Nov. 25, 1947. A. TUERFF ET AL 2,431,523

RAZOR BLADE MAGAZINE

Filed April 10, 1945

Fig. 1

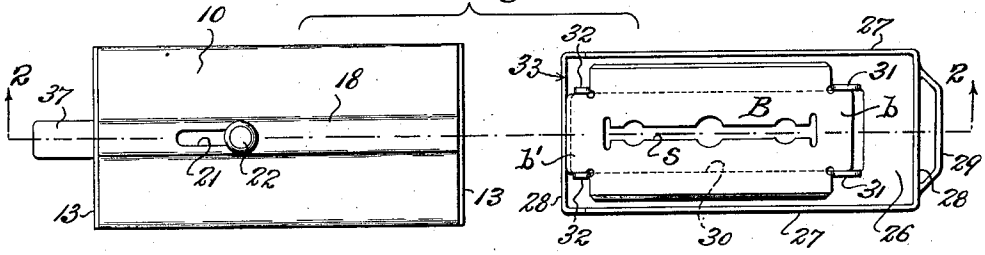


Fig. 2

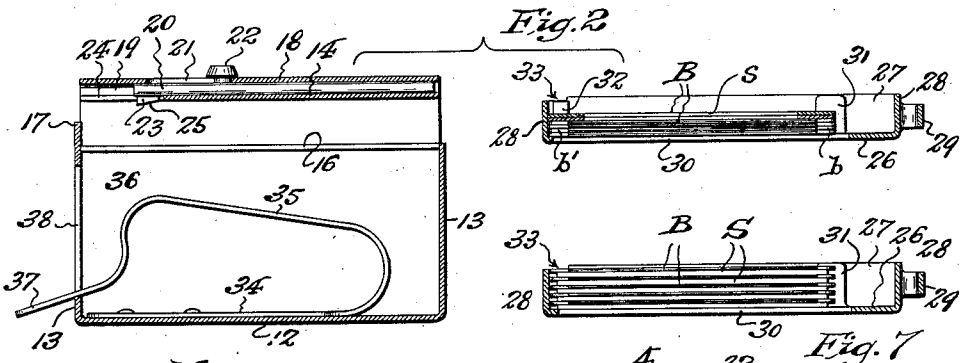


Fig. 7

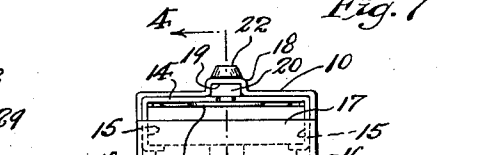


Fig. 4

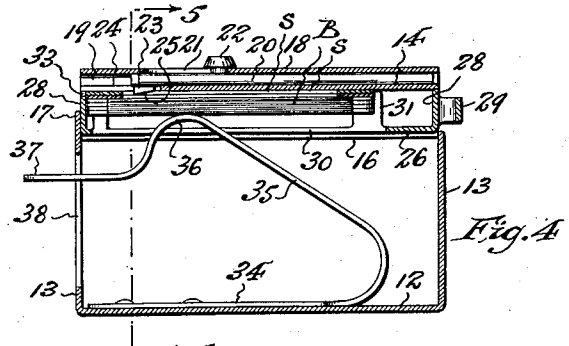


Fig. 3

Fig. 6

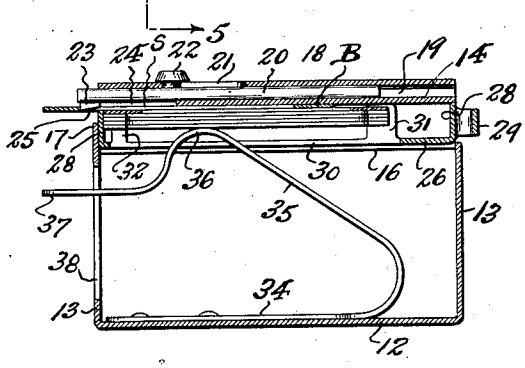
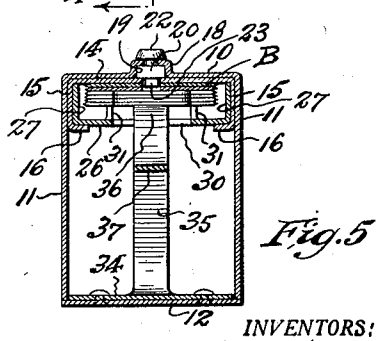


Fig. 5



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2,431,523

RAZOR BLADE MAGAZINE

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Application April 10, 1945, Serial No. 587,530

3 Claims. (Cl. 206—16)

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This invention relates to improvements in razor blade dispensing magazines; and the invention has reference, more particularly, to a novel construction of magazine adapted to hold a plurality of razor blades of the double edged, slotted and notched corner type, said magazine having means for dispensing said blades one by one therefrom.

This invention has for an object to provide a novel razor blade dispensing magazine comprising a main casing or housing provided with a blade ejecting means and a separable tray for holding a stack of razor blades; said tray being insertable into said casing or housing in position to operatively relate the stack of blades carried thereby to the blade ejecting means of the casing or housing; said tray having an opening in the bottom thereof, and said casing or housing having spring means adapted to project through the said tray opening into engagement with the stack of blades carried by the tray, whereby to yieldably urge said blades toward and subject to the operation of the blade ejecting means of the casing or housing.

The invention has for a further object to provide a tray to carry and support a stack of razor blades for insertion into a blade dispensing magazine, said tray having means to position the blades therein with their sharpened edges held in spaced away relation to the tray sides, and yet in such manner that an uppermost blade of the stack may be freed to be moved longitudinally outward through a discharge way with which an end wall of the tray is provided.

The invention has for a further object to provide a separable blade stack carrying tray which is insertable in a blade dispensing magazine, whereby said tray per se may serve both as the blade holding element of a package suitable for commercial distribution of razor blades, as well as a cooperative part of a blade dispensing magazine for use by the consumer.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which:

Fig. 1 is a top plan view of a razor blade dispensing magazine according to this invention, with the separable blade stack holding tray withdrawn therefrom; and Fig. 2 is a longitudinal sectional view, taken on line 2—2 in Fig. 1.

Fig. 3 is a front end elevational view of the dispensing magazine with the separable blade

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stack holding tray operatively assembled therewith; Fig. 4 is a longitudinal sectional view, taken on line 4—4 in Fig. 3; and Fig. 5 is a transverse sectional view, taken on line 5—5 in Fig. 4.

Fig. 6 is a longitudinal sectional view similar to that of Fig. 4, but showing the ejector means operated to eject a blade from the magazine.

Fig. 7 is a sectional view of the tray per se showing the blades of a stack thereof separated one from another by intermediate separator or spacer elements.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring to the drawings, the casing or housing of the dispensing magazine comprises a hollow body formed by a top wall 10, side walls 11, a bottom wall 12 and end walls 13. Fitted and secured within the upper interior of said hollow body, to underlie the top wall 10 thereof, is an endwise open tray guide shell comprising a top wall 14, side walls 15, and longitudinal tray supporting ledges 16 which extend inwardly in opposed relation respectively from the lower margins of said guide shell side walls 15. The upper end of the rearward end wall 13 of the casing or housing terminates at the level of said tray supporting ledges 16 of the tray guide shell, thus leaving the rearward end of the latter open for insertion therein and withdrawal therefrom of a blade stack carrying tray member to be subsequently described. The upper end of the forward end wall 13 of the casing or housing terminates somewhat above the level of said tray supporting ledges 16 of the guide shell, thus providing a stop portion 17 to limit inward movement of an inserted tray member, whereby to predetermine the operative assembled relation of the latter to the interior of the casing or housing.

The top wall 10 of the casing or housing is provided with a downwardly open, longitudinally and centrally extending channeled portion 18, the interior of which provides a slideway 19 in which is mounted an ejector bolt 20. The top of said channeled portion 18 is provided with a suitably disposed slot 21 of a length corresponding to the scope of reciprocable movement desired to be permitted to the ejector bolt 20. Said ejector bolt is provided with an exteriorly projecting actuator button 22, the shank of which rides in said slot 21. Said ejector bolt is supported by the top wall 14 of said tray guide shell. At its forward end, said ejector bolt 20 is provided with a dependent push-piece 23 which extends and moves through a slotway 24 with which

the top wall 14 of the tray guide shell is provided. The underside of said push-piece 23 is provided with a rearwardly and upwardly inclined chamfer 25 for purposes hereinafter explained.

The separable tray member of the dispensing magazine comprises an upwardly open tray body formed by a bottom wall 26 and peripheral side and end walls 27 and 28. The rearward end wall 28 is provided with an external handle piece 29 for manipulating the tray member. The internal width of the tray member exceeds somewhat the width of razor blades B to be stacked and carried therein, whereby, when said blades are deposited centrally therein, the sharp edges of said blades will be spaced away from and out of contact with the side walls 27 of the tray member. The bottom wall 26 of the tray member is provided with a longitudinal central opening 30 of less width than the width of the blades B. Struck up from the tray bottom wall 26 are laterally opposed upstanding blade retainer lugs 31, between which rearward reduced end portions *b* of the blades are disposed, whereby the blades are held against lateral shifting or displacement. Like laterally opposed upstanding blade retainer lugs 32 are also struck from the tray bottom wall 26 to embrace forward reduced end portions *b'* of the blades for like purpose. The forward end wall 28 of the tray is cut away between the side walls 27 to provide a blade discharge passage 33 corresponding in height to the thickness of a blade. Said forward blade retainer lugs 32 terminate at the level of said discharge passage 33, so that a blade B, when lifted to aligned relation to said discharge passage 33 may clear the upper extremities of said retainer lugs 32, so as to pass thereover, when it is outwardly moved endwise through said discharge passage 33.

Fixedly secured to the bottom wall 12 of the casing or housing is the base 34 of a lift spring member comprising an upwardly and forwardly inclined spring arm 35 terminating in downwardly curved nosing portion 36, from which nosing portion extends a finger piece 37, which projects exteriorly from the casing or housing through a perpendicular slot or way 38 with which the forward end wall 13 of the latter is provided.

To assemble a blade loaded tray member with and in operative relation to the casing or housing of the dispensing magazine, said tray member is inserted through the rearwardly open end of the tray guide shell, and is slid forwardly therein until its forward end is stopped against the stop portion 17. To permit such inward passage of the tray member, the spring arm 35 and nosing 36 of the lift spring member is depressed by means of the finger piece 37, to withdraw the nosing 36 out of the path of ingoing tray movement (see Fig. 2). After the tray member is lodged in operative assembled relation to and within the casing or housing, said lift spring member is released, whereby upward flexing movement of the spring arm 35 carries the nosing 36 upwardly through the bottom opening 30 of the tray member, and into up-thrusting engagement with the underside of the stack of blades B deposited within said tray member. Such up-thrusting effect of the lift spring member lifts the stack of blades B bodily, so that the uppermost blade of the stack is stopped against the top wall 14 of the tray guide shell, and is thus positioned in alignment with and in endwise opposition to the discharge passage 33 of the tray member and above the extremities of the retainer lugs 32, and so that the push-piece 23 of

the ejector bolt 20 is entered in the slot *s* of said uppermost blade (see Fig. 4).

To discharge the uppermost blade from the dispensing magazine, the operator pushes forward the acutator button 22 of the ejector bolt 20, thereby sliding the same forwardly and outwardly from the casing or housing. As the ejector bolt 20 is thus advanced, the push-piece 23 thereof, which is lodged in the slot *s* of the uppermost blade, as the same advances, first abuts the forward end of said slot *s*, and as its advance continues, thereupon pushes the uppermost blade outwardly from the forward end of the dispensing magazine (see Fig. 6). The projected end of said uppermost blade is now accessible to be grasped by the operator's fingers, and thereby may be pulled outwardly and away. When the uppermost blade is thus removed, the thrust of the lift spring member raises the stack of blades so that the next blade is aligned with the tray member discharge passage 33. As the ejector bolt 20 is retracted to normal initial position, the chamfered underside 25 of the push-piece 23 will ride over the blade stack, and will momentarily depress the latter against the up-thrusting tension of the lift spring member, so that, when initial position of said push-piece 23 is regained, the same will enter the slot *s* of the then uppermost blade, ready for a repetition of the ejecting operations next effective upon said blade. The described blade ejecting operations may be repeated until the bottom most blade of the stack is reached and ejected, whereupon the empty tray member may be withdrawn, reloaded with blades and replaced in the dispensing magazine, or a new loaded tray substituted for the empty tray.

It may be desired to modify the stacked arrangement of razor blades B as deposited in the tray member, by inserting between successive blades thereof a correspondingly slotted separator element S (see Fig. 7); in which case the push-piece 23 of the ejector bolt will be sized to engage both an uppermost blade B and a separator element S underlying the same, so as to simultaneously eject both. This would have the advantage of permitting the use of a greater area of push face surface in connection with the push-piece 23, so that less precise fitting and sizing of the latter part correspondingly to the thickness of a blade would be required, the advantage of which will be obvious when very thin razor blades of but a few thousandths of an inch in thickness are to be operated upon.

Advantages of the provision of the separable blade stack carrying tray, by which this invention is characterized, are that said tray not only is easy to load, may be conveniently formed to retain the blades in position whereby their sharp cutting edges are in no risk of contacting or being contacted by surfaces likely to injure or dull the same, but also such tray member may be made of relatively cheap material, and may be utilized both as a component blade carrying part of a commercial package in which the blades are distributed to the consumer, as well as a cooperative part of the blade dispensing magazine for convenient use by the consumer.

Having now described our invention, we claim:

1. A dispensing magazine for razor blades of the double edged, slotted and notched corner-type comprising a casing formed by top, bottom, side and front and rear end walls, an endwise open tray guide shell fixed beneath the casing top wall, said shell comprising a top wall, side walls and tray supporting ledges extending from the latter,

said casing rear wall having a tray admission opening aligned with the interior of said tray shell, a manipulatable longitudinally reciprocable blade ejector bolt above said guide shell top wall, said casing top wall having a slideway means for said ejector bolt, the ejector bolt having a push-piece dependent from its forward portion, said guide shell top wall having a slotway to accommodate said push-piece, the casing front end wall terminating above the guide shell ledges, whereby to provide both a tray stop and a blade exit opening, a tray for holding a stack of blades, said tray being removably insertable within said tray guide shell, whereby to dispose its contained blade stack in position to permit engagement of the ejector bolt push-piece, as normally retracted, with the forward end of the slot of an uppermost blade of said stack, the forward end of said tray having a blade discharge passage at the level of the uppermost blade of said stack, a lift spring member fixed in the lower portion of said casing, said tray having a bottom opening through which said lift spring member may engage the contained blade stack, whereby to yieldably upthrust the same to align an uppermost blade with the blade discharge passage of said tray and in position to be operatively engageable, as aforesaid, by said ejector push-piece said lift spring member having a finger piece at its free end, and a casing end wall having a vertical slot through which said finger piece accessibly projects, whereby said lift spring member may be depressed out of the path of movement of said tray into and out of said tray guide shell.

2. A razor blade magazine as defined in claim 1, wherein said tray is provided with means to hold the contained blades against shifting displacement therein comprising a pair of laterally opposed upstanding rearward retainer lugs adapted to engage corner notched rear end portions of the blades and a pair of laterally opposed upstanding forward retainer lugs adapted to engage corner notched forward end portions of the blades, said forward retainer lugs terminating below the plane of the blade discharge passage of said tray so as to free an uppermost blade therefrom.

3. A dispensing magazine for razor blades of the double edged, slotted and notched corner type comprising a casing formed by top, bottom, side and front and rear end walls, an endwise open tray guide shell fixed beneath the casing top wall, said shell comprising a top wall, side walls

and tray supporting ledges extending from the latter, said casing rear wall having a tray admission opening aligned with the interior of said tray shell, a manipulatable longitudinally reciprocable blade ejector bolt above said guide shell top wall, said casing top wall having a slideway means for said ejector bolt, the ejector bolt having a push-piece dependent from its forward portion, said guide shell top wall having a slotway to accommodate said push-piece, the casing front end wall terminating above the guide shell ledges, whereby to provide both a tray stop and a blade exit opening, a tray for holding a stack of blades, said tray being removably insertable within said tray guide shell, whereby to dispose its contained blade stack in position to permit engagement of the ejector bolt push-piece, as normally retracted, with the forward end of the slot of an uppermost blade of said stack, the forward end of said tray having a blade discharge passage at the level of the uppermost blade of said stack, a lift spring member fixed in the lower portion of said casing, said tray having a bottom opening through which said lift spring member may engage the contained blade stack, whereby to yieldably upthrust said stack to align an uppermost blade with the blade discharge passage of said tray and in position to be operatively engageable by said ejector push-piece, and said tray having means to hold the contained blades against shifting displacement therein comprising a pair of laterally opposed upstanding rearward retainer lugs adapted to engage corner notched rear end portions of the blades and a pair of laterally opposed upstanding forward retainer lugs adapted to engage corner notched forward end portions of the blades, said forward retainer lugs terminating below the plane of the blade discharge passage of said tray so as to free an uppermost blade therefrom.

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