

N. W. RASNICK.
MATCH BOX.
APPLICATION FILED FEB. 19, 1912.

1,060,706.

Patented May 6, 1913.

Fig. 1.

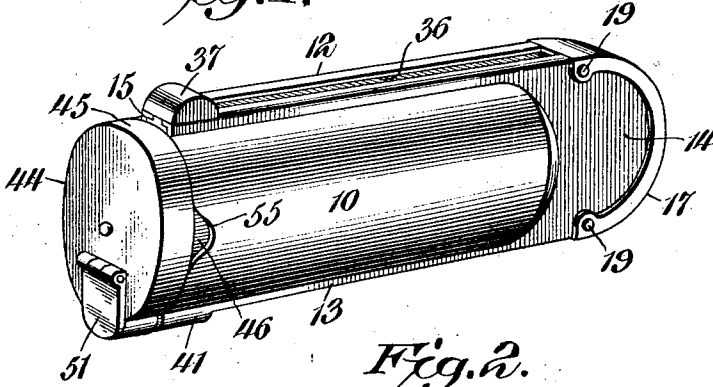


Fig. 2.

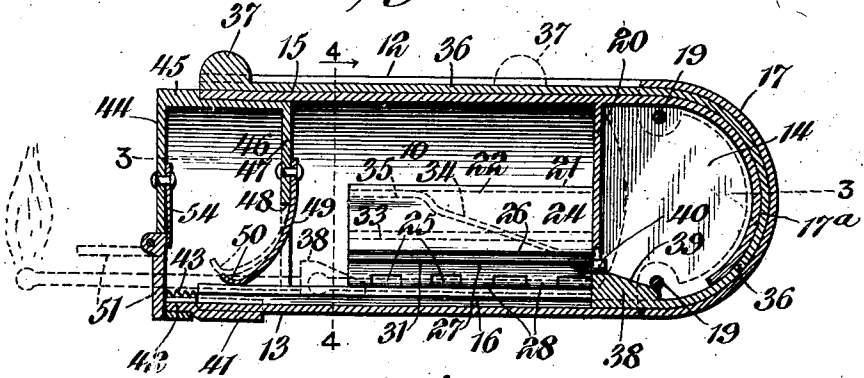


Fig. 3.

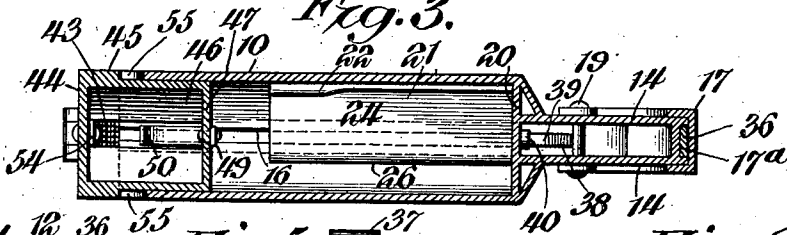


Fig. 4.

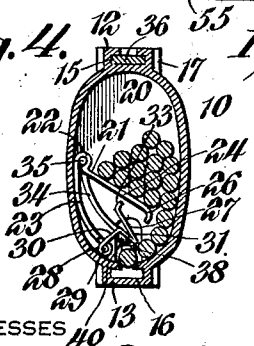


Fig. 5.

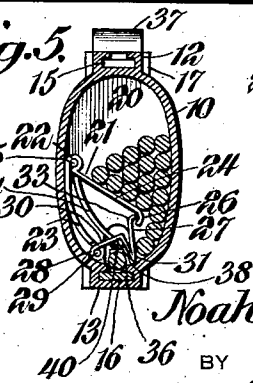
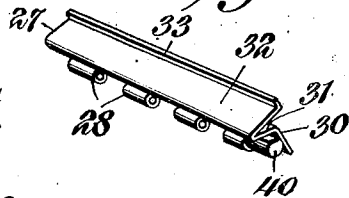


Fig. 6.



WITNESSES
Howard D. Orr.
Stewart Rice.

Noah W. Rasnick, INVENTOR,
BY
E. G. Siggers.
ATTORNEY

UNITED STATES PATENT OFFICE.

NOAH WEBSTER RASNICK, OF DANTE, VIRGINIA.

MATCH-BOX.

1,060,706.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed February 19, 1912. Serial No. 678,511.

To all whom it may concern:

Be it known that I, NOAH W. RASNICK, a citizen of the United States, residing at Dante, in the county of Russell and State of Virginia, have invented a new and useful Match-Box, of which the following is a specification.

My invention relates to improvements in match boxes, and has for its object to provide a match box of the single delivery type, which will at the time of delivering the match ignite the same and hold the burning match, without danger of igniting the other matches in the box, until the burning match has been consumed or as long as desired when the burning or burnt match can be discharged from the box. The match box can be readily carried in the vest pocket and is very simple in its construction and operation and can be manufactured at small cost.

Other objects and advantages of my invention will appear in the course of the following description.

While the accompanying drawings represent what I consider the preferred embodiment of my invention, yet I reserve the right to make any and all such changes in the form, construction, proportion and arrangement of my match box and the operating mechanism thereof as the scope of the appended claims will permit.

In the drawings:—Figure 1 is a perspective view of my improved match box in its closed position. Fig. 2 is a vertical longitudinal sectional view of the same, dotted lines being employed to show the operation of the device and the different positions of the match being moved. Fig. 3 is a horizontal longitudinal sectional view on the line 3—3 of Fig. 2. Fig. 4 is a vertical cross sectional view on the line 4—4 of Fig. 2, looking in the direction indicated by the arrow. Fig. 5 is a similar view with certain of the parts shown in a different position. Fig. 6 is a perspective view of the cut-off.

Referring to the drawings by numerals, 10 designates the hollow body, which serves as the magazine of my improved match box. Its general shape is elliptical in cross section, except at the rear end where the sides are flattened at 14, as shown clearly in Fig. 3, and the rear end rounded.

At the top and bottom of the body are formed longitudinally extending ribs 12 and 13, respectively, which extend from a point

in rear of the front end in a straight line to the point where the top and bottom edges merge into the rounded rear end. At this point the flattened sides 14 decrease the diameter of the body to an extent that the said ribs are about the same width as the thickness of the flattened sides. The said ribs are each provided with T-shaped grooves 15 and 16, which form guide-ways, as hereinafter explained. The groove of the upper rib opens outwardly, while the groove of the lower rib opens inwardly and communicates with the interior of the body. The two grooves are connected at the curved rear end of the body by a curved groove or passage 17^a, which is formed around said curved end and is covered by a curved plate 17 secured in place by rivets 19.

The body or magazine 10 is closed at its rear end by a diaphragm or partition 20, which is located just in advance of the point where the sides of the body are flattened. The partition constitutes the rear closed end of the magazine.

Mounted at one side of and near the bottom of the magazine 10 and extending forwardly from the partition 20, is a guide 21, which comprises a sheet of metal bent or folded longitudinally to form a loop 22 and two members 23 and 24. The lower member 23 of the guide 21 rests against and is secured to the inner wall of one side of the magazine and extends downwardly and at its lower end is provided with spaced-apart longitudinally extending hinge eyes 25. The upper member 24 is extended across and downwardly on an incline to a point contiguous to the other side of the magazine and has its longitudinal free edge curved downwardly, as at 26, sufficiently close to said side to allow only one match at a time to pass, as shown in Figs. 4 and 5. The inclined upper member may be said to form a false bottom for the magazine.

Positioned beneath the guide 21 is a cut-off 27. At and along its outer longitudinal edge the cut-off is provided with spaced-apart hinge eyes 28, which are so arranged with respect to the hinge eyes 25 on the lower member 23 of the guide 21 that they interfit and are pivotally connected by means of a pintle 29. As shown, the cut-off comprises a longitudinally disposed upwardly inclined flat part 30, which normally extends over the T-shaped groove 16 in the bottom of the magazine 10, and a

downwardly extending substantially V-shaped part 31, the outer branch of which extends up above the inner branch and has its free longitudinal edge 33 flanged outwardly so that it will contact with the curved edge 26 of the guide member 24, and thus limit the downward movement of the cut-off 27. The cut-off is normally held in the position shown in Fig. 5 by means of a diagonally disposed wire spring 34 having one end 35 secured in the forward portion of the loop 22, while its other end bears against the flat part 30 of the cut-off.

Working in the grooves 15 and 16 and the communicating groove 17^a is a thin flat ribbon-like spring 36, provided at its forward or outer end with a finger piece 37, which rests upon and slides along the top of the rib 12, and at its inner or rear end is provided with a pusher or ejector 38, which has its top face rearwardly inclined or beveled as at 39. As shown in Fig. 2, the spring 36 is preferably of such a length that when the finger piece 37 is at the forward end of the groove 15, the pusher at the rear end of the spring is in engagement with and has raised the cut-off 27 (see Fig. 4) by reason of the beveled face 39 of the pusher 38 engaging a lug 40 secured to the underside of the flat part 30 at its rear end. The displacement of the pusher is prevented by its rear end contacting with the lower fastening rivet 19.

Beneath the lower rib 13 at the front end of the body 10 is secured a plate 41, which at the end of the rib is bent up to the level of the bottom of the T-shaped groove 16 and then extended forward in line with it as at 42, the upper face of the extension 42 being provided with teeth or serrations 43 which extend up to or near the top of the groove 16 for a purpose to be explained.

The front open end of the body 10 is closed by a cap or cover 44, the outer rim 45 of which abuts against the end of the body portion 10 and the bend in the member 41. As shown, the cap is provided with a reduced inwardly extending hollow portion 46 which terminates in an inner wall 47, provided with an opening 48 at its lower side. Secured to the inner side of the inner wall 47 is one end of a curved spring 49, while the rest of the spring is curved through the opening 48 with its lower end curved up to form a presser foot 50. As illustrated in full lines in Fig. 2, the presser foot 50 normally presses against the top of the slot 16.

Formed in the outer wall of the cap or cover is a small opening, which is large enough to permit the passage of a single match. Said opening is coincident with the groove 16 and is on a line with the opening 48 provided in the inner wall of the cap or cover. A hinged flap 51 is employed to close the said opening, said flap being hinged to the outer wall of the cap or cover. Secured

at one end to the inside of the outer wall of the cap is a flat spring 54, with its lower end bearing against the upper end of the inner face of the flap 51 opposite the hinge thereof. As is obvious, the spring 54 will prevent the accidental opening of the flap, and when the flap is opened, the spring 54 will bear against the flat upper end of the flap and maintain it in an open position, as indicated in dotted lines in Fig. 2, until it is pressed down into position against the tension of the spring. To facilitate the removal of the cap or cover 44, opposite sides of the open end of the body portion 10 are provided with grooves 55 to permit the fingers to firmly engage the rim 45.

The operation of my match box is as follows:—With the movable parts of the box in the position shown in Fig. 2, the cap 44 is removed and after placing in the magazine a number of matches, with their igniting ends toward the front, the cap is replaced. When a lighted match is desired, the flap 51 is raised and the box held in the hand with its lower side down which causes the matches to rest upon the inclined upper member 24 of the guide 21, and will form a single row of matches past the end 26 of the member 24, with one match resting in the upper portion of the groove 16 beneath the cut-off 27, as shown in Fig. 4. The finger piece 37 is then pushed back to about the position indicated in dotted lines, which will move the pusher 38 forward to the position also indicated in dotted lines, with the result that as the pusher is in engagement with the end of the match, it will push the latter forward to the position shown in dotted lines, in which position the match will be held by the presser foot 50 of the spring 49. As the match is forced out, its head is brought in contact with the serrations 43 which will ignite the match, the presser foot 50 holding it in position as long as desired or until it is consumed. By continuing the outward movement of the finger piece 37 until it contacts with the end of the curved plate 17, the pusher 38 will contact with the spring 49 and raise the presser foot 50, whereby the match will be released and will, by slightly tilting the front end of the box downwardly, fall out. The flap 51 is then closed and the finger piece 37 moved to the position shown in full lines in Fig. 2, which will raise the cut-off 27 to the position shown in Fig. 4 by the beveled top 39 of the pusher 38 contacting with the lug 40, thus permitting another match to enter the top of the groove 16 beneath the cut-off. Just as soon as the pusher is started forward to eject the match, as hereinbefore explained, the pusher is disengaged from the lug with the result that the spring 34 pushes the cut-off down to the position shown in Fig. 5, thereby preventing

another match from passing the cut-off until the pusher has ejected the match already in position, and has been returned to the position shown in full lines in Fig. 2. The match box can, as desired, be successively operated until the supply of matches in the magazine 10 is exhausted, when the same can be replenished, as has been hereinbefore described.

By reason of the fact that the matches are ignited at the front end of the box, and a hollow cover is provided, which forms an inner protecting wall, the remaining matches in the magazine are prevented from catching fire from the lighted match.

The inner wall 47 of the cover 44 forms the front wall of the magazine, and the opening 48 in said wall is partially closed by the spring 49, and said wall and spring combine as a protection for the matches in the magazine.

I wish it understood that while the drawing shows a pocket device, that the invention may be made in any size and that the invention is susceptible of use in structures adapted to rest upon a cigar display case.

What is claimed is:—

1. A match box provided with a match exit and a longitudinal groove in the bottom, a movable cutoff extending over said groove, said cutoff being provided with a depending portion normally positioned at one side of said groove, means for raising said cutoff to lift said depending portion to permit a match to enter said groove for ejection, and a pusher movable in said groove and adapted to push said match through said exit.

2. A match box provided with a match exit and a longitudinal groove in the bottom, and a movable cutoff extending over said groove and adapted to admit and maintain a match at the top of said groove in position for ejection, and a pusher movable in said groove and adapted to push a match through said exit and to engage said cutoff and raise the same to admit a match to said groove.

3. A match box provided with a match exit, a movable cut-off adapted to receive and maintain a match in position for ejection, means for actuating said cut-off to receive matches one at a time, a guide positioned over said cut-off and adapted to feed a single line of matches to said cut-off, said guide forming a housing over said cutoff to prevent the matches from interfering with its actuation, and a pusher adapted to push a match held by said cut-off through said exit.

4. A match box provided with a match exit, a pusher adapted to push matches one at a time through said exit, and a movable cutoff continually in contact with the match supply, said cutoff being provided with a

depending portion adapted to enter between and separate the matches and means for actuating said cutoff to feed matches one at a time in advance of said pusher.

5. A match box provided with a match exit, a pusher adapted to reciprocate toward and away from said exit, a movable cut-off adapted to position matches one at a time in front of said pusher, said pusher being adapted in its rearward movement to engage the rear end of said cut-off to lift the same and permit another match to pass said cut-off and be positioned in front of said pusher.

6. A match box provided with a match exit, a pusher adapted to push matches one at a time through said exit, a movable cut-off, said cut-off being operated by said pusher to feed matches one at a time in advance of said pusher, and a spring adapted to bear against said cutoff and normally hold the same in a non-feeding position.

7. A match box provided with a match exit, and a groove in line with said exit, a pusher mounted to reciprocate in said groove, a cut-off, a spring bearing against said cutoff to normally hold the same in a non-feeding position and means for raising said cut-off to feed matches into said groove in advance of the pusher.

8. A match box provided with a match exit, a pusher adapted to push matches one at a time through said exit, a cutoff, means for operating said cutoff to feed matches one at a time in advance of said pusher, and an inclined fixed guide or false bottom positioned over said cutoff and extended across said box sufficiently close to the opposite side to form a passage to allow but one match at a time to pass, whereby matches in a single line are fed to said cutoff.

9. A match box provided with a match exit, a pusher adapted to push matches one at a time through said exit, a movable cut-off, means for operating said cut-off to feed matches one at a time to said pusher, a fixed guide positioned over said cut-off to deliver matches singly to said cut-off and forming a housing over the same to prevent the matches from interfering with its operation, and an abutment carried by said guide adapted to limit the downward movement of said cut-off.

10. A match box provided with a match exit, a pusher adapted to push matches one at a time through said exit, a movable cut-off, means for raising said cut-off at each rearward movement of the pusher to feed matches to said pusher, a guide positioned over said cut-off to deliver matches singly to said cut-off, a stop carried by said guide, and a spring adapted to normally hold said cut-off in engagement with said stop.

11. A match box provided with a match exit, a pusher adapted to reciprocate to push

matches one at a time through said exit, a cut-off hingedly mounted to one side of the path of movement of said pusher and extending over the same and above its path of movement, said cut-off being adapted to feed matches one at a time in advance of said pusher, a guide positioned over said cut-off and adapted to deliver matches singly to said cut-off, a stop carried by said guide, a spring adapted to normally hold said cut-off in contact with said stop, said cut-off being operated against the tension of said spring to feed single matches to said pusher at each rearward movement thereof.

12. A match box provided with a match exit, a pusher adapted to reciprocate to push matches one at a time through said exit, a cut-off hingedly mounted to one side of the path of movement of said pusher and extended over the path of movement and having a downwardly extending part, said part being normally positioned contiguous to the path of movement of said pusher to prevent a match from entering said path, and means for lifting said cut-off when said pusher is at the rear end of its stroke to permit a match to pass beneath said downwardly extending part and be placed in advance of said pusher.

13. A match box provided with a match exit, a pusher adapted to reciprocate to push matches one at a time through said exit, a cut-off hingedly mounted to one side of the path of movement of said pusher and extended over the path of movement and having a downwardly extending part, said part being normally positioned along the path of movement of said pusher to prevent a match from entering said path, an inclined guide secured to the same side of the box at which said cut-off is hinged, said guide being extended over said cut-off to a point sufficiently close to the opposite wall of said box to permit but one match at a time to pass, the free edge of said guide being turned downwardly to form a stop, a flange carried by said cut-off, means for normally holding the flange of said cut-off in contact with the stop of said guide, whereby a match is prevented from entering between said cut-off and said guide, and means for swinging said hinged cut-off to permit a match at intervals to enter the path of movement of said pusher.

14. A match box provided with a match exit, said match box provided at its bottom with a longitudinally extending groove in line with said exit, a pusher mounted to reciprocate in said groove, a cut-off comprising a longitudinally extending leaf hingedly mounted at one side of and extending over said groove, a depending extension carried at the free longitudinal edge of said leaf, said depending extension normally extending down sufficiently close to the other

side of said groove to prevent a match from entering thereunder, a spring adapted to bear on said cut-off to normally hold it in a depressed position, a guide positioned over said cut-off and brought close enough to the side of said box to permit but one match at a time to pass, said guide having its free longitudinal edge turned under to form a stop which limits the downward movement of said cut-off, and a lug carried at the rear end of said cut-off, said pusher being adapted to contact with said lug to raise said cut-off to permit a match to enter thereunder, whereby at its forward stroke said pusher will be freed from said lug and said cut-off will descend to prevent another match from entering beneath said cut-off.

15. A match box provided with a match exit at its front end, said box being provided at its top face with an outwardly opening longitudinally extending groove and in its bottom with a groove opening into the interior of said box, the end of said box being rounded and provided with a passage in communication with the said grooves and forming a continuation thereof, a flat spring movably mounted in said communicating groove and passage, a projecting finger piece connected to the forward end of said spring, a pusher connected to the rear end of said spring, whereby when said finger piece is pushed toward the rear end of said box said pusher will be moved toward the exit at the front end of said box, and means for feeding a match to said pusher when said pusher is at the rear end of its stroke.

16. A match box provided with a match exit at its front end and having a continuous groove extending along its top around one end and along the bottom, the bottom portion of the groove opening into the interior of the box, a flat spring movably mounted in said groove and having a finger piece at the forward end thereof, a pusher connected to the rear end of said spring and movable in the bottom groove, and means for feeding a match in advance of said pusher when it is at the rear end of its stroke.

17. A match box provided with a match exit at its front end, said match box having a groove or passage partially surrounding the same, said groove or passage having one of its terminals in alignment with said exit, a flexible member slidably mounted in said groove or passage and arranged along the top and around one end and then along the bottom of the box, a pusher connected to the rear end of said flexible member, means for moving said slidable member to actuate said pusher to push a match through said exit, and means for feeding matches one at a time to said pusher.

18. A match box provided with a permanent closure at its rear end and open at its front end and provided with a continuous

groove extending from its open end along the top and around one end and along the bottom, a flat spring movably mounted in said groove and having a finger piece at the forward end thereof, a pusher connected to the rear end of said spring and movable in said bottom groove, means for feeding a match in advance of said pusher when it is at the rear end of its stroke, and a removable cover to close the open front end of said box, said cover also closing the open end of said groove.

19. A match box provided with a match guide in its bottom and a match exit at the outer end of said match guide, a recipro-

catory pusher to eject matches along said match guide and through said exit, and a movable cutoff extending over said match guide, said pusher when in a non-ejecting or retracted position being adapted to hold said cutoff open to admit a match to the match guide in advance of the pusher.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

NOAH WEBSTER RASNICK.

Witnesses:

J. H. DUFF,
J. C. DARST.