A. EATON.

MATCH HOLDER AND DISPENSER.

APPLICATION FILED SEPT. 13, 1917.

1,260,349.

Patented Mar. 26, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

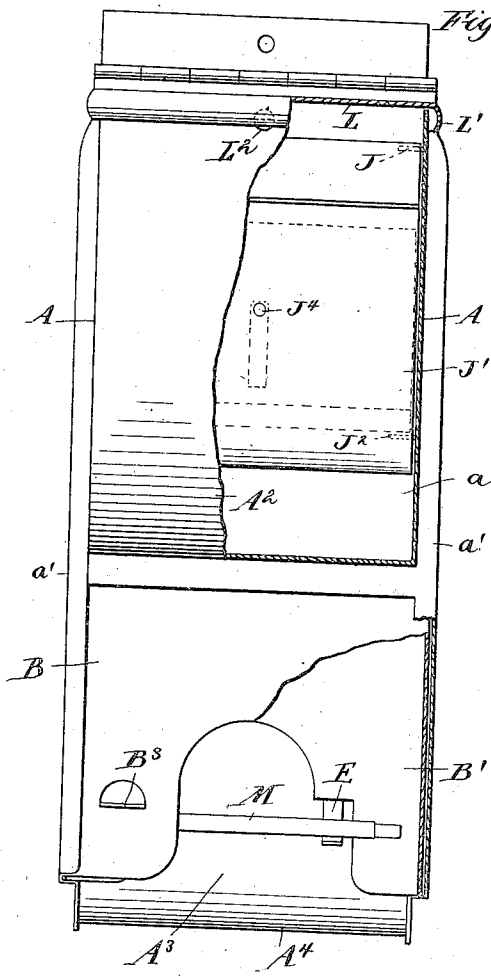


Fig. 2.

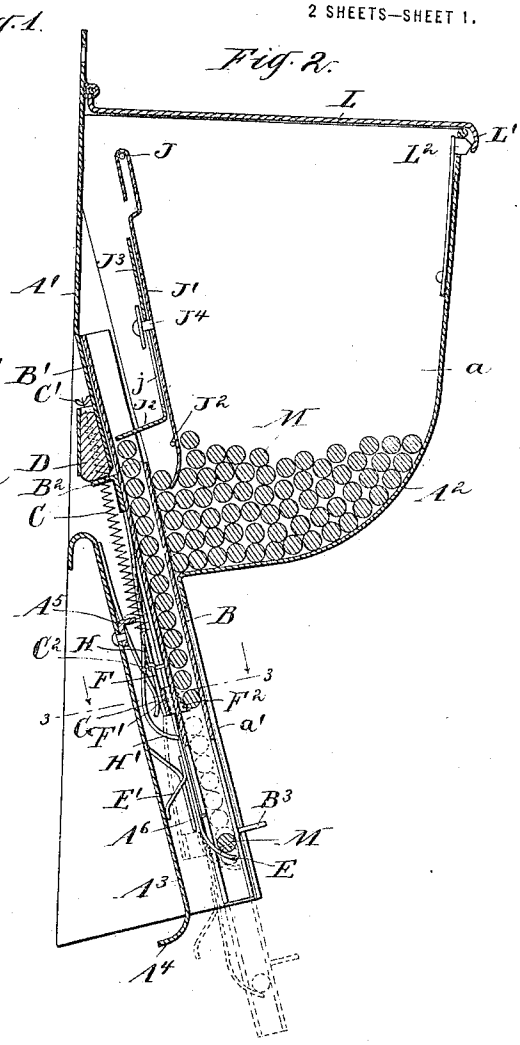


Fig. 4.

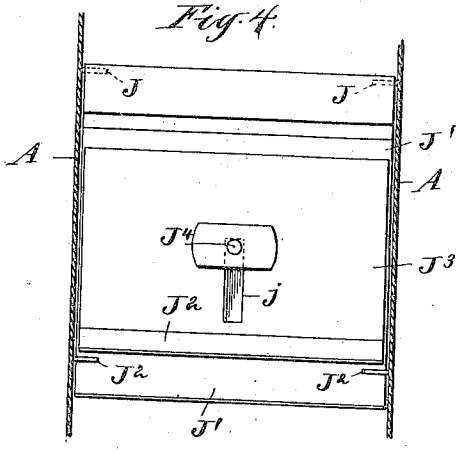
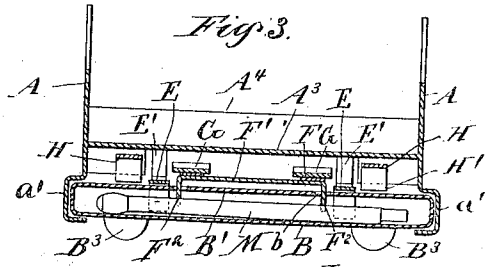


Fig. 3.



Inventor:
Anton Eaton,
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Charles K. Searle.

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2 SHEETS—SHEET 2.

Fig. 5.

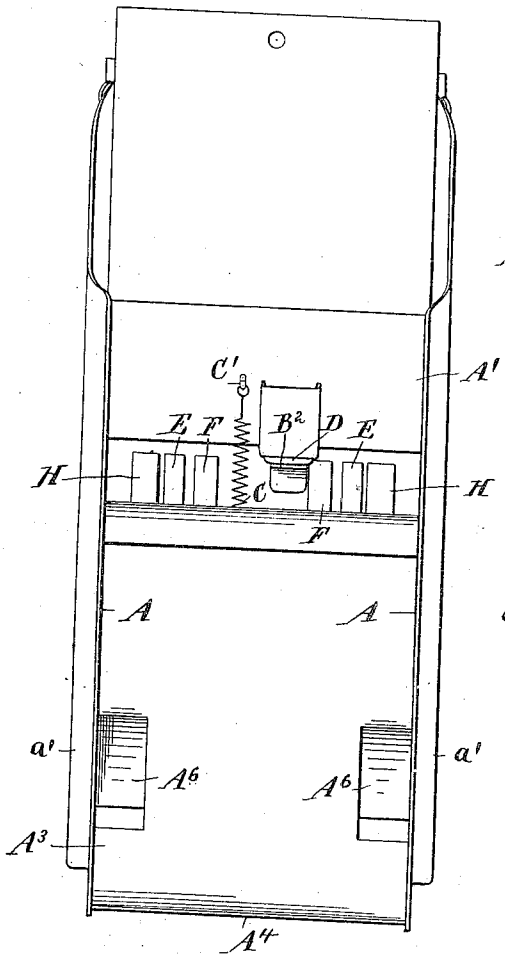
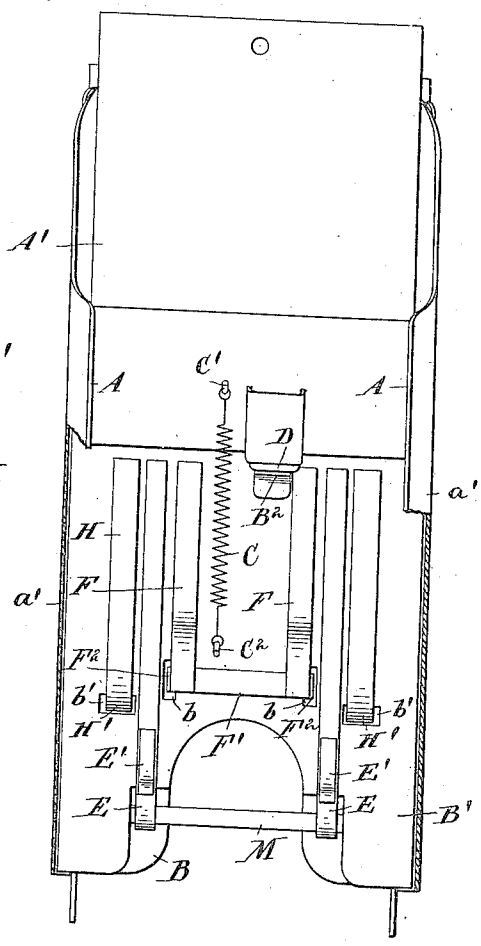


Fig. 6.



Inventor:
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UNITED STATES PATENT OFFICE.

ANTON EATON, OF NEW YORK, N. Y., ASSIGNOR TO JOHN ERICSON, OF NEW YORK, N. Y.

MATCH HOLDER AND DISPENSER.

1,260,349. Specification of Letters Patent. Patented Mar. 26, 1918.

Application filed September 13, 1917. Serial No. 191,099.

To all whom it may concern:

Be it known that I, ANTON EATON, a citizen of Switzerland, residing in the city of New York, borough and county of Queens, in the State of New York, have invented a certain new and useful Improvement in Match Holders and Dispensers, of which the following is a specification.

The invention relates to match dispensers in which a single match is separated from the main supply and conveniently presented for removal.

The object of the invention is to provide a dispenser of simple construction, operated by the act of removing the presented match to present a succeeding match, which shall offer a safe receptacle for a supply of such matches, and shall operate reliably.

The invention consists in certain novel features and details of construction by which the above objects are attained, to be hereinafter described and claimed.

The accompanying drawings form a part of this specification and show the invention as it has been carried out in practice.

Figure 1 is a front elevation of the improved dispenser, shown as carrying a match presented in its slide, with certain portions broken away to show the parts beyond.

Fig. 2 is a corresponding vertical section, partly in elevation. The dotted lines show the condition of the parts in removing a match.

Fig. 3 is an approximately horizontal section taken on the line 3—3 in Fig. 2.

Fig. 4 is a rear elevation of a swinging shield, the walls of the receptacle in which the shield is mounted being shown in vertical section.

Fig. 5 is a rear elevation of the dispenser, corresponding to Fig. 1.

Fig. 6 is a similar view with certain portions broken away and partly in vertical section.

Similar letters of reference indicate the same parts in all the figures.

The device is preferably of sheet metal and comprises two main portions, a stationary casing serving as a frame and as a receptacle for the supply of matches, and a movable carrier or slide mounted and guided in the stationary portion and carrying the presented match in position for removal.

The stationary portion consists of two sides A A widened at the upper ends and joined by a curved bottom and front A^2 and a back A^1 to form a receptacle a for the supply of matches M which lie transversely therein parallel with each other.

The lower parts of the sides extend downwardly from the receptacle in the form of wings and are shaped to provide nearly vertical grooves or ways a^1 a^1 on each side extending angularly upward and rearward into the bottom of the receptacle a. The back A^1 is vertical at its upper portion, and its lower portion extends angularly parallel with the ways a^1 a^1 part way to the bottom of the receptacle. The opening thus formed in the rear lower portion of the receptacle a is controlled by a movable hollow slide mounted in the ways a^1 a^1 and having its interior dimensions such as to permit a single row or series of horizontally disposed matches to lie transversely therein one upon the other. The upper portion of the front plate B of the slide is omitted and is correspondingly shorter than the back plate B^1 so that when the slide is at the limit of its downward movement the upper edge of the plate B matches to or lies a little below the bottom of the receptacle and matches from the supply in the latter may thus enter, while the longer back plate B^1 lying upon the back A^1 of the receptacle forms a back wall increasing in length as the slide is moved downward.

Between the wings A A in rear of the slide, parallel with but separated therefrom, is a fixed brace A^3 extending downwardly and terminating in a rearwardly curved lip A^4.

On the back A^1 is a hook C^1 and on the rear plate B^1 of the slide is a similar hook C^2 serving as points of attachment for a retractile spring C exerting its force to hold the slide normally upward, and D is a cushion fixed on the back A^1, against which a lug B^2 on the rear face of the slide is received and the upward movement of the slide limited, and the shock of impact due to the sudden release of the slide is softened.

A stop A^5 on the brace A^3 is struck by the same lug B^2 and limits the downward movement of the slide.

The mechanism for presenting the single match is mounted on the rear face of the slide and is actuated mainly by means carried on the brace A^3. E E are yielding arms secured to the rear plate B^1 of the slide and extending nearly to the lower end of

the latter and terminating in outwardly curved ends reaching into the interior of slide and adapted to hold the presented match M against escaping through the open delivery mouth of the slide. These arms have a slight tendency to retain the match but are held stiffly in position when the slide is in the raised position, by branches E^1 E^1 on their rear faces lying in contact with the front face of the brace A^3 and resist strongly any downward pull on the match, but when the slide is moved downwardly by such pull a sufficient distance, the branches E^1 E^1 pass the curved lip of the brace and as they are then no longer supported permit the slight resistance of the arms E E to be overcome and the match withdrawn through the open mouth of the slide.

The series of matches in the slide is supported by engaging the lowermost by a pair of toothed fingers F^2 extending through slots b b in the rear plate B^1; the fingers are bent forwardly at opposite ends of a bridge F^1 mounted on slight flat springs F F secured to the plate B^1 parallel with the arms E E. The tendency of the springs F F is to release the match held by the fingers F^2 against the inner face of the front plate B of the slide, but the fingers are forced into such engagement when the slide is in the raised position, by stronger springs G G mounted on the brace A^3, but on the descent of the slide the springs F F pass beyond the springs G G and the influence of their stronger opposition, and the fingers F^2 F^2 are then free to retract and release the engaged match.

Secured to the rear plate B^1 of the slide, outside of and parallel with the yielding arms E E, are spring strips H H terminating in forwardly curved arms H^1 H^1 adapted to enter slots b^1 b^1 provided in the plate B^1 and lying a little below the toothed fingers F^2. The tendency of the spring strips H H is to retract the ends H^1 H^1 from their slots, and they are thus held retracted when the slide is in the raised position, but when the latter is moved downward the strips contact with fixed cam surfaces A^6 A^6 arranged in their paths along the brace A^3 and by riding upon such cams their ends are forced into the interior of the slide immediately below the match held by the toothed fingers.

The plates B and B^1 are deeply notched at the lower ends to permit the finger and thumb to be inserted in grasping the presented match held by the arms E E and lying across the notch as shown in Figs. 1 and 6.

Suspended on oppositely placed pins J on the inner faces of the sides A A of the receptacle, is a swinging shield J^1 having its free lower edge curved rearwardly and covering the opening at the back of the receptacle a but separated from such back. Its rearward swing is limited by pins or stops J^2 on the sides A A, and on its rear face is mounted a guard plate J^3 provided with a vertical slot j through which passes a rivet J^4 by which the guard is held to the shield with liberty to rise or sink relatively thereto. The lower edge of the guard is bent rearwardly to form a flange j^2 extending into the slide at the upper end above the front plate B.

The operation is as follows:—Assuming the slide to be supplied with a series of matches and in the elevated position shown by the full lines in Fig. 1, and a match held and presented at the notched lower end of the slide by the yielding arms E E, it will be seen that the series of matches is held against descending by gravity by the engagement of the lowermost match of the series by the toothed fingers F^2 F^2 forced into such engagement by the stronger springs G G.

By grasping the presented match and pulling downward thereon the slide is drawn downward until the lug B^2 strikes the stop A^5 in which position the branches E^1 E^1 have passed from the curved lip A^4 and the presented match may be easily withdrawn against the slight resistance then offered by the arms E E. This downward movement of the slide brings the strips H H into contact with the cams A^6 A^6 and by riding upon them forces the curved ends H^1 H^1 through the slots b^1 b^1 into the interior of the slide ready to support the series of matches, and an instant later, by the continued downward movement of the slide, the flat springs F F pass out of the influence of the stronger springs G G, permitting the fingers F^2 F^2 to retract and release their engaged match, and the series descends until arrested by the ends H^1 H^1 of the strips H H.

The withdrawal of the presented match releases the slide and it is again drawn upward by the spring C. The upward movement first engages the branches E^1 E^1 with the face of the brace A^3 and by reinforcing the arms E E effectually closes the delivery mouth of the slide, a further upward movement engages the fingers F^2 F^2 with the match next above the lowermost of the series through the action of the strong springs G G on the flat springs F F, thus securely holding the superposed matches of the series, and a slight further upward movement permits the strips H H to leave the cams A^6 A^6, thus releasing the lowermost match which immediately falls by gravity until arrested by the arms E E in the presented position. Thus the withdrawal of each presented match actuates the mechanism and presents a succeeding match.

At the downward movement of the slide its upper end is presented to the supply in

the receptacle in a position favorable to the replenishing of the series carried by the slide, and the function performed by the shield J^1 and its guard plate J^3 is to maintain parallelism of the matches at the entrance to the slide, to insure uniformity of supply at that point in the receptacle, and to prevent crowding about such entrance liable to interfere with the movements of the slide.

B^3 B^3 are lugs on the outer face of the plate B of the slide, for moving the latter to initiate the operation, and L is a cover for the receptacle, hinged to the back A^1 and having a flange L^1 adapted to be separably engaged at the front by a spring latch L^2 on the interior of the receptacle.

Although the invention is designed for dispensing matches and is thus shown and described, it will be understood it will serve successfully in dispensing other articles of analogous character to which it may be adapted.

I claim:—

1. In a device of the character set forth, a casing, a receptacle therein adapted to contain a supply of matches, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, and means carried by said slide and actuated by the movements of the latter, for presenting a match from such series at the delivery mouth of said slide.

2. In a device of the character set forth, a casing, a receptacle therein adapted to contain a supply of matches, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, means carried by said slide and actuated by the movement thereof in one direction for engaging the lowermost match of such series, and means actuated by a reverse movement of said slide for engaging a succeeding match in such series and liberating such lowermost match.

3. In a device of the character set forth, a casing, a receptacle therein adapted to contain a supply of matches, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, means carried by said slide and actuated by the movement thereof in one direction for engaging the lowermost match of such series, means actuated by a reverse movement of said slide for engaging a succeeding match in such series and liberating such lowermost match, and yielding means for retaining such liberated match in said slide and presenting it for removal.

4. In a device of the character set forth, a casing, a receptacle therein adapted to contain a supply of matches, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, yielding means for retaining in said slide a match liberated from said series and presented for removal, said slide arranged to be moved in one direction by the removal of such presented match, a spring for moving said slide in the other direction, and means actuated by the movements of said slide for liberating and presenting the succeeding lowermost match of such series in position for removal.

5. In a device of the character set forth, a casing, a receptacle for matches therein, ways in said casing, a hollow slide mounted to move in said ways and adapted to contain a series of superposed matches fed thereto from said receptacle, and to present a match from such series at the delivery mouth of said slide, the latter arranged to be moved in one direction by the removal of such presented match, a spring for moving said slide in the opposite direction, and means actuated by the movements of said slide for liberating and presenting the succeeding lowermost match of said series in position for removal.

6. In a device of the character set forth, a casing, a receptacle for matches therein, ways in said casing, a hollow slide mounted to move in said ways and adapted to contain a series of superposed matches fed thereto from said receptacle, yielding arms on said slide closing the delivery mouth of said slide and holding a match presented for removal, fingers on said slide for engaging a match in such series, spring strips on said slide adapted to enter said slide and support such series, and means actuated by the movements of said slide for operating said fingers and strips.

7. In a device of the character set forth, a casing, a match receptacle therein, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, and spring actuated fingers carried by said slide, arranged to engage or release a match of such series by the movements of said slide.

8. In a device of the character set forth, a casing, a match receptacle therein, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, spring fingers carried by said slide and arranged to enter or withdraw from said slide to engage or release a match in such series and actuated by the movements of said slide, and spring strips arranged to enter said slide below said fingers and support such series when said fingers are withdrawn.

9. In a device of the character set forth, a casing, a match receptacle therein, a hollow slide adapted to contain a series of superposed matches received from said receptacle, spring fingers carried by said slide and arranged to enter or withdraw from said slide to engage or release the

lowermost match of such series and actuated by the movements of said slide, spring strips arranged to enter said slide below said fingers and support such series when said fingers are withdrawn, with the next succeeding match of such series in position to be engaged by said fingers, means actuated by the movements of said slide for operating said strips, and yielding arms at the delivery mouth of said slide adapted to receive and retain the lowermost match of said series when liberated by the withdrawal of said strips, and present such liberated match in position for removal.

10. In a device of the character set forth, a casing, a match receptacle therein, a hollow slide adapted to contain a series of superposed matches fed thereto from said receptacle, spring fingers carried by said slide and arranged to enter or withdraw from said slide to engage or release the lowermost match of such series and actuated by the movements of said slide, spring strips carried by said slide and arranged to enter or withdraw from said slide below said fingers, and cams on said casing in the paths of said strips, arranged to be struck by the latter to actuate said strips.

11. In a device of the character set forth, a casing, a match receptacle therein, a hollow slide adapted to contain a series of superposed matches received from said receptacle, means actuated by the movements of said slide for liberating successively the lowermost match of such series and presenting it in such slide in position for removal, a swinging shield in said receptacle adjacent the entrance to said slide, and a guard on said shield arranged to slide vertically thereon.

In testimony that I claim the invention above set forth I affix my signature.

ANTON EATON.

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