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2. SHEETS--SHEET 1.

L. N. Ellis

Inventors
Henry C. Fleming
William F. Royster.

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Chandle Chandle

Attorney's

H. C. FLEMING & W. F. ROYSTER.
MATCH BOX.

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2 SHEETS—SHEET 2.

977,441

Fig. 3

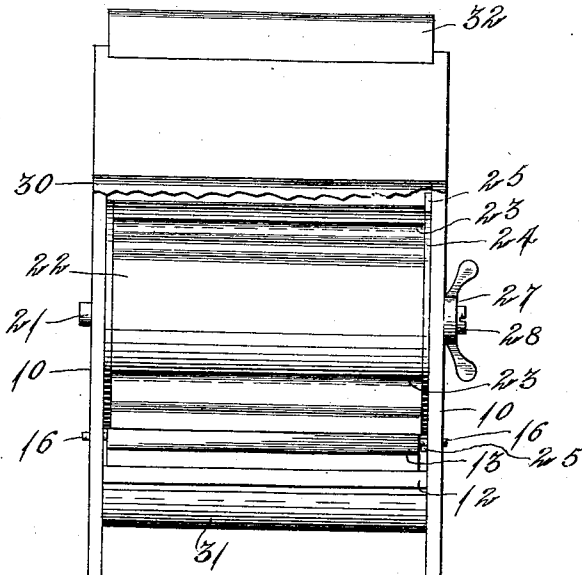


Fig. 4

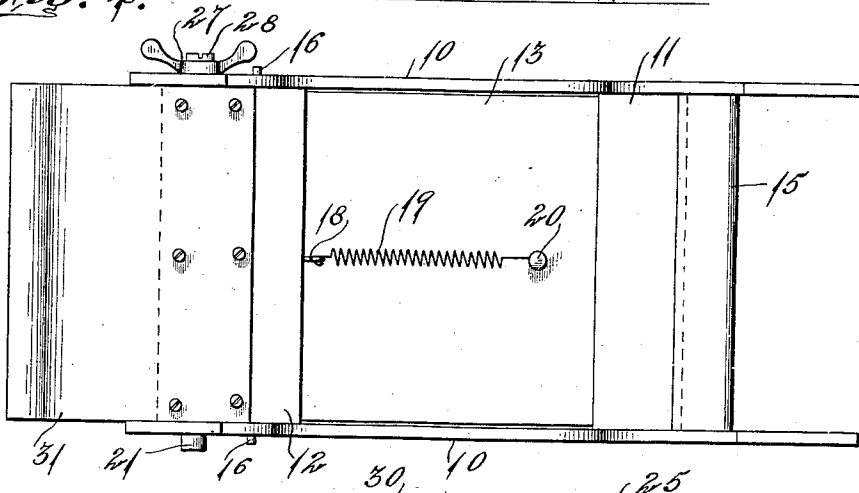
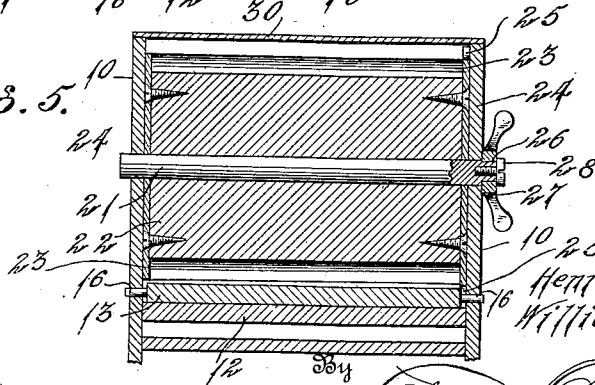


Fig. 5



Witnesses
Jos. Gregory

L. N. Gullis

Inventors

Henry C. Fleming
William F. Royster

Charles H. Hamaker

Attorneys

UNITED STATES PATENT OFFICE.

HENRY C. FLEMING AND WILLIAM F. ROYSTER, OF DENISON, TEXAS.

MATCH-BOX.

977,441.

Specification of Letters Patent.

Patented Dec. 6, 1910.

Application filed March 2, 1910. Serial No. 546,865.

To all whom it may concern:

Be it known that we, HENRY C. FLEMING and WILLIAM F. ROYSTER, citizens of the United States, residing at Denison, in the county of Grayson, State of Texas, have invented certain new and useful Improvements in Match-Boxes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to match boxes and it has special reference to improvements in the match box for which a patent was granted to us on Dec. 10, 1909 bearing the Serial No. 945,775.

The principal object of the invention is to improve the match box shown and described in the above identified patent by providing means for insuring the passage of matches down to the delivery wheel.

With the above and other objects in view, the invention consists in general in the provision, in a match box of this character, of a movable floor and novel means to actuate said floor.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a side elevation of a match box constructed in accordance with this invention. Fig. 2 is a similar side view, certain portions of the side being broken away the better to disclose the interior mechanism. Fig. 3 is a front elevation of such a box with a portion of the front casing broken away. Fig. 4 is a bottom plan view of the box. Fig. 5 is a section on the line 5—5 of Fig. 2.

The match box constructed in accordance with this device comprises sides 10 which are spaced apart at the back end by a bottom member 11 and at the front end by a similar bottom member 12. Carried upon the bottom members 11 and 12 is a sliding bottom 13, the upper end of which is receiving in a pocket 14 formed by bending a strip of metal into U-shape as indicated at 15 and attaching the strip to the rear edge of the member 11. This bottom 13 is inclined at a considerable angle to the horizontal so that matches resting thereon will normally be

fed toward the lower end. The bottom member 13 is provided with projecting pins 16 which extend through slots 17 formed in the sides, and at its forward end this bottom member 13 is spaced from the sides. The slots 17 are so arranged that when the bottom member is in its most forward position the pins 16 will rest against the forward ends of the slots 17. In order to normally hold the member 13 in such position there is provided on the bottom member 12 an eye 18 whereto is connected one end of a coil spring 19, the other end of this spring being connected to a pin 20 secured in the bottom member 13. This spring is a tension spring and thus causes the bottom 13 to be forced forward so that the pins 16 normally occupy the position indicated in Fig. 1. In the sides 10 are formed suitable openings to constitute journals for a shaft 21 upon which is mounted a delivery cylinder 22 provided with a series of grooves 23 for the reception of matches. These grooves may be made of any size but are preferably of such size as to accommodate a single match at a time and are undercut as clearly shown in Fig. 2 for the purpose of preventing the matches from accidentally falling out of the groove when once picked up.

The delivery cylinder 22 has secured to each end a metallic plate 24 and one of these plates is provided with a series of teeth 25 which are adapted to successively contact with one of the pins 16 as the cylinder is rotated. By reason of the contact of these teeth 25 with said pin the bottom 13 is pushed upward against the influence of the spring 19 but when, by continuance of the rotation, the tooth frees itself from the pin the bottom will be drawn quickly back so that the entire device will be jarred and the matches fed down toward the delivery cylinder as well by the downward movement of the bottom as by the jar given the entire match-safe.

One end of the shaft 21 is reduced as at 26 and on this reduced end is fitted a wing nut 27, the same being held in position by a suitable screw 28. This wing nut 27 is used to rotate the cylinder by grasping the same between the thumb and finger of one hand.

The match safe is provided with the usual fixed top 19' to the forward end of which is hinged an arcuate cover 30 which extends forward and downward over the delivery cylinder. Below the delivery cylinder is a

receiving plate 31 having its outer end curved upward for the purpose of catching the matches as they are delivered by the rotation of said cylinder. The match safe is also provided with a sliding closure 32 for the rear end and by opening this closure the case may be filled with matches.

In order to prevent too many of the matches from contacting with the cylinder at the same time there is provided a downwardly extending baffle plate 33 which is secured to the top and has its lower edge terminating adjacent the bottom 13.

In the operation of the device the case is filled with matches and the wing nut 27 grasped and rotated. This causes the cylinder to rotate and matches are picked up in the several grooves and carried over the top of the cylinder. From there they drop on to the delivery plate 31 from whence they may be removed. During this operation the bottom 13 is alternately pushed back and allowed to move forward, thus continually feeding matches down to the delivery cylinder. In order to eliminate friction of the matches between the delivery cylinder and the bottom these teeth 25 are positioned immediately behind the grooves 23 so that the matches are being pushed back at the time the bottom 13 is moving upward and are only fed down after the respective tooth 25 disengages from the pin 16.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described the invention, what is claimed as new, is:—

1. In a match box, a casing, a delivery

cylinder mounted for rotation therein, teeth projecting from one end of said cylinder, means to rotate said delivery cylinder, a sliding floor in said casing, a pin projecting from said sliding floor, said pin lying in the path of said teeth, and a spring having one end fixed to the casing and the other to the sliding floor, whereby as the cylinder is rotated the floor is moved in one direction by the action of a tooth against said pin and in the opposite direction by the action of said spring when the tooth releases from the pin.

2. In a match box, a casing, a delivery cylinder mounted for rotation therein, teeth projecting from one end of said cylinder, means to rotate said delivery cylinder, a sliding floor in said casing, a pin projecting from said sliding floor, said pin lying in the path of said teeth, a spring having one end fixed to the casing and the other to the sliding floor, whereby as the cylinder is rotated the floor is moved in one direction by the action of a tooth against said pin and in the opposite direction by the action of said spring when the tooth releases from the pin, and a pocket for the inner end of the sliding floor.

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

HENRY C. FLEMING.
WILLIAM F. ROYSTER.

Witnesses:

his
ROBERT F. X SHAW,
mark.
WILLIAM L. SCOTT.