B. D. MILLER.

MATCH SAFE AND DELIVERY.

APPLICATION FILED SEPT. 15, 1917.

1,281,410. Patented Oct. 15, 1918.

Fig. 1.

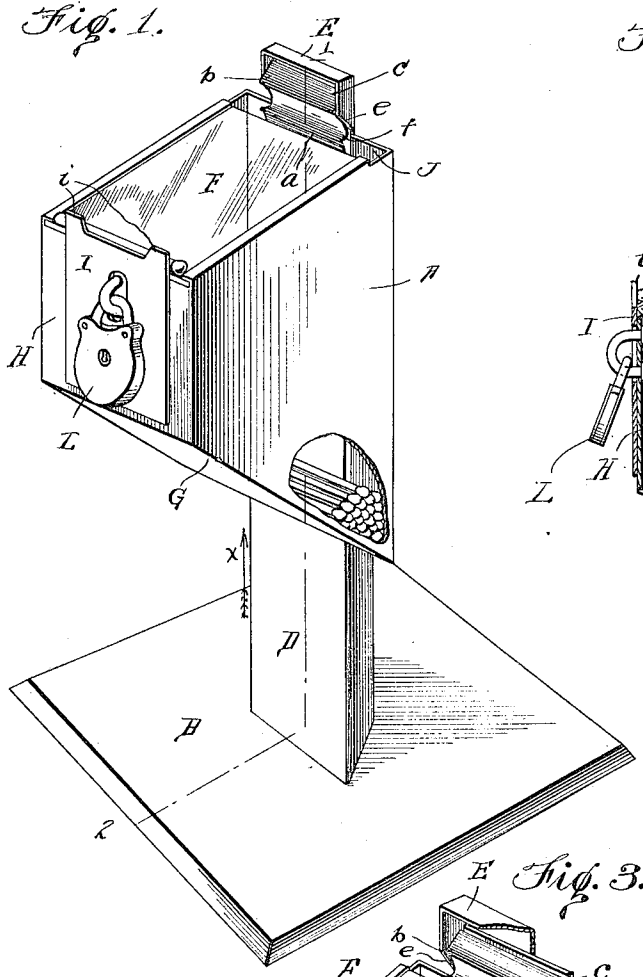


Fig. 2.

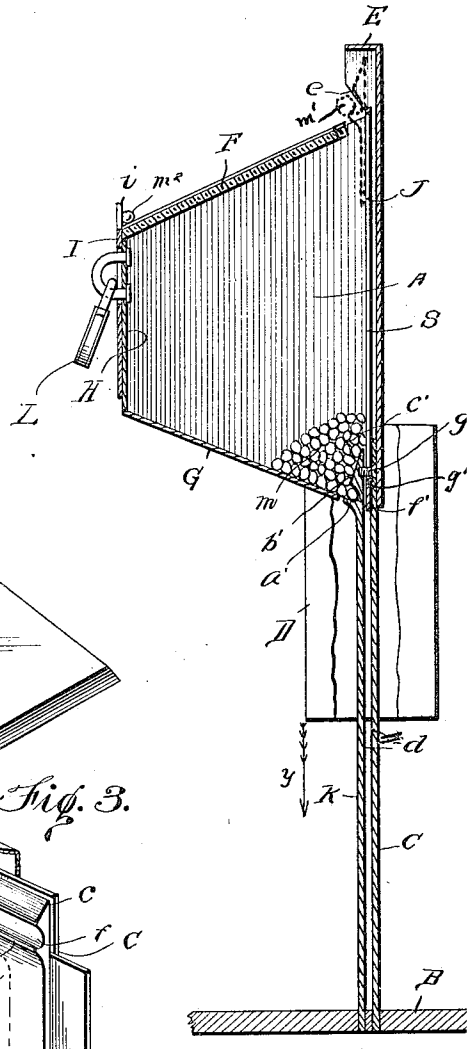
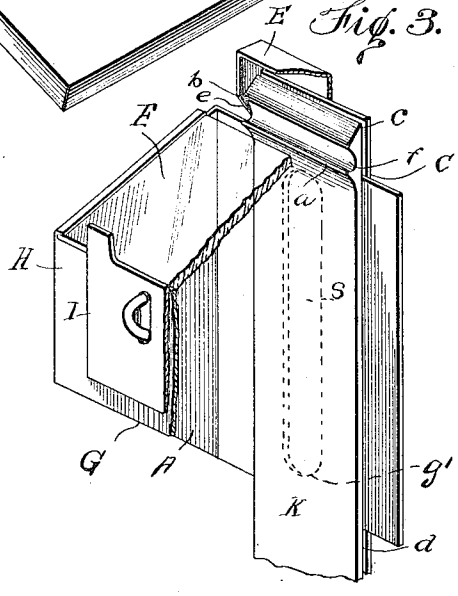


Fig. 3.



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MATCH SAFE AND DELIVERY.

1,281,410. Specification of Letters Patent. Patented Oct. 15, 1918.

Application filed September 15, 1917. Serial No. 191,603.

To all whom it may concern:

Be it known that I, BENJAMIN D. MILLER, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Match Safe and Delivery, of which the following is a specification.

My invention relates to devices for match safes and for delivery of matches therefrom, one at a time, to users.

Its objects are, first, to provide improved means for retaining matches therein so as to prevent a plurality from being extracted at a time; second, to provide simple and efficient means for readily extracting matches from the safe, only one at a time; third, improved means for separating and delivering matches within easy reach of a user, outside the safe, one at a time; and, fourth, improved means for opening and closing the match safe to replenish the same, in connection with the other functions thereof.

It consists of the several novel elements and combination of parts employed to accomplish said objects, all as hereinafter fully set forth, and stated in the appended claims.

My invention is illustrated by the accompanying drawings, in which similar letters of reference indicate like parts.

In the drawings, Figure 1 is a perspective view of a match safe and devices embodying my invention; Fig. 2 is a vertical section of the same on the dotted line 1 2, Fig. 1; and Fig. 3 is a detail view in perspective of parts of Fig. 1, other parts being cut away for better illustration.

Fig. 1 also shows a portion cut away at one side to exhibit a store of matches therein, also shown in Fig. 2.

The box A, base B, standard C vertically secured thereto, and slide D attached to the rear and under side of the box, constitute the framework of my device. The standard C is reinforced by a longitudinal plate K to which it is secured near the base B so as to leave a lateral and longitudinal space *d* between them, to serve as a guideway for the back side J of the box to reciprocate vertically therein, when the box is moved up and down, as indicated by the arrows *x* and *y*.

The slide D is mounted slidably upon the standard and plate, C K, in such a manner as to support the box thereon, and permit the same to be reciprocated vertically a limited distance thereon.

The lengths of the standard C and plate K are proportioned so that they extend a little distance above the top of the box A when the slide D rests upon the base B; and the rear side J of the box is adapted to slide vertically between said standard and plate a distance about equal to the length of said rear side, measured vertically. A horizontal ledge is formed in the side of said plate K near its top, of sufficient depth to receive and support a single match lying flatwise thereon, said ledge being formed partly by the horizontal lip *a*, which projects slightly upwardly and outwardly, thus making a shallow trough for the match. Above said ledge a horizontal rib *b* is projected across the plate and slopes rearwardly to its terminus *c*, thereby forming a wedge-shaped hump thereon having its edge end at said terminus, and its lower enlarged end above and opposite said ledge, with an intervening space for a single match to lie horizontally between them, for a purpose hereafter stated.

The box cover F is preferably of glass, and slopes upwardly to a point near the top of the rear side of the box, and stops short of meeting the same sufficient to leave an opening just wide enough to permit the passage of a match lying on said ledge. The upward movement of the box is limited by the set screw *g*, which passes through the standard and plate aforesaid near their upper ends, and through a longitudinal slot *s* in the said rear side J, as shown in Figs. 2 and 3. Its downward movement is limited by the slide D upon the base B. Said slot *s* extends to a point near enough to the bottom G of the box to bring the lip *a* of said ledge *f* slightly below its upper surface when the box is elevated to its limit, as shown in Fig. 2, *a'*, *f'*, *c'*, the set screw *g* having reached the lower end of the slot *s* at *g'*.

Said bottom G slants downwardly from front to rear thereof, where it joins the rear wall of the match box by an acute angle.

A slot at said junction, in length and width a little greater than the length and width of said ledge, affords a passage way for the latter to a point below said bottom when said box is raised to its limits afore-

said; and the limiting slot extends upwardly in an extension of the rear wall sufficient to permit the set screw *g*, and therewith said lip *a* and wedge-shaped hump, to pass through and to a point above the horizontal opening in said cover F when said box is lowered to its limits, as aforesaid.

The plate K and wedge end of said hump thereon, in coöperation with the standard C, as aforesaid, are in slidable contact with the inner surface of said rear wall J from top to bottom thereof, which prevents match dislodgment, as hereafter stated.

The action is such, that when the box is lowered to its limits, a single match *m* is segregated and carried vertically until it reaches a point just beyond said opening at the top, as at *m'*, Fig. 2, and is thence discharged downwardly over the glass cover F, until by gravity it reaches the stops *i i*, as shown at m^2, within easy reach of the user. Said discharge is accomplished by means of downwardly slanting lateral extensions *e e* from the rear wall J and its upper end E integral with the box A, said extensions projecting across the upward path of said match at both ends simultaneously, as shown at *m'*, force the latter in a horizontal plane forwardly over the lip of said ledge by the upward movement of the box as aforesaid.

The plate I supporting the stops *i i* is removably secured to the front portion of the match box by a suitable lock, said stops also serving to hold the glass cover L in position, and adapting it to be removed at pleasure, to replenish the box when necessary.

I am aware that a match box having its rear side open, and slidable vertically upon a stationary plate having a match recess therein adjacent said open side to communicate therewith, has been heretofore constructed; also, that it is not new to combine a match ejector with a receptacle having an opening in its top through which matches may be delivered one at a time outside of the receptacle, and such I do not broadly claim.

Heretofore inventions for delivery of matches singly have been defective for want of efficient means for segregating a single match from the mass of matches within the match box, and for delivering it with safety and precision outside of the box for convenient use.

The primary object of my invention is to overcome these defects, and I accomplish this by three novel elements and their combination as herein set forth, namely, by constructing the rear wall of the match-box to slide a limited distance up and down between the standard C and ejector plate K, and by the presence of said wall and friction of said plate upon the adjacent mass of matches in the box which aid materially in segregating and carrying out a single match from said mass; second, by constructing said raised portion or hump on the inner surface of said ejector plate, with wedge-shaped terminus, above said match ledge whereby said mass of matches is lifted from, and a passage made therethrough for a single match in advance of its transit, without danger of miscarriage; and third, by arranging a pair of lateral extensions from said rear wall to engage said segregated match at both ends simultaneously, and thereby discharge the same from said ledge more evenly and certainly than has heretofore been possible.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent is:—

1. In a device of the character described, the combination with a standard, a plate mounted adjacent to said standard, a match-box having a downwardly and rearwardly sloped bottom, and its rear wall mounted to slide vertically a limited distance between said standard and said plate, a horizontal opening in the bottom and in the top of said box adjacent to said rear wall and the path of said plate, a ledge horizontally across the front side of said plate near its top, a hump on said plate above said ledge terminating wedge-shaped upwardly, and means for discharging a match from said ledge after its passage through said top opening, substantially as set forth.

2. In a device of the character described, the combination with a standard, a plate adjacent to said standard, a match-box having a sloping top and bottom, and mounted to slide up and down a limited distance on said standard, its rear wall being slidable between said plate and said standard vertically, a vertical slot in said rear wall, and a limiting set-screw passing through said slot and connecting said plate and standard near their upper ends, a horizontal opening in the bottom and in the top of said box adjacent to said rear wall and the path of said plate, a ledge for a single match horizontally across the front side of said plate near its top, a hump on said plate above said ledge terminating wedge-shaped upwardly, and means for automatically discharging a match from said ledge over said top, substantially as set forth.

3. In a device of the character described, the combination of a standard, a plate adjacent thereto, a match-box having a sloped top and bottom, and mounted to slide up and down a limited distance on said standard, its rear wall slidable between said plate and standard, a vertical slot in said rear wall, a set screw passed through said slot and connecting said plate and standard, a horizontal opening in the bottom and in the

top of said box adjacent said rear wall and the path of said plate, a horizontal ledge for a match on the front side of said plate near its top, a hump on said plate above said ledge having a wedge-shaped upper terminus, and a pair of extensions from the rear wall of said box above its top slanting downwardly across the path of said ledge on opposite sides of said box, substantially as set forth and for the purpose specified.

In witness whereof, I hereunto set my hand this 9th day of July, 1917.

BENJ. D. MILLER.

In presence of—

HIRAM B. SWARTZ,

CHARLES C. JONES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."