

(No Model.)

2 Sheets—Sheet 1.

A. ELLISON & W. A. WRIGHT.
COMBINED MATCH LIGHTER AND CIGAR CUTTER.

No. 510,778.

Patented Dec. 12, 1893.

Fig. 1.

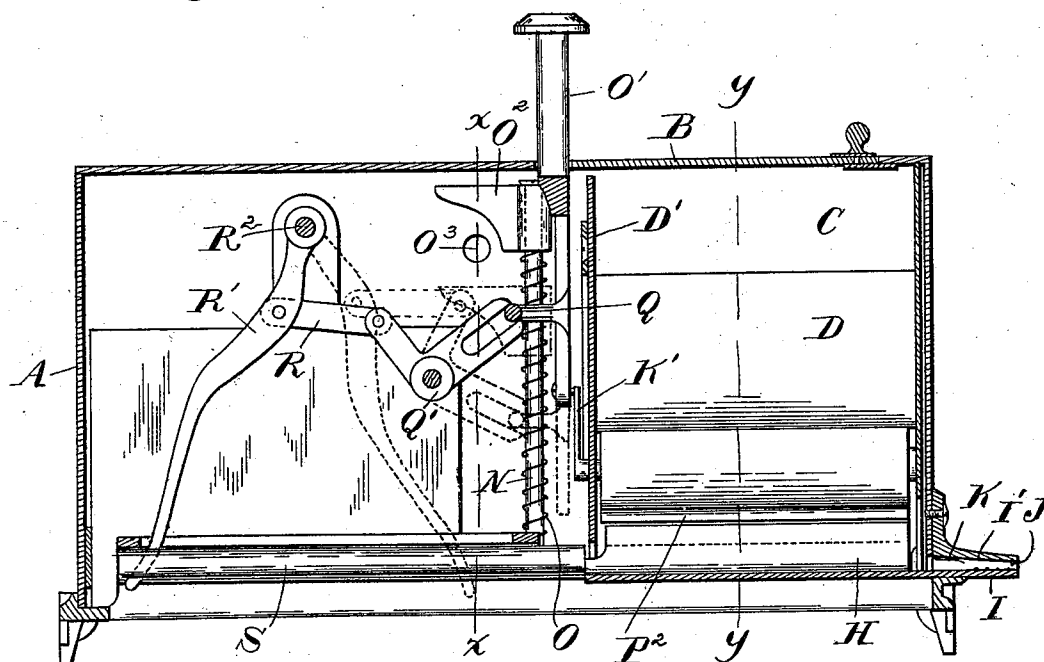
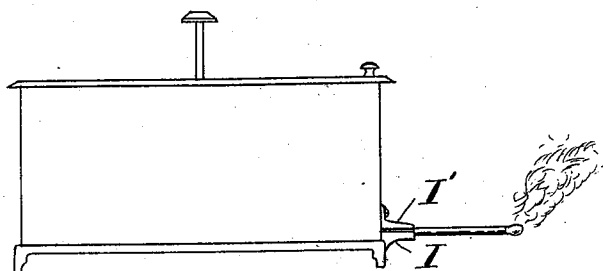


Fig. 2.



Witnesses
A. C. Hobbie
N. L. Lindop.

Inventors
Alonso Ellison
Warren A. Wright
By *Wm. H. Magner* Son
Attys.

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Fig. 2.

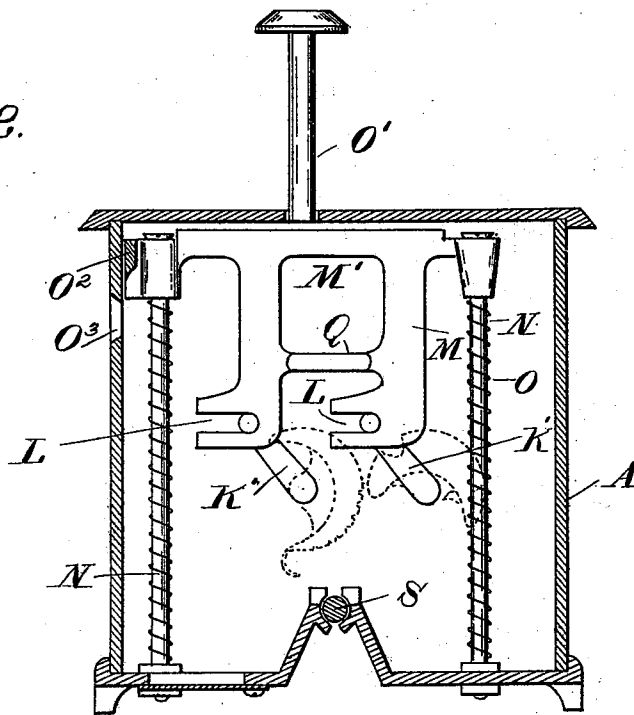
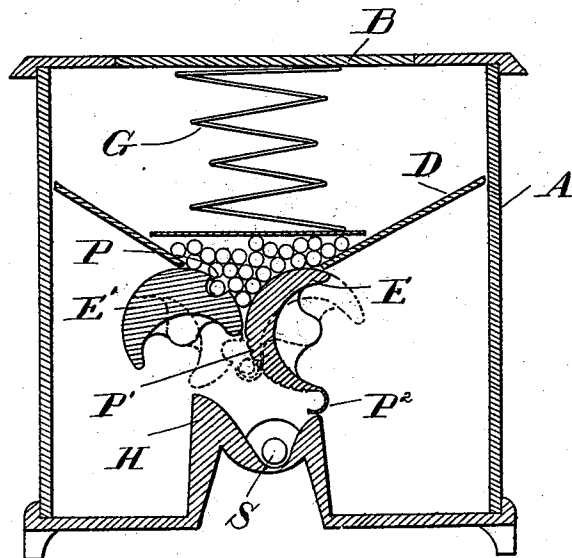


Fig. 3.



Witnesses
A. C. Hobbie.
N. L. Lindop.

Inventors
Alonzo Ellison
Warren A. Wright
By *Wm. H. Magner & Son*
Atty's.

UNITED STATES PATENT OFFICE.

ALONZO ELLISON AND WARREN A. WRIGHT, OF DETROIT, MICHIGAN.

COMBINED MATCH-LIGHTER AND CIGAR-CUTTER.

SPECIFICATION forming part of Letters Patent No. 510,778, dated December 12, 1893.

Application filed January 17, 1893. Serial No. 458,649. (No model.)

To all whom it may concern:

Be it known that we, ALONZO ELLISON and WARREN A. WRIGHT, citizens of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in a Combined Match-Lighter and Cigar-Cutter, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists, first, in the peculiar construction of the cigar cutting device; second, in the peculiar construction of a match feeding and lighting mechanism, and, third, in the combination with the actuating mechanism of the cigar cutter and of the match delivery and lighting mechanism, and further in the peculiar construction, arrangement and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical, central, longitudinal section through our improved device. Fig. 2 is a cross section thereof on line *xx* of Fig. 1, and Fig. 3 is a cross section thereof on line *yy*. Fig. 4 is a diagram side elevation showing the match delivery and lighting devices.

A is a suitable supporting casing for the various parts of the mechanism. It is provided at one end with a door or cover B in the top leading into the hopper C having an inclined bottom D. This hopper is formed at one end of the box and divided from the rest by means of a transverse partition D'.

E and E' are segmental feed rolls journaled in the front end of the casing at one end, and at the other end in the partition D' and arranged across the opening at the lower end of the inclined bottom D of the hopper. The matches are pressed down upon these feed rolls by means of a pressure plate F, (shown in Fig. 3,) upon which bears a spiral spring G preferably fastened to the cover B. Below the feed rolls is the longitudinal trough H extending to the front of the machine and communicating with the nipple I at the front of the machine. This nipple preferably has a detachable cap I' and is provided with suitable teeth J or other devices against which the head of the match will strike as it is forced therethrough to ignite the same. K

is a small spring in this nipple to hold the tip end of the match after it has been lighted. The segmental feed rollers at their rear ends are provided with actuating shafts K' which engage in slotted bearings L formed at the lower ends of the arms M which depend from the cross-head M' extending across the machine, beside the partition D' and guided upon vertical guide rods N. O are springs sleeved upon these guide rods and acting to return the cross-head M' to its initial position at the top of the case, as shown in Fig. 2.

O' is a suitable push handle extending above the top of the casing, by means of which the cross-head may be operated.

O² is the knife of the cigar cutter secured to one end of the cross-head M' and having a curved lower edge to give a shearing cut across the aperture O³ in the side of the casing, through which the end of the cigar may be inserted. It is evident that a depression of the handle O' will reciprocate the knife O² across the aperture O³ and rotate the adjacent faces of the feed rolls E and E' in opposite directions. The feed roll E' is provided near its edge with a semi-circular groove P of such a size as will receive a single match. The roll E is provided with the roughened bearing or teeth P' and at its lower edge with the groove plate P². The feed roll E' turning downward will carry with it a single match and the roll E turning backward will prevent other matches from wedging between the rolls. When the roll E' has rocked to the limit of its movement the groove P will be below the contact point between the two rolls and the match therein is free to fall, but at that point the grooved plate P² will be rocked beneath the groove P and will catch the match. When the operator releases his hand from the handle O' the springs will retract it to its initial position, and the rollers will be returned to the position shown in full lines in Fig. 3, the match falling from the grooved plate P² into the trough H. In order to deliver the match from this trough we employ any suitable actuating mechanism, which will be operated by the depression of the handle O', that which we have shown consisting of the cross-head Q between the arms M with which a slot in the bell crank lever Q' engages.

This bell crank lever is journaled on a transverse shaft and engages at its opposite end with a connecting link R which in turn connects with the oscillating lever R' journaled at its upper end on the transverse shaft R² and provided at its lower end with a plunger rod S running in a groove at the bottom of the casing and complementary to the trough H. The depression of the handle O' will rock the bell crank lever and oscillate the lever R' and move the plunger rod S forward through the trough H, quickly forcing the match out through the nipple I. In passing through the nipple the match will strike the igniting devices, such as the teeth J, and be lighted, but it will not be forced clear of the nipple, being retained there by the pressure of the spring K upon the end thereof, so that the person using the machine to cut off his cigar will find a lighted match presented in easy position to be withdrawn, as shown in Fig. 4 for lighting his cigar. It will thus be seen that the match is first fed from the hopper into a grooved plate P² and that the match is held therein until the plunger S is withdrawn from beneath the feed rolls. Then the feed rolls will rotate to their initial position and drop the match into the trough ready to be ejected by the next movement of the plunger.

What we claim as our invention is—

1. In a match feeding device the combination with a hopper, of feeding mechanism at the base of the hopper, an ejector, means for actuating the feeding mechanism and ejector simultaneously and a movable match retaining device interposed between the ejector and feeding mechanism, substantially as described.

2. The combination with the hopper for the matches, of a feeding mechanism comprising two rotating segmental rolls, arranged parallel and in close proximity to prevent the passage of a match between a groove in one of the rolls, an ejecting mechanism below the rolls and an intermediate holder for a match between the rolls and the ejecting mechanism for holding the fed match during the

travel of the ejecting plunger, substantially as described.

3. The combination of the hopper for the matches, the segmental circular feeding rolls journaled beneath the hopper the ejecting plunger reciprocating in a trough beneath the feed rolls, one of the rolls being provided with a groove normally in the hopper and adapted to be rotated to discharge below the rolls and the other provided with a curved lip adapted to cover the discharge of said groove during the ejecting movement of the plunger, substantially as described.

4. In a match dispensing device, the combination with a receptacle for the matches, of contracting feeding rolls at the base thereof, means for moving the adjacent faces of the rolls in opposite directions, and an ejecting plunger having connection with said moving means, substantially as described.

5. In a cigar cutter and match lighting device, the combination of the reciprocating cross-head carrying the cutter, the match hopper, the segmental feeding rolls journaled at the lower end thereof, the arms M depending from the cross-head and having the slotted bearing L, the cranks K on the feed rollers engaging said bearing, the plunger S and levers actuated from the cross-head for reciprocating said plunger, substantially as described.

6. In a match dispensing device, the combination with a hopper of a feeding device at the base thereof means for actuating the feeding device, a reciprocating plunger, a lever connected therewith and a sliding connection between the lever and the actuating means for the feeding device, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALONZO ELLISON.
WARREN A. WRIGHT.

Witnesses:

M. B. O'DOHERTY,
N. L. LINDOP.