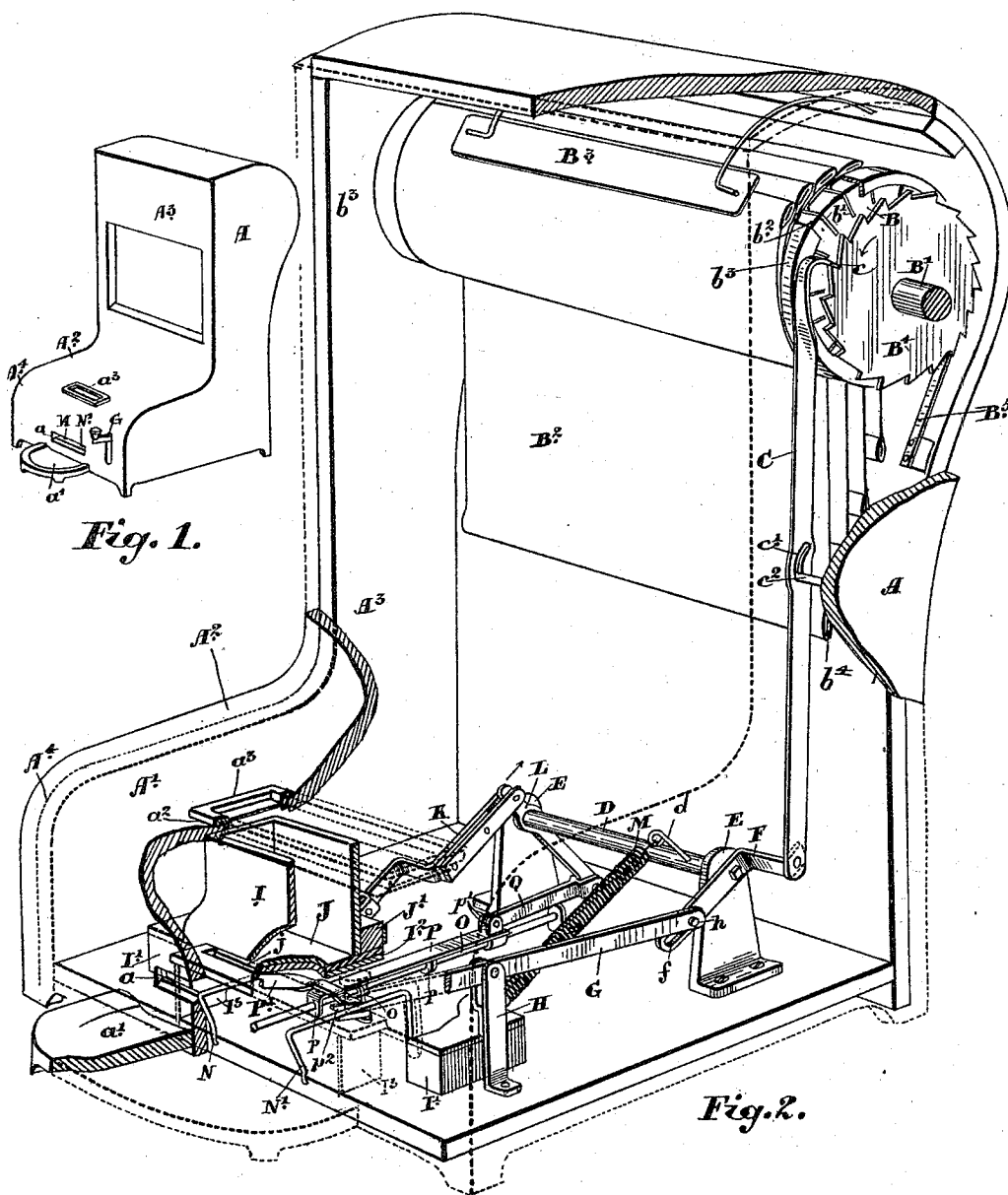


(No Model.)

A. H. WALLACE.  
MATCH DELIVERY MACHINE.

No. 585,352.

Patented June 29, 1897.



Witnesses

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# UNITED STATES PATENT OFFICE.

ANDREW H. WALLACE, OF RENFREW, CANADA, ASSIGNOR OF ONE-THIRD  
TO GEORGE D. PRINGLE, OF GUELPH, CANADA.

## MATCH-DELIVERY MACHINE.

SPECIFICATION forming part of Letters Patent No. 585,352, dated June 29, 1897.

Application filed November 30, 1896. Serial No. 613,894. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW H. WALLACE, watchmaker, of the town of Renfrew, in the county of Renfrew, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Match-Delivery Machines, of which the following is a specification.

My invention relates to improvements in match-delivering machines; and the object of the invention is to design a simple mechanism whereby the match may be delivered without fail and an advertisement shown upon each delivery; and it consists, essentially, of a suitable case provided with a receptacle at the front into which the matches are placed, such receptacle being provided with a sliding bottom with a slot to receive the match and beneath the bottom with a pusher which is operated through mechanism connected to the finger-key, so as to eject the match through a slot in the front of the case in which it has been deposited on guide-ways beneath the slot in the sliding bottom, the finger-key being also connected to a bar which coacts with a suitable ratchet-wheel on the ends of a roller upon which advertising-flaps are secured, the parts being otherwise arranged and constructed in detail, as hereinafter more particularly explained.

Figure 1 is a diminutive perspective view of the side of the casing of my match-delivering machine. Fig. 2 is a perspective view showing the casing and parts of the mechanism broken away to exhibit the construction and operation of the mechanism involved in my invention.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the casing, and A' the forwardly-extending portion thereof; A<sup>2</sup>, the top of the forwardly-extending portion; A<sup>3</sup>, the front of the portion A, and A<sup>4</sup> the front of the portion A'. It will be seen that the casing is substantially L-shaped in form. The case at the top has suitably journaled in it a roller B on a spindle B'. The roller B is provided with a series of flaps B<sup>2</sup>, which have their inner ends extending into notches b' made in the roller. The ends of the flaps are folded once to extend into the notches b' and are held therein by cross-

bars b<sup>2</sup>, which are held in position by the end rings b<sup>3</sup>. The outer ends are provided with slats b<sup>4</sup>.

B<sup>3</sup> is a spring-grip which is designed to hold the flaps wrapped around the roller until the outer ends are brought underneath it by the mechanism I shall now describe.

B<sup>4</sup> is a ratchet-wheel secured on the spindle B' and provided with a corresponding number of teeth to the flaps.

B<sup>5</sup> is a holding-dog secured to the frame and designed to engage with one of the teeth of the ratchet-wheel B<sup>4</sup> and hold it from rotating in the opposite direction from which it is propelled.

C is a bar provided with a dog-shaped end c, which is designed to engage with the ratchet-teeth of the wheel B<sup>4</sup>. The bar C has a slot c' made in it, through which extends a pin c<sup>2</sup> into the frame A of the case. The upper dog-shaped portion c of the bar C has a sufficient spring in it, so that it will pass over the ratchet-tooth when the bar is being pushed upwardly. The slot c' serves to limit the upward movement of the bar to the length of one tooth, so that the wheel is turned one tooth upon every downward pull on the bar C. As the distance apart of the end of the flaps when wrapped around the roller substantially corresponds to the length of the tooth of the ratchet, it will be seen that upon each downward depression of the bar one flap will be released, and as these flaps are designed to receive an advertisement a different advertisement, if desired, will appear on each flap. The bar is operated to eject a match at the same time by the mechanism which I shall now describe, and consequently a different advertisement will appear upon the ejection of each match.

D is a rocking bar journaled in the brackets E. F is a bell-crank secured at one end of the rocking bar and pivotally connected to the bottom end of the bar C and having a slot f at the front end.

G is a finger-key which is pivoted on a suitable bracket H and provided at the inner end with a pin h, which extends through the slot f in the bell-crank F.

I is the match-receptacle, which is supported at each end upon the blocks I'.

J is the bottom of the box, which is provided with a slot *j* of sufficient length and width to receive a match.

J' is a bar secured at the top of the bottom J at the back. Such stop is designed to limit the forward movement of the bottom J.

K is a double-forked arm which is pivotally connected at the front to the bar J' and at the back to a lever L, secured on the rocking shaft D.

I<sup>2</sup> is a cross plate or bar extending across from one block I' to the other and forming a support for the bottom J.

I<sup>3</sup> are vertical plates, which also help to support the bottom J when it is thrown into the normal position shown in the drawings.

M is a spiral spring which is secured at one end to the block I or other suitable portion of the frame and at the other end to a pin *d*, secured in the rocking shaft D. The normal tendency of the spring M is to exert a forward tension upon the shaft D.

N N' are supporting guiding-bars situated underneath the cross-bar I<sup>2</sup>.

O is a guiding-rod supported in suitable brackets *o* at the bottom of the case.

P is a bar which has depending lugs *p* to guide it on the rod O.

Q is a link connecting the lower end of the lever L to lugs *p'* on the bar P.

P' is a cross-bar provided with turned carrier ends *p*<sup>2</sup>, which project above the level of the supporting guiding-bars N N'. The ends of the guiding-bars N N' project into the ejecting-slot *a*, which is inclined at its bottom edge and has beneath and to the front of it the receiving-tray *a'*.

*a*<sup>2</sup> is an opening made in the top front portion of the case A, above the top of the match-receptacle I.

*a*<sup>3</sup> is a frame provided with a glass which fits the opening *a*<sup>2</sup> and is designed to be locked therein. By removing the frame A<sup>3</sup> any desired number of matches may be placed in the receptacle I.

The operation of the device is as follows: Upon the depression of the finger-key G the bell-crank is tilted on its pivot and draws the ratchet-wheel B<sup>4</sup> in the direction indicated by arrow the space of one tooth, thus throwing down an advertising-flap. At the same time the rocking bar D, to which the bell-crank is secured, tilts on its pivot and throws the top of the level L in the direction indicated by arrow, thereby drawing the slot J, which is normally outside of the receptacle I, within such receptacle, so that a match will fall therein. The match now rests in the slot upon the cross-bar I<sup>2</sup>, and upon the release of the finger-key the spring M draws the lever L back, pushing forward the bottom J and thereby allowing the match to drop through the slot *j* to the outside of the cross-bar I<sup>2</sup> and upon the guide-bars N N'. It will now be seen on the next depression of the finger-key that the carrier-fingers *p*<sup>2</sup>, connected, as hereinbefore described, to the lever L, will be thrown for-

ward and carry the match previously deposited in front of them forward through the ejecting-slot *a* upon the receiving-tray *a'*. This operation is repeated continuously, so that one match is thrown out at a time.

It is well known that in public places a person will grasp a handful of matches out of a box and probably leave it empty, and thus the box would be left empty continuously, whereas one or two matches is probably quite sufficient for all his present requirements. By this device an economy is effected and the public convenience to a great extent.

What I claim as my invention is—

1. The combination with the finger-key, the bar connected thereto, the roller, the ratchet-wheel with which the dog-shaped end of the bar engages, the rocking shaft, the match-receptacle and a horizontal arm pivotally connecting the rocking shaft with the sliding adjustable bottom of the receptacle whereby a match is received into the slot upon each downward depression of the finger-key and thrown out of such slot upon the key returning to its normal position as and for the purpose specified.

2. The combination with the finger-key, bell-crank, rocking shaft supported in suitable journals, the lever on the rocking shaft, the match-receptacle, the sliding bottom thereof held in suitable ways and the slot therein, the connecting-bar between the back of the sliding bottom and the top of the lever on the rocking shaft, the spring attached to the rocking shaft at one end and connected to the frame at the other and means below the match-receptacle for receiving and holding the match deposited through the slot when the sliding bottom is thrust forward, and the slot in the case through which the match is ejected as and for the purpose specified.

3. The combination with the finger-key, bell-crank, rocking shaft, supported in suitable journals, the lever on the rocking shaft, the match-receptacle, the sliding bottom thereof held in suitable ways, and the slot therein, the connecting-bar between the back of the sliding bottom and the top of the lever on the rocking shaft, the spring attached to the rocking shaft at one end and connected to the frame at the other and means below the match-receptacle for receiving and holding the match deposited through the slot when the sliding bottom is thrust forward, the slot in the case through which the match is ejected and a receiving-tray beneath and to the front of the slot outside the case as and for the purpose specified.

4. The combination with the finger-key, bell-crank, rocking shaft supported in suitable journals, the lever on the rocking shaft, the match-receptacle, the sliding bottom thereof held in suitable ways, and the slot therein, the connecting-bar between the back of the sliding bottom and the top of the lever on the rocking shaft, the spring attached to the rocking shaft at one end and connected to

the frame at the other and the guiding supporting-bars extending underneath the sliding bottom and the slot in the case through which the match is ejected as and for the purpose specified.

5 5. In combination in a match-receptacle, the slotted sliding bottom therefor supported in guideways, a match-tray adapted to receive the match, and a temporary support arranged  
10 between said tray and the receptacle adapted to receive a match directly from said receptacle and to temporarily hold the same before it is discharged upon the tray and means for operating the bottom, substantially as described.

15 6. In combination the match-receptacle, the sliding bottom, the slot in the bottom, the supporting-guides for the match beneath the bottom, the connecting-bar between the back  
20 of the sliding bottom and the rocking shaft,

the guiding-rod, the bar and link connecting such bar to the opposite end of the lever on the rocking shaft, and the carrier-fingers attached to the front end of the bar and designed to project above the supporting and guiding  
25 rods as and for the purpose specified.

7. In combination the case, the match-receptacle supported above the bottom thereof, the sliding bottom suitably supported, means for moving the same, the slot in the bottom,  
30 the supporting-guideways extending forward of the bottom, carrier-fingers and means for imparting a forward-and-backward movement thereto, and the slot in the front of the case all arranged as and for the purpose specified.  
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Witnesses:

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