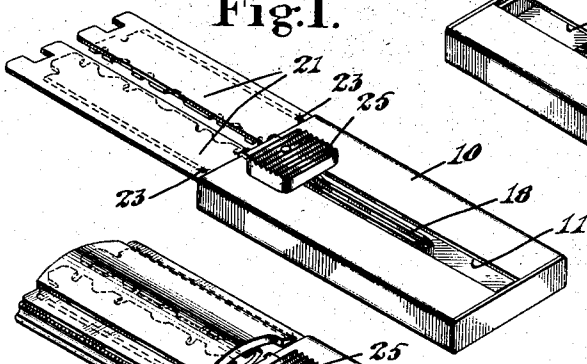
Nov. 28, 1944. S. C. STAMPLEMAN 2,363,908

MAGAZINE FOR SAFETY RAZOR BLADES

Filed June 28, 1943

Fig:1.



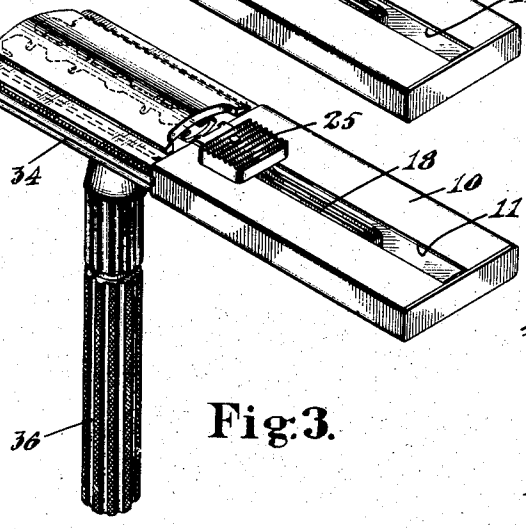
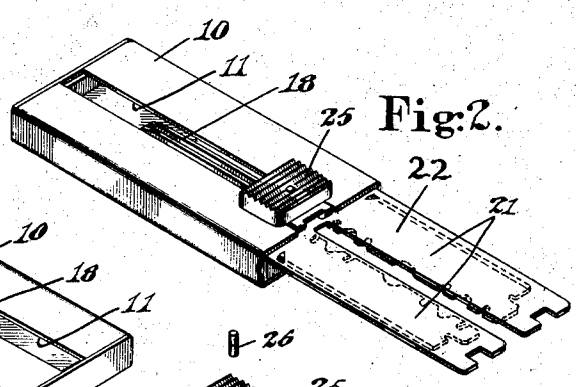


Fig:3.

Fig:2.



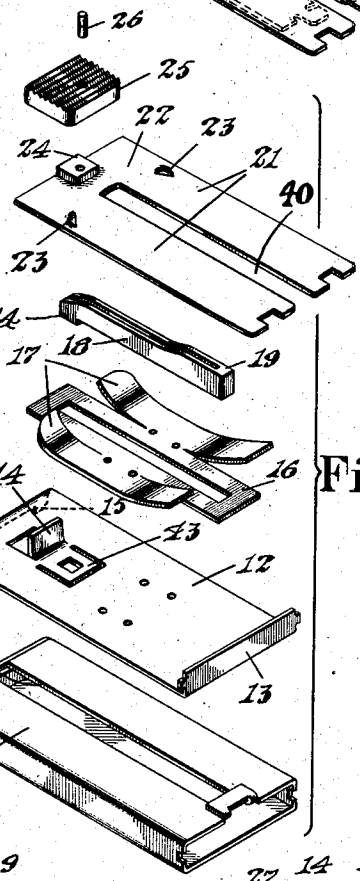


Fig:4

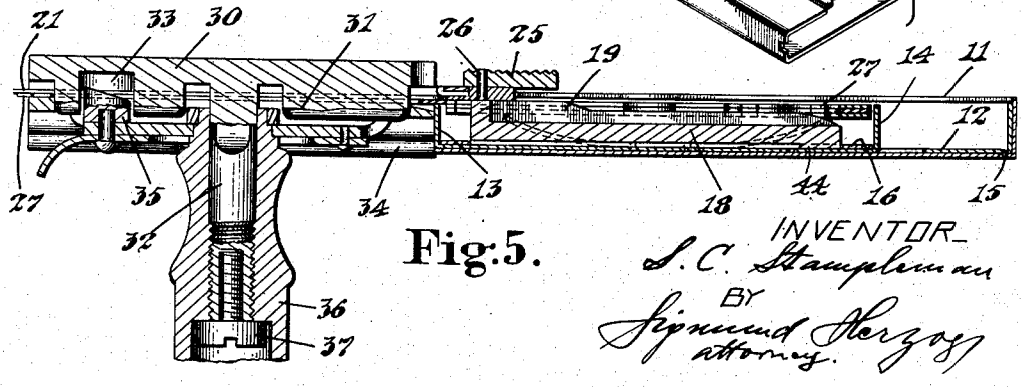


Fig:5.

INVENTOR
S. C. Stampleman
BY
Sigmund Herzog
attorney.

Patented Nov. 28, 1944 2,363,908

UNITED STATES PATENT OFFICE

2,363,908

MAGAZINE FOR SAFETY RAZOR BLADES

Samuel C. Stampleman, Cohasset, Mass., assignor to Gillette Safety Razor Company, Boston, Mass., a corporation of Delaware

Application June 28, 1943, Serial No. 492,519

8 Claims. (Cl. 206—16)

This invention relates to safety razors of the type having a thin flexible blade removably held in shaving position therein by co-operating blade-clamping members. In one aspect the invention consists in improved magazine mechanism for feeding to such a razor a thin sharp-edged blade without damage to its edge and without danger of cutting the user. In another aspect it consists in improvements upon the magazine mechanism disclosed in the co-pending application of Joseph Muros, Ser. No. 329,942, filed April 16, 1940. In still another aspect the invention consists in a blade magazine having a feed slide provided with a projecting member or members co-extensive with the edge of a blade engaged thereby and maintained in shielding relation to the blade edge during the movement of the feed slide.

In using safety razors with blade magazines as heretofore constructed the user has sometimes grasped the razor head with one hand while presenting the magazine with the other hand and delivering the blade into shaving position. Under these circumstances the sharp edge or edges of the blade projecting beyond the outline of the cap are likely to cut the user's fingers. An object of the present invention is to obviate this danger and safeguard the moving blade edge by a protecting member until the blade has completed its endwise movement to shaving position. By the same protecting member, of course, the edge of the blade itself is guarded and prevented from becoming dulled by contact with any part of the razor or other foreign body.

The protecting member may take the form of projections on the feed slide and preferably and as herein shown may have the additional function of properly locating the magazine with respect to the safety razor head when the two are brought together for the purpose of supplying a fresh blade to the razor head.

The magazine of my invention also includes novel means of preventing or retarding movement of more than one blade at a time from the magazine enclosure when the feed slide is moved. One desirable construction for effecting this result consists in a blade-locating rib which is normally spring-pressed toward the top of the magazine, adapted to yield during the feeding motion and to snap into blade-holding position at the conclusion of the feeding movement of the slide.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawing, in which:

Figs. 1 and 2 are views in perspective of the magazine as seen from two different angles;

Fig. 3 is a view in perspective of the magazine assembled with a safety razor for the delivery of blades;

Fig. 4 is a view in perspective showing all the parts of the magazine in exploded relation;

Fig. 5 is a view in longitudinal section corresponding to the showing of Fig. 3 but on an enlarged scale.

In the accompanying drawing the illustrated safety razor is one of the "Gillette" type and the particular magazine illustrated is adapted for supplying double-edged blades to that safety razor. It will be understood, however, that this selection is for purposes of illustration only and that the invention is not limited in its application to that or to any particular type of safety razor.

The magazine comprises a sheet metal enclosure 10 of substantially rectangular outline having a longitudinal slot 11 in its top wall. The bottom is of double-ply thickness by reason of a flat bottom piece 12 which coincides in outline with the bottom wall of the casing and has an upturned flange 13 at one end. This flange 13 forms the end wall of the enclosure and is spaced sufficiently from the top edge of the enclosure to form a blade exit slot as suggested in Fig. 5. A spring tongue 43 is cut in outline in the body of the bottom piece 12. The side edges of the tongue 43 extend parallel to the main axis of the bottom piece 12, and the material of the piece 12 between the unconnected end of these edges serves as a hinge on which the tongue may be flexed as on a transverse axis. The tongue 43 is perforated so that a blade-locating rib may be secured thereto as will presently appear. The inner end of the bottom piece is provided with two downturned spurs 15 which snap into corresponding apertures in the bottom of the magazine enclosure as suggested in Fig. 5 and hold the bottom piece securely in place.

The bottom piece 12 is perforated so that a leaf spring may be attached thereto. This spring has a rectangular body portion 16 provided with a longitudinal slot and two curved side wings 17 which in the loaded magazine are designed to support the blade stack and press it always upwardly against the top of the magazine. The blade-locating rib 18 is formed in any desired manner, as by folding sheet metal, and this is of such dimensions as to pass freely through the longitudinal slot of the spring 16. It has a square downwardly projecting lug 44 at one end and

this is adapted to be secured to the spring tongue 43 and to be permanently connected to the tongue by riveting or soldering. The outer end section 19 of the blade-locating rib is higher than the rest of the rib, being defined in part by an upwardly sloping top surface. Adjacent to the tongue 43 is provided an upstanding ear 14 which is outlined in the material of the bottom piece and turned up at right angles thereto. This ear acts as a stop to prevent retrograde movement of the blades in the stack during reverse movement of the feed slide, all as will presently be described.

The feed slide, best shown in Fig. 4, is formed of sheet material and forked, having two forwardly projecting side arms 21 separated by a longitudinal slot 40. Near the base of these arms the body of the feed slide is slitted in two converging lines and the sheet material of the slide deflected or punched downwardly to form offset co-operating blade-engaging edges 23 of the character fully described in the pending application of Muros above identified. The feed slide has also an upwardly projecting boss 24 square in outline and adapted to slide freely in the groove or slot 11 of the magazine enclosure. To this is secured by a rivet 26 a knurled finger piece 25 by means of which the feed slide may be reciprocated in the magazine. The side portions or arms of the feed slide 22 are at least co-extensive in length with a blade engaged by the offset feeding edges 23. The arms 21 are notched at their free end edges to clear corner lugs of the razor cap and are separated by the open-ended slot 40 which is just the width of the blade-locating rib 18. In initial position the ends of the feed slide arms extend slightly beyond the end of the magazine so that they may be inserted into the razor between the cap and guard thereof and aligned by engagement with the blade-locating rib of the razor.

A safety razor suitable for use with the magazine is shown in Figs. 3 and 5. It comprises a cap member 30 having an inner concave face provided with a blade-locating rib 31 and a threaded stem 32 and also with a recess 33. The guard member 34 is generally convex in contour and carries a spring detent 35 which is freely movable in the recess 33 of the cap. A handle 36 is rotatably connected to the guard and has an internally threaded portion connected with the stem 32 of the cap. Finally the stem 32 is provided with a limit screw 37 which prevents complete disengagement of the stem 32 while permitting limited separation of the cap and guard members for the reception of the blade.

In using the magazine above described to supply a fresh blade to this razor the handle 36 is first rotated in a counter-clockwise direction to lift the cap 30 above the guard. The magazine is then presented and properly located by the enlarged ends of the arms 21 of the feed slide. The feed slide, which has been previously moved to its initial position at the closed end of the magazine is then advanced by means of the finger piece 25. The blade stack meanwhile being pressed upwardly by the springs 17 against the lower face of the feed slide so that the two rear corners of the uppermost blade 27 in the stack are engaged by the converging offset edges 23 of the feed slide and the sharpened edges of the blade lie slightly within the outer edges of the arms 21. As the feed slide is moved toward the left, in Fig. 3, the blade is advanced with its inner edges passing on opposite sides of the blade-locating ribs 31 of the cap and during this entire movement the edges of the feed slide arms 21 advance with and protect the sharp edges of the blade. It will be apparent that the feed slide never passes entirely off the blade stack, but that the side portions of the slide are always above the uppermost blade of the stack. The blade is retarded in its outward movement by the yielding pressure of the higher section 19 of the blade-locating rib against its solid end portion.

During the latter part of this feeding movement the blade-locating rib 18 of the magazine is slightly depressed by engagement with the feed slide so that the solid end of the blade is fully released by the rib in leaving the magazine. At the conclusion of the blade-feeding movement the feed slide is moved toward the right and in this movement of the slide any retrograde movement of the blade now uppermost in the stack is prevented by the stop 14. It will be seen, therefore, that both edges of the blade are completely guarded during its advancing endwise movement into the safety razor head and that the fingers of the user are also guarded from any danger of cutting no matter how the user may happen to grasp the razor head while the blade is being advanced.

Having thus disclosed my invention and described in detail one embodiment thereof, I claim as new and desire to secure by Letters Patent:

1. A blade magazine having an elongated enclosure with a blade-exit opening in one end, means for locating a stack of blades within the enclosure, and a sheet metal feed slide movable in the magazine enclosure and having converging offset edges for engaging the rear corners of a blade in the stack and projecting portions in advance of said edges for overlying and masking the sharp edges of the blade during the advancing movement of the slide.

2. A blade magazine having a substantially rectangular enclosure with a blade-exit opening at one end, means for locating a stack of blades within the enclosure, and a movable feed slide having means for engaging the rear corners of a blade in the stack, and projecting members coextensive with the edges of a blade so engaged and maintained in shielding relation to the blade edge during the movement of said feed slide.

3. A blade magazine having an elongated enclosure with a blade-exit opening in one end, a rib for locating open-ended blades within the enclosure, and a feed slide having a solid end and parallel arms spaced to pass on either side of said rib, and blade-engaging means near the solid end of the feed slide arranged to hold a blade in position with its sharp edges overlapped and masked by the arms of the slide while advanced by the latter into a safety razor.

4. In a blade magazine, an enclosure comprising longitudinal and end walls, a sheet metal feed slide having divergent slots with relatively offset edges, movable in a limited path against one longitudinal wall of the magazine, means for locating a stack of blades in the magazine enclosure so that it is always overlapped by the feed slide, a spring for pressing the stack against the feed slide thereby locating the end of the nearest blade in the path of said offset edges, and edge-protecting members on the feed slide masking the edges of a blade advanced by engagement with the said edges of the feed slide.

5. A blade magazine having an elongated enclosure with a blade-exit opening at one end, a

blade-locating rib mounted to swing about a transverse axis in the magazine enclosure and yieldingly retarding the advancing movement of a blade through said exit opening as the blade passes over said rib, and a feed slide movable in the magazine enclosure.

6. A blade magazine having an elongated enclosure with a blade-exit slot at one end, a rib for locating a stack of slotted open-ended double-edged blades within the enclosure, and a forked feed slide movable in said enclosure and having means for engaging and advancing a blade from the stack with the open end of the blade directed toward the open end of the feed slide and with both edges of the blade masked by the forks of the feed slide.

7. A blade magazine comprising an elongated enclosure having a blade-exit slot at one end, a feed slide approximately U-shaped in outline having a solid end portion equipped with offset converging blade-engaging edges and having spaced side portions which extend toward the blade-exit slot and which are co-extensive with the sharp edges of a double-edged blade positioned in the feed slide by said offset edges.

8. A blade magazine including in its structure an elongated enclosure having a blade-exit slot, means within the enclosure for locating a stack of slotted open-end double-edged blades within the enclosure, and a slotted feed slide movable through said exit slot together with a blade and having means for separating a single blade from the stack and retaining it during the feeding movement with the slot of the blade symmetrically disposed with respect to the slot of the feed slide and the edges of the blades masked by the sides of the feed slide.

SAMUEL C. STAMPLEMAN.