

UNITED STATES PATENT OFFICE

McCLINTOCK YOUNG, OF FREDERICK, MARYLAND.

IMPROVEMENT IN MACHINES FOR MAKING MATCHES.

Specification forming part of Letters Patent No. **160,376**, dated March 2, 1875; application filed August 12, 1874.

To all whom it may concern:

Be it known that I, McCLINTOCK YOUNG, of Frederick, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Machines for Making Matches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings-making a part of this specification, in which—

Figure 1 represents a perspective view of the machine. Fig. 2 represents a horizontal section through the same, and Fig. 3 represents a vertical transverse section therethrough.

Letters Patent have been heretofore granted to me for a machine for cutting match-sticks from a block of wood and sticking them in plates furnished with holes for their reception; and these match-sticks are held in these plates while being dipped in the composition by which they are ignited, and until they are dried or ready to be removed.

My present invention relates to a machine in which such plates, with the matches in them, are introduced, and the matches pushed out of the plates and dropped, in good order, into a box or receptacle, whence they are removed to be put up for market or consumption.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

In the side plates A B are formed grooves *a a*, which margin a passage-way, C, through which the plate *b*, containing the matches *c*, and the box or tray *d* that is to receive the matches when forced out of the plate, are fed or forced in succession, one set pushing through the preceding one, guided by the grooves *a*. In the line of the grooves *a*, or near them, are hung two spring-dogs, *e e'*, which hold one against each end of the plate *b* when it has arrived at the exact place for the delivery of the matches from the plate and into the box or tray *d*.

In the side plates or frame of the machine is hung eccentrically, as at *f*, a roller or cam-shaft, D, furnished with a hand-lever, E, by which it may be turned; and this cam-shaft works in slots *g* in a sliding frame, F, so as to move said frame to and from the plate *b*, carrying the matches, or the pathway through which it moves. In the sliding frame F are

set a series of followers or pins, *h*, corresponding in number and position with the number and position of the matches in the plates.

The trays or boxes *d* have closed bottoms, backs, and ends, and open fronts and tops, and upon the ends of said trays that go foremost through the machine are projections *i*, against which the plates take, so that each plate carries along with it the box or tray into which its matches are to be deposited, and when the plate is emptied it carries to the delivery end of the machine with it the box or tray into which the matches have been delivered.

In operating the machine, a tray is placed against the plate containing the matches, as shown in Fig. 2, and both are started in on the right-hand side of the machine, and pushed along until a second plate and tray can be inserted, the second one pushing along the first one, and so on. When the plate arrives at the point of the spring-dog *e'* it is stopped and held from advancing any farther, and at the same time the spring-dog *e* drops in behind said plate, so that it cannot move backward, and when in this position and so held the ends of the matches in the plate are exactly opposite the followers or plungers *h* in the sliding frame F. The operator then draws back the lever E, which forces up the frame F and its plungers, and the matches are all simultaneously pushed out of the plate, and drop in good order in the tray. The dog *e'* is then pressed down so as to release the plate, and it is advanced to the point of delivery, the next succeeding plate and tray taking position between the dogs for the next succeeding similar operation, and so on.

What I claim is—

1. In combination with the plates holding and carrying a series of matches, the sliding frame carrying a similar series of plungers, and the tray or box, arranged and operating as and for the purpose described and represented.

2. In combination with the plates, the guiding-grooves and spring-dogs for bringing and holding the plates in proper position while the plungers are driving out the matches, substantially as described.

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Witnesses:

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