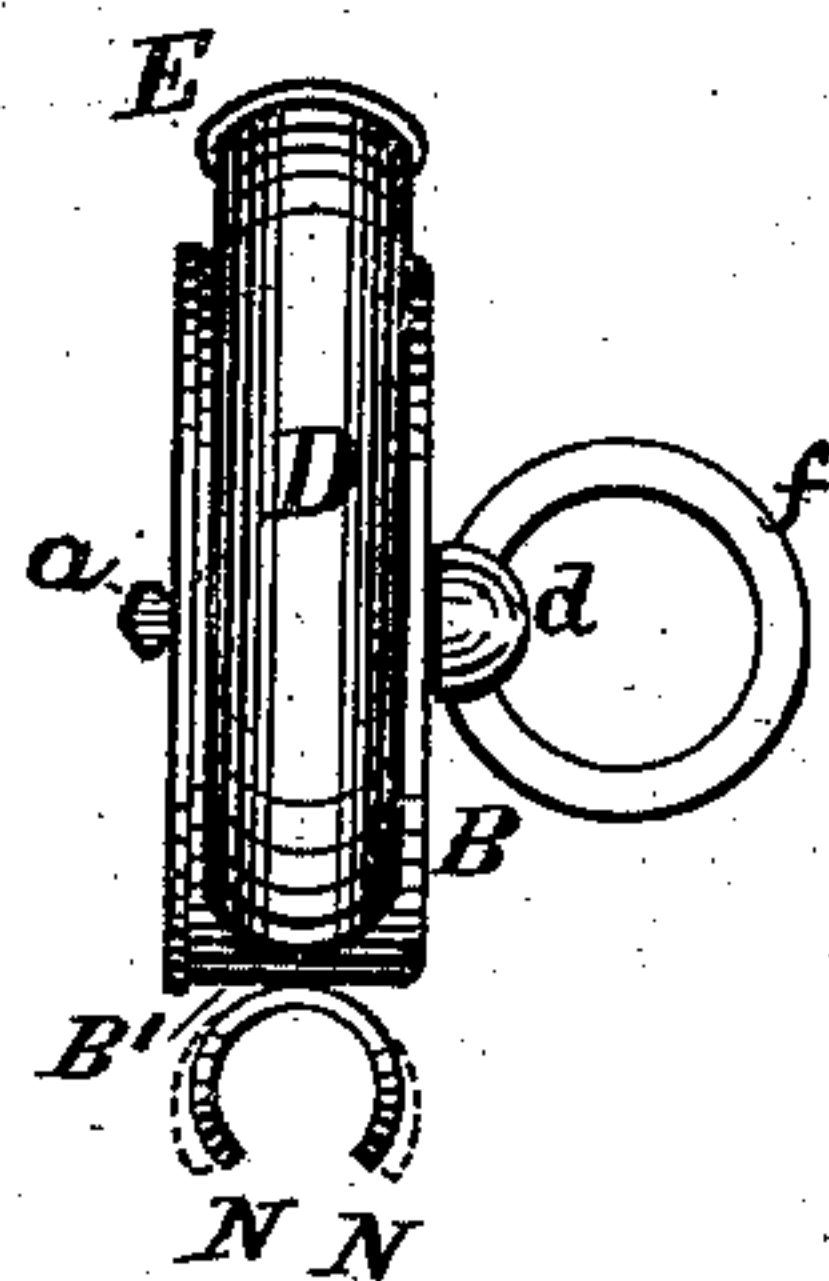


Fig. 1.

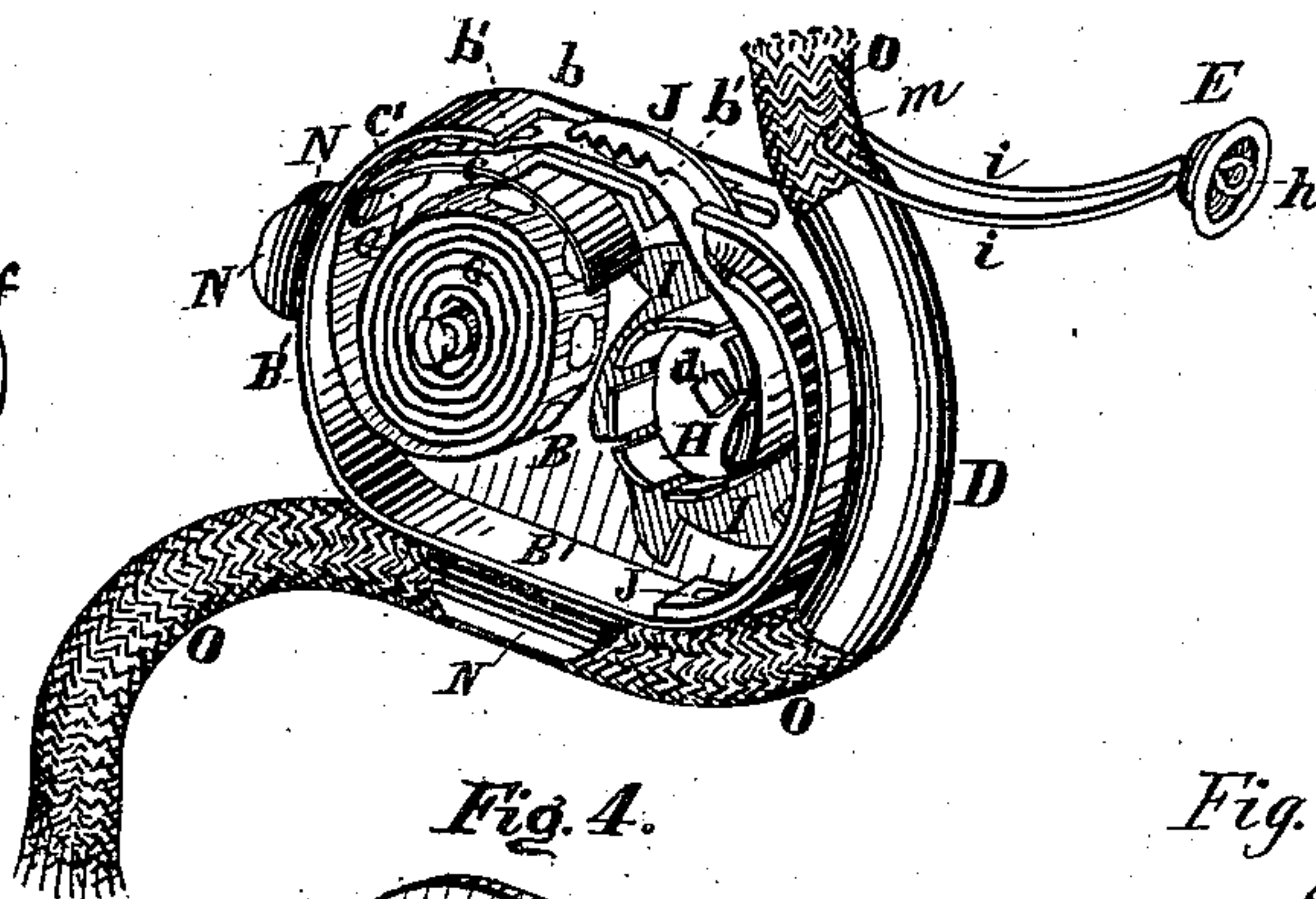


Fig. 5.

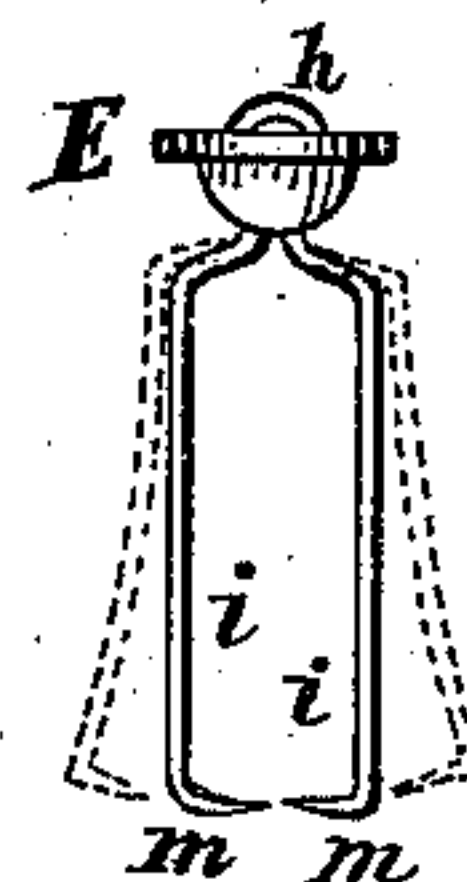


Fig. 6.

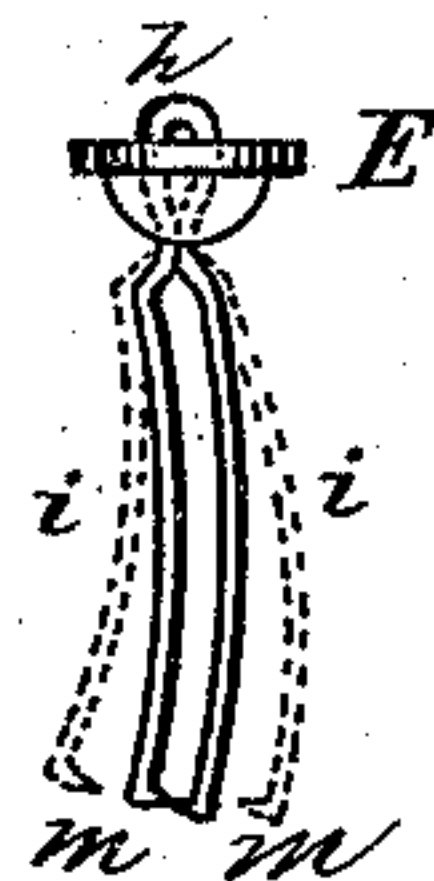


Fig. 4.

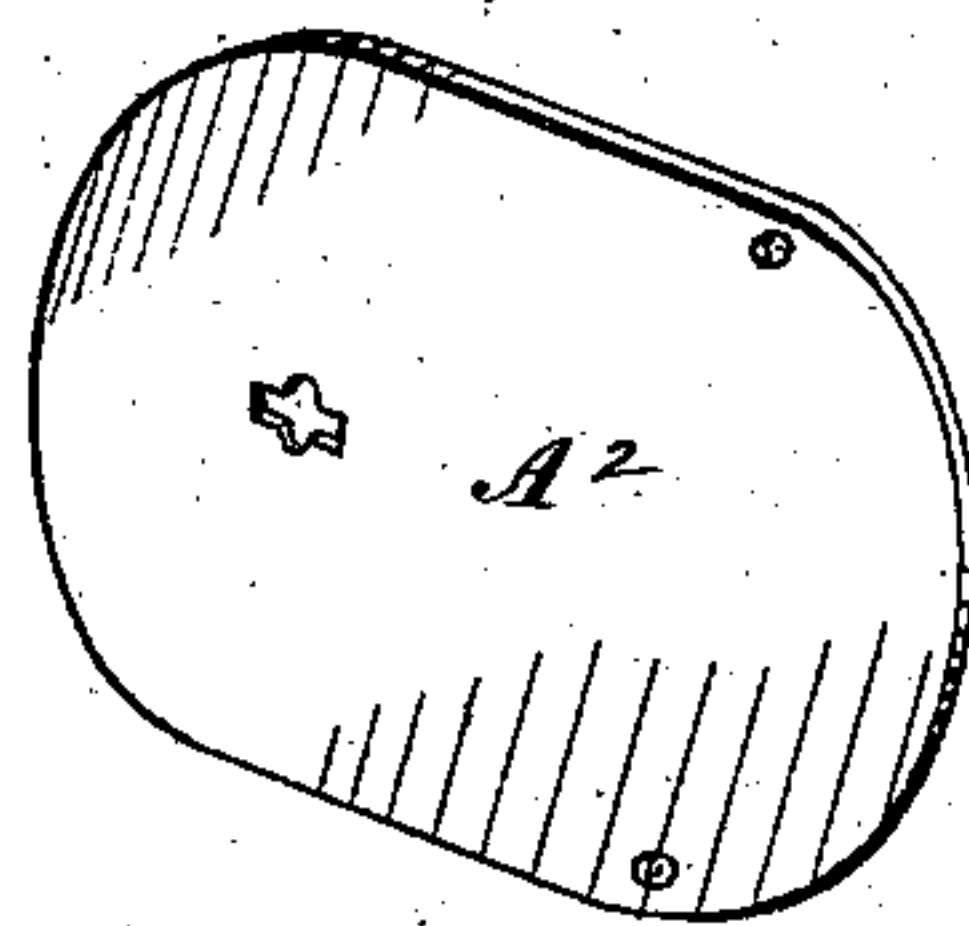


Fig. 3.

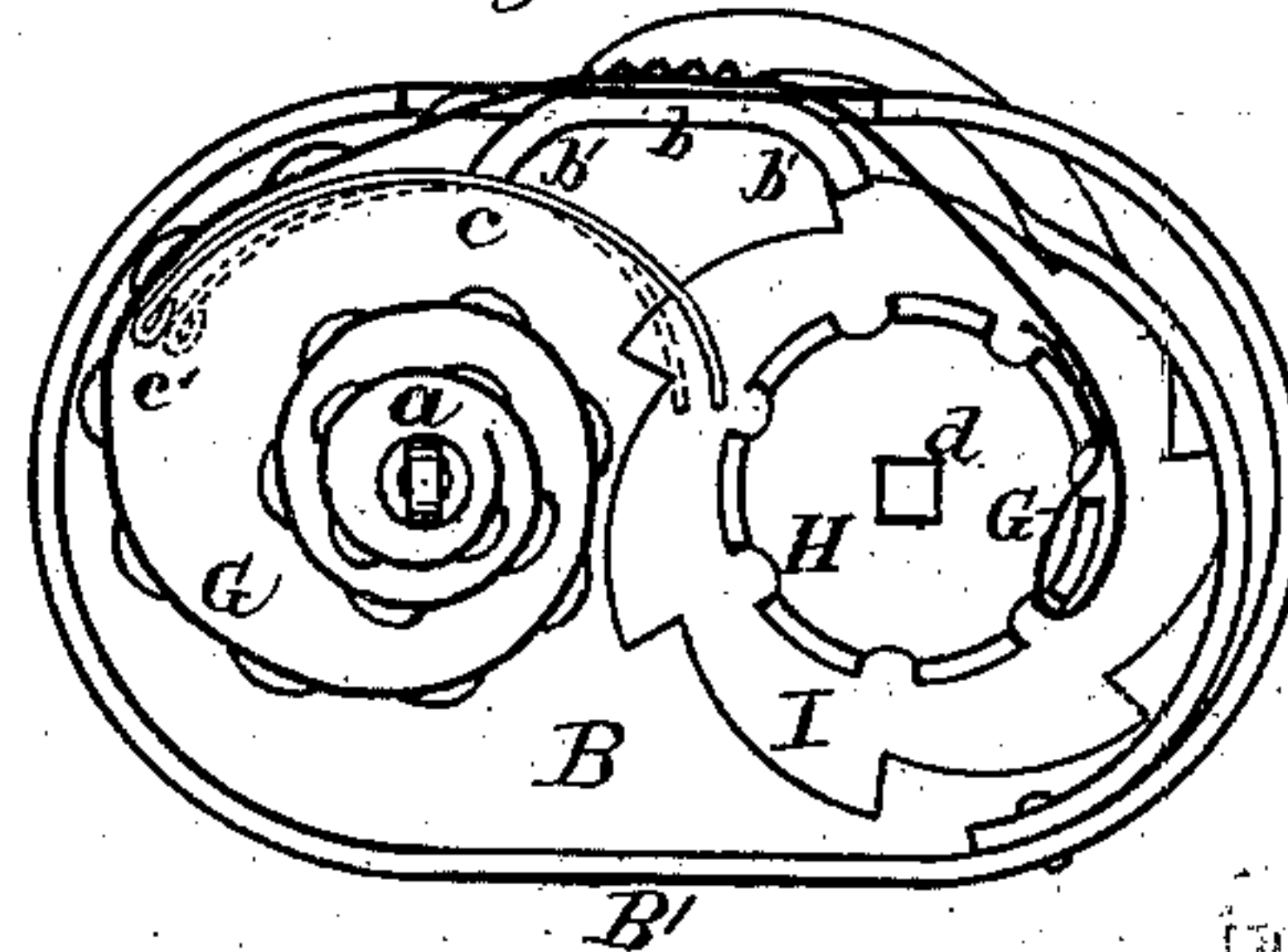


Fig. 7.

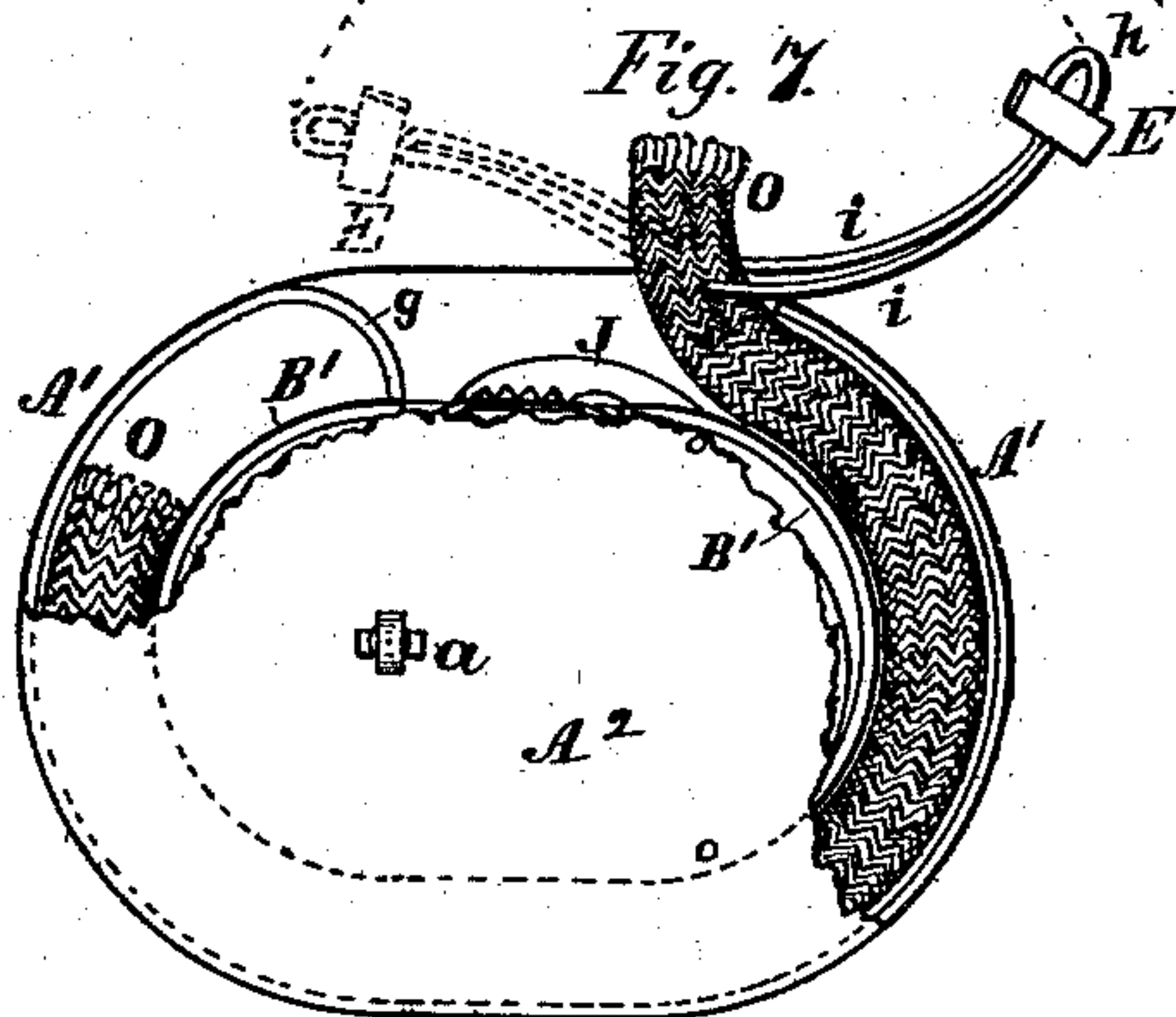
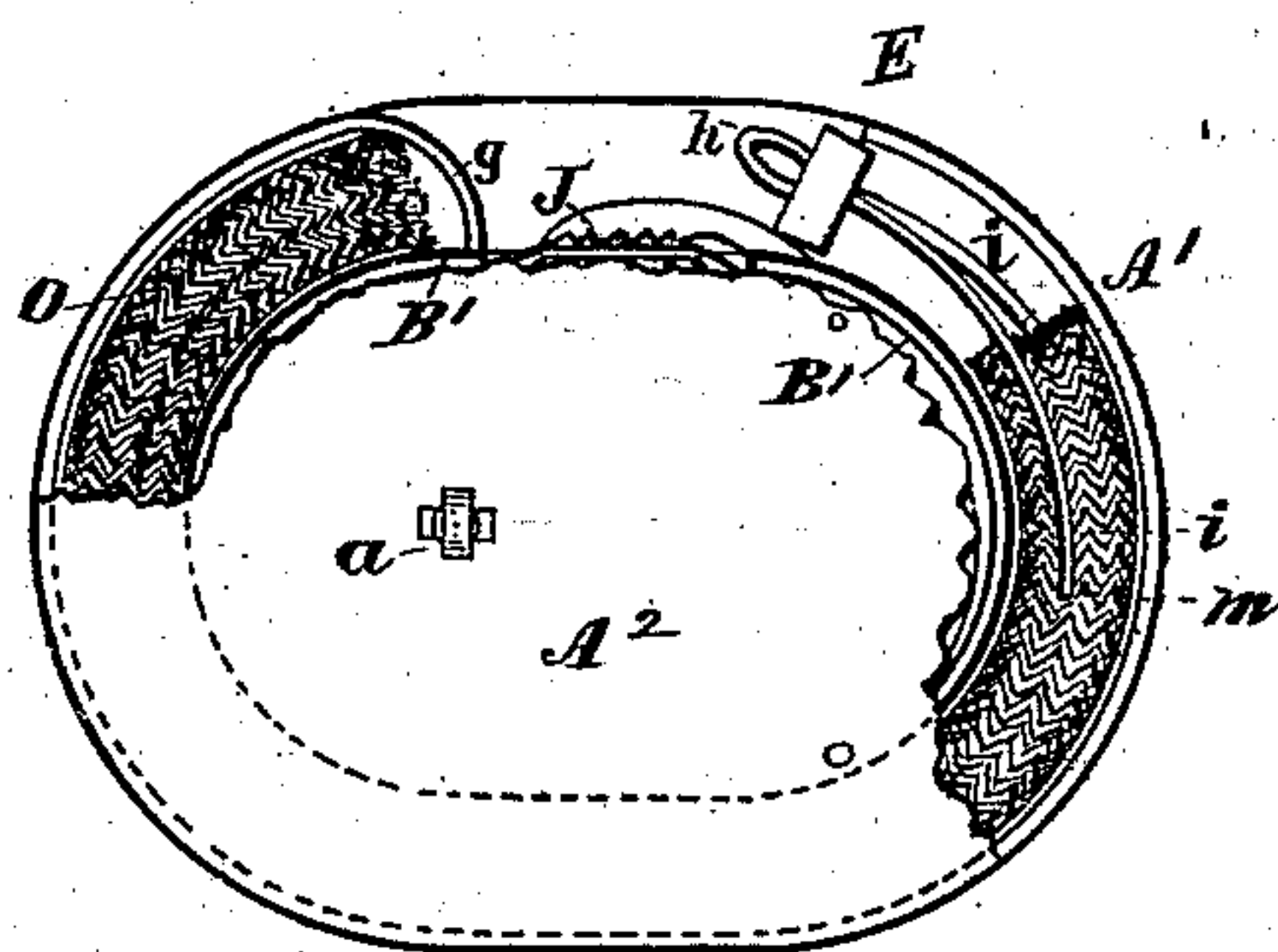


Fig. 8.



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# UNITED STATES PATENT OFFICE.

EDWARD L. MEGILL, OF BROOKLYN, NEW YORK.

## LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 227,987, dated May 25, 1880.

Application filed October 9, 1879.

*To all whom it may concern:*

Be it known that I, EDWARD L. MEGILL, of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Cigar-Lighters, of which the following is a specification, reference being had to the accompanying drawings.

In this cigar-lighter I use the same principle for feeding or drawing the percussion-tape and winding and confining the expended portion thereof as is distinctly shown, described, and claimed as applicable to all kinds of lighting devices in my patent granted November 27, 1877.

In adapting said improvements to pocket use I have very much reduced the size of the case or shell containing the tape and feeding and striking movements, and so reconstructed and rearranged said portion of the machine as to more readily and cheaply apply it to convenient use in the various kinds of lighting devices.

The object of my invention is to provide a more reliable means for unrolling or unstripping the primed coil of the percussion-tape or repeating-match, and also for facilitating its passage into another part of the apparatus.

Another object of my invention is to furnish a cheap, simple, safe, and convenient means for operating and extinguishing the wick or tinder used in the different forms of cigar-lighters.

It is known that the wick or tinder employed for lighting the cigars is ignited by a spark from a repeating-match or percussion-tape, and that the said wick or tinder is carried in a tube or casing having a mouth or opening, through which one end of the wick is fed to receive and transmit the fire, and that the fire is then quenched by retracting the wick within said mouth or opening and placing an extinguisher over it. Heretofore such extinguishers have been connected either by a chain and hook, which, although they passed into the mouth of the tube, merely served to feed the wick out, depending upon the operator to get it back and extinguish it by pulling on the opposite end of the wick, or else the extinguishers, although secured to mechanism which operated the wick in both directions, did not pass the mechanism into the mouth of the tube.

The objection to both of the above methods is that considerable wick is wasted, for the reason that when the wick becomes burned away to a certain length it is impossible to get it back and extinguish it; and the latter method especially necessitates too much complication of parts, making them difficult to operate and expensive to make.

There are other methods of feeding and extinguishing the wick, but all of them have serious objections, and none of the extinguishers are so arranged in connection with a feeder as to admit of the passage of the feeder with the wick into the mouth of the tube and operate the wick in both directions.

My invention therefore consists in providing extinguishers with mechanism arranged to take hold of the wick, pass with the wick into the mouth of the tube, and operate it in both directions; and also in the arrangement of said mechanism whereby the means employed for attaching the wick will serve as a pivot, by which the upper part of the mechanism, with the extinguisher, may swing to either side of the burning end to present it to the cigar; and, again, in the arrangement of the wick-feeding mechanism whereby it will cling to both sides of and remain secured to the wick when withdrawn from the duct or tube.

My invention also consists in providing cigar-lighters with clamps or jaws for holding the exposed end of the wick to and around the outside of the rim of the cigar-lighter.

Again, my invention consists in a novel construction of the anvil and a tension-spring for facilitating the passage of the percussion tape or strips from its original coil from one part of the apparatus to another; and, lastly, in certain details of constructions and arrangements, hereinafter more fully described.

Figure 1 is a perspective view of my invention with the extinguisher withdrawn and turned to one side and the removable side plate detached to show the interior construction for operating the percussion-strip or repeating-match. Fig. 2 is an edge view of my invention with the side plate and the extinguisher attached and the wick or tinder removed. Fig. 3 is a side elevation of my invention, showing the tape or repeating-match mechanism on an enlarged scale, the wick and



its operating devices being removed. Fig. 4 is a perspective view of the removable side plate. Fig. 5 is a plan view of the extinguisher and feeder detached from the wick. Fig. 6 is a perspective view of the same. Figs. 7 and 8 are front elevations of a modification, showing the manner of withdrawing, retracting, and extinguishing the wick.

In the accompanying drawings, B represents a case or shell drawn up from a single piece of metal into an oblong form with rounded ends and a rim, B'. This case contains the primed and expended percussion-tape or repeating-match, the fire or spark from the explosion of which ignites one end of the wick. The coil of tape G is placed within one end of the said case B, with the post *a* passing through its center, around which it revolves while being drawn out to be exploded, returned, and rewound at the other end of said case.

*b* is the anvil over which the tape is thus drawn, which is formed upon said case B by splitting the rim transversely and driving downward a portion of said rim, which forms projections or bearers *b'* and leaves openings in said rim B' at each side of the anvil, through which the tape passes out of and returns into the case.

Secured to the left-hand bearer *b'* is a tension-spring, *c*, made of thin spring-brass, which is folded or doubled over at the left-hand end *c'*, so as to avoid sharp edges and form a round smooth end, which will pass through and unroll the coil of tape easily. The said end *c'* is set just far enough from the inner surface of the rim B' to allow the tape to pass through, and, being elastic, the tension-spring yields to its irregularity in the size of the pellets, thus closely and correctly stripping the tape and preventing the coil from catching and jamming. The opposite end of the tension-spring *c*<sup>2</sup> prevents the coil of primed tape from coming in contact with the winding-wheel, and may be extended down between the two coils to form a spring-partition between them, if desired, as shown in Fig. 3.

H is the wheel, to which the end of the said coil of tape is attached to be drawn over the anvil and rewound after being exploded, in the usual manner. I is the wheel which actuates the hammer J. Said wheels H and I are secured together and revolve with the shaft *d*, which passes through the bottom of the cases A and B to the exterior, where, through its head or shoulder, is secured a ring, *f*, which, when not in use, folds down upon the outside of the case. A slight turn of the said ring by the fingers will cause a partial revolution of the wheels, which will lift the hammer-head and wind the tape G sufficiently to explode one of the pellets. The said hammer J is riveted to the inside of the rim B' and passed upward in a semicircular shape to an opening in the rim B', through which the hammer-head projects to rest upon the anvil *b*. The said hammer-head is elon-

gated and provided with a row of sharp points or teeth along its lower or striking edge, which produce a soft penetrating blow, effecting considerable volume of flame from the fulminate and insuring the explosion of a cap or pellet should the feed be irregular.

The central post, *a*, has a button formed at the head for securing the removable side plate or cover, A<sup>2</sup>.

To one end of the shell B, upon the outer surface of the rim B', is secured, in a suitable manner, a curved piece of tubing, D, which confines one end of the piece of wick or tinder O. This tube D is so placed as to bring its mouth near the head of the hammer J, so that the end of the wick O, when fed outward, may receive the flash of the pellet. Farther along the outer surface of the rim B', and at suitable distances apart, are placed jaws or clamps N, arranged in pairs, for holding the remaining portion of the wick against the said rim and around the edge of the case or shell. These jaws are made semicircular in shape, and turn inward toward each other, and are fixed partially open, leaving a space between them equal to about one-half the thickness or width of the wick. The said wick being of a spongy or soft material and the jaws being made of elastic metal, both will yield sufficiently to pass each other edgewise or sideways, and when the wick is pressed within the jaws both jaws and wick will regain their former shape, and the wick will be kept, as it were, wrapped around and close to the lighter, which furnishes a more desirable article for carrying in the pocket, and may be made cheaper than a lighter that confines the entire piece of wick in a casing—such as is shown by Figs. 7 and 8, which, however, my claims following are not intended to include. These jaws or clamps may be made in any shape best adapted to receive the wick, and the jaws may be made in separate pieces, if desired.

The extinguisher is represented by E, and is made in a shape to fit the mouth of the tube D.

Projecting from the under part of the extinguisher E is a pair of spring wire or metal arms, *i i*, bent apart sufficiently to receive the wick between them loosely. The lower points, *m m*, of said arms are bent inward, and are sharpened so as to penetrate the wick readily. The arms are so set as to keep the points or fingers *m* together, so that the feeder will be retained on the wick when outside of the tube and cannot be shaken off or accidentally removed, and when they are to be inserted into the wick must be sprung apart, either in a direct line, as shown by dotted lines in Fig. 5, or obliquely, as shown in Fig. 6. The arms are so arranged, however, as to spring apart in any direction, and no difficulty is encountered in attaching them to the wick.

The best way to attach the wick is to hold the lighter in one hand and with the other spring the arms apart so that the points will pass by each other, then set one of the points



into the side of the wick and pass the other point around to the opposite side and press them both into the wick, and they will remain so set, whether inside or outside of the tube.

5 These points are round, like a needle's point, and pass into the wick at right angles to the arms, and serve conjointly as a pivot by which to swing the opposite end of said arms, with the extinguisher, away from the wick, so  
10 that the burning end is permitted to be presented to the cigar. By this device the wick cannot be twisted or drawn out from the lower opening of the tube D, for the extinguisher and the inverted fingers or points, taking hold  
15 of both sides of it, prevent the same, and the accidental burning of the pocket is thus avoided. The said arms may be secured, as shown, by forming a loop, *h*, through a small perforation in the bottom of the extinguisher or otherwise.  
20 The arms *i i* may be made applicable to a curved or straight tube.

Figs. 7 and 8 are modifications, and represent the shell or case B placed inside of another larger case, A, having a rim, A'. Between the rims A' and B' of these two cases  
25 a channel or passage is formed for the wick O. At the upper part of the case A the rim A' is cut away, that the wick may pass out from the mouth of the channel, the opposite terminus  
30 of the channel being closed permanently by the said rim, which is bent down upon the rim B' of the inner case, as shown at *g*.

The inner case is placed in a position to bring the hammer-head under the said opening of the outer case. The side plate, A<sup>2</sup>, is here enlarged  
35 to extend to the rim A' of the larger case to cover and confine the full length of the wick, and is broken away in part of its edge to show the position of the wick and extinguisher.

40 In Fig. 7 the wick is withdrawn and its end turned upward from between the sides of the outer case by the arms of the extinguisher being pressed over the edge of the rim A', like a lever.

45 Fig. 8 shows the wick pushed back into the channel with the extinguisher adjusted. The extinguisher is here shown fitted to a square channel or tube.

50 When the cigar is to be lighted the extinguisher is withdrawn, which pulls out the wick. When the end of the wick reaches the hammer-head J motion is given to the ring *f* leftward, which turns the two wheels upon its

shaft (one of the said wheels lifting the hammer and the other winding the tape) until a  
55 pellet is exploded, which ignites the wick. Then, withdrawing the extinguisher still farther, until the points of the arms clear the mouth of the tube or channel, swing it to one side and present the wick to the cigar. 60

To quench the fire, swing the extinguisher back over the end of the wick and push it into the tube until the extinguisher closes the mouth.

As often as is required by the burning away 65 of the wick the points are separated and placed farther down its length.

My extinguisher and feeder meets the following requirements: It will feed the wick back at the same motion of extinguishing; will utilize all the wick; present the wick to the cigar;  
70 answers for a lighter that confines the entire length of the wick, or one that allows part of it to be exposed; is not liable to get lost; costs but little to make, and is easily understood and operated. 75

Having thus described my invention, I claim—

1. In a cigar-lighting device, a wick-extinguisher provided with mechanism adapted to  
80 pass into the mouth of the tube or channel and feed the wick in both directions, substantially as herein described.

2. A wick-feeder composed of two bent arms, *i i*, having their lower points bent inward,  
85 and carrying at its upper extremity an extinguisher, E, substantially as herein described and set forth.

3. A cigar-lighting device provided with clamps or jaws N N, for grasping the wick at  
90 different parts of its length and holding it to the exterior of the lighter, substantially as herein described.

4. In a lighting apparatus, the tension-spring *c*, having folded end *c'*, for facilitating the passage of the tape from its coil to the hammer,  
95 substantially as herein described.

5. In a lighting apparatus, the combination of the anvil *b*, having bearers *b' b'* and tension-spring *c*, with the winding-wheel, whereby  
100 the tape is drawn from one part of the apparatus to another, substantially as described.

EDWARD L. MEGILL.

Witnesses:

I. HENDRICKSON,  
SIDNEY MEGILL.