

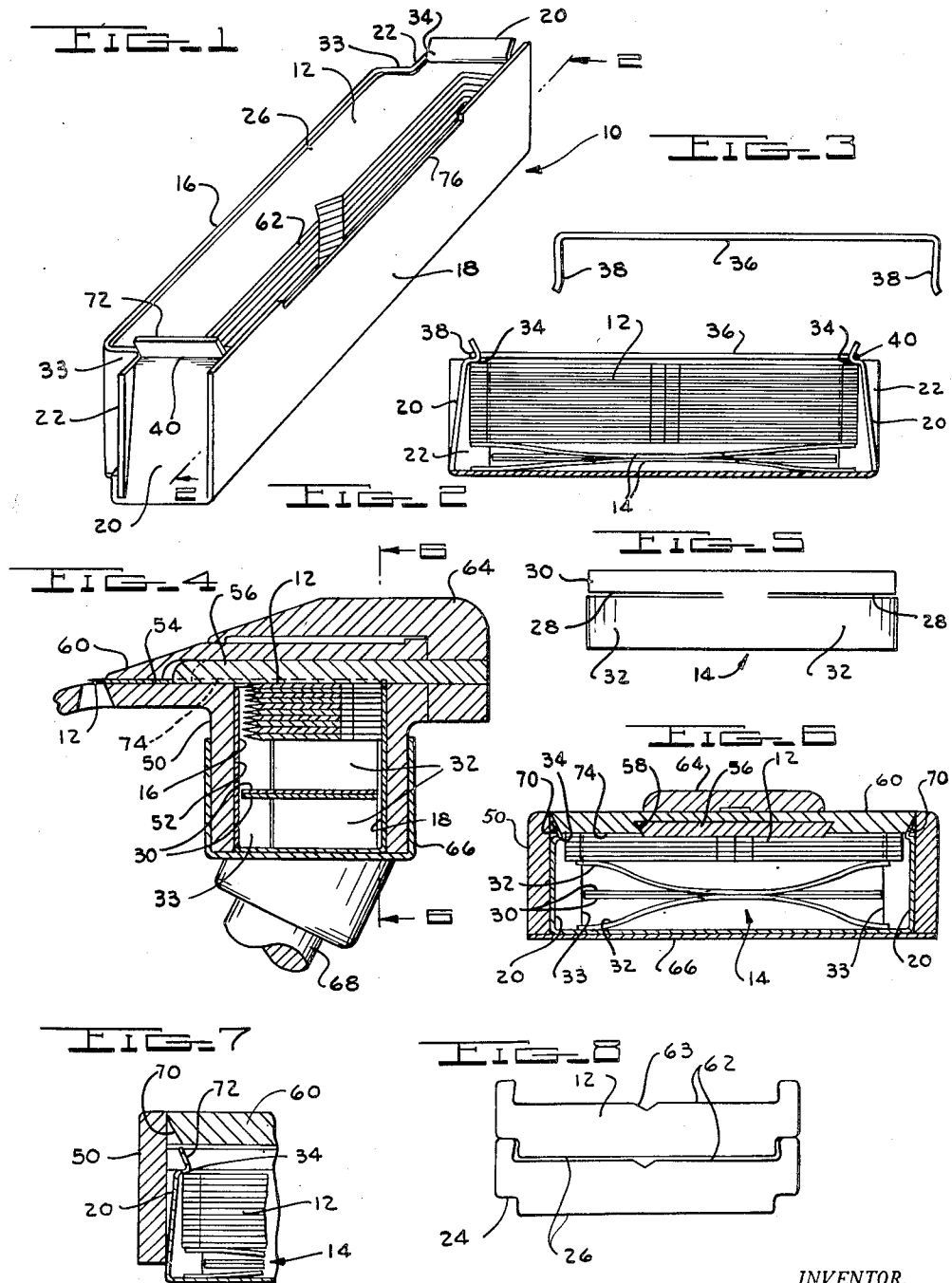
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BLADE MAGAZINE FOR RAZORS

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# UNITED STATES PATENT OFFICE

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## BLADE MAGAZINE FOR RAZORS

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7 Claims. (Cl. 30-40)

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This invention relates to a magazine unit for use with a razor having a chamber therein adapted to receive the magazine unit and having means for positioning successive ones of a stack of blades in the magazine in shaving position on the razor. The invention contemplates a magazine adapted to receive a stack of razor blades therein and having means for releasably confining the blades within the magazine. The end walls of the magazine have a part thereof engageable with the top blade of the stack of blades so as to retain the blades within the magazine. The end walls are also provided with portions thereof engageable during insertion of the magazine into the razor with cam surfaces formed on the razor so as to be moved thereby and permit movement of the blades out of the magazine.

The principal object of the invention, therefore, is to provide a blade magazine having means formed thereon for releasably confining a stack of blades therein.

A further object of the invention is to provide a blade magazine having means formed thereon and cooperable with a part of the razor for releasing the blades for movement from the magazine.

A further object of the invention is to provide a magazine unit for use with a razor which is simple and inexpensive in construction.

A further object of the invention is to provide a magazine unit having a stack of blades therein and having a novel type of spring means therein for biasing the blades upwardly out of the magazine.

Other and further objects of the invention will be apparent from the following description and claims and may be understood by reference to the accompanying drawings, which by way of illustration show a preferred embodiment of the invention and what I now consider to be the best mode in which I have contemplated applying the principles of my invention. Other embodiments of the invention may be used without departing from the scope of the present invention as set forth in the appended claims.

In the drawings:

Fig. 1 is an enlarged perspective view of the blade magazine embodying this invention;

Fig. 2 is a vertical sectional view of the magazine unit taken along lines 2-2 of Fig. 1;

Fig. 3 is an elevational view of a removable clamp for use with the magazine;

Fig. 4 is a vertical sectional view through a razor with which the magazine unit may be used and showing the unit in operative position within the razor;

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Fig. 5 is a top plan view of one of the springs used in the magazine unit;

Fig. 6 is a sectional view taken along lines 6-6 of Fig. 4;

Fig. 7 is a fragmentary sectional view similar to Fig. 6 and showing the means for releasing the blades for movement from the magazine; and

Fig. 8 is a plan view showing the relative positions of a new and a used blade during movement of the new blade into shaving position.

Referring more particularly to the drawings, the magazine unit comprises a container 10 having a stack of blades 12 contained therein and biased upwardly by means of the leaf springs 14. The container 10 is shaped to fit the contour of one of the blades 12 and is provided with a front wall 16, a rear wall 18, and end walls 20. The blades 12 are adapted to fit loosely within the container 10 and are confined between the back wall 18 and a portion 22 of the front wall 16 which is shaped to engage a notch 24 formed in the corners of the blades 12 adjacent the shaving edge 26 thereof. The shaving edge 26 is maintained in spaced relation to the inside of the front wall 16 of the container 10.

The container 10 is preferably made of a spring metal and the end walls 20 thereof are sprung inwardly as shown in Figs. 1 and 2. The springs 14 are arranged in the bottom of the container 10 and are oppositely deflected. Each of the springs is provided with a slit 28 therein and the portions 30 of the springs are flat and are arranged in abutting relation within the container 10. The portions 32 of the springs are normally deflected into an arcuate shape. The springs 14 are arranged in the container 10 with the flat portions 30 thereof adjacent the front wall 16 of the container 10. The springs 14 are movable vertically within the container 10. The portions 30 of the springs 14 have a loose fit between the vertical walls 33 of the container 10 so as to keep the springs 14 properly located within the container relative to the blades 12 at all times. The walls 33 therefore provide a means for guiding the springs during the vertical movement which occurs whenever a blade is removed from the container in the manner hereinafter described. The springs 14 are placed in the container and the stack of blades 12 is then placed into the container upon the springs 14 which are compressed thereby.

Each of the end walls 20 at the upper end thereof is provided with an inwardly projecting portion 34 which is adapted to rest upon the adjacent side edge of the top blade in the stack. The springs 14 bias the blades upwardly against

the portions 34 of the end walls 20 so that the blades 12 are confined within the container 10 against the force of the springs 14. Since the end walls 20 are formed of spring metal, they may be sprung outwardly from the container to permit the blades 12 to be inserted into the container. The end walls 20 are then released and will return to their normal position as shown in Fig. 2 so as to releasably confine the blades within the container 10.

In Fig. 3 there is disclosed a means for maintaining the end walls 20 in their normal position during handling and shipping of the magazine unit. For this purpose a U-shaped spring wire member 36 is provided, the ends 38 of which are arranged to seat within grooves 40 formed in the upper ends of the end walls 20. The wire 36 may be assembled to the end walls 20 and removed therefrom when it is desired to insert the magazine unit into the razor with which it is used.

The magazine unit disclosed herein is adapted to be used with a razor having a chamber therein adapted to receive the magazine unit and having a means for successively positioning the blades in the magazine in shaving position on the razor. One form of razor with which the magazine may be used is disclosed in Figs. 4, 6 and 7. A complete description of the razor shown in Fig. 4 is disclosed in my co-pending application Serial No. 160,628, filed May 8, 1950, for "Magazine Type Safety Razor."

The razor comprises in general a body 50 having a chamber 52 therein which is adapted to receive the container 10. The body 50 is provided with a blade supporting surface 54 formed thereon adjacent the chamber 52. A slide 56 slidable in a groove 58 formed in a clamping cap 60 is arranged to engage the back edge 62 of the top blade within the stack when the slide is retracted. The slide 56 is then slidable forwardly to move the top blade along the blade supporting surface 54 into shaving position beneath the clamping cap 60. The top blade during its movement into shaving position is arranged to engage the previously positioned blade, as shown in Fig. 8, and to eject the same from the razor. A plate 64 is secured to the slide 56 and provides a means for moving the slide across the chamber 52 in the body 50. A detachable cover 66 is provided for the lower end of the chamber 52 and has a handle 68 for the razor secured thereto.

When it is desired to insert a stack of blades within the razor, the detachable cover 66 is removed and the magazine is inserted into the chamber 52. A means is provided on the razor for engaging the upper ends of the end walls 20 so as to move the same outwardly, thereby releasing the blades for movement out of the container 10 under the influence of the springs 14. Such a means may, as shown in Figs. 6 and 7, comprise notches 70 formed in the under side of the clamping cap 60 at each side thereof. The notches 70 define cam surfaces with which the ends 72 of the end walls 20 are engageable during movement of the container 10 into the chamber 52. As the container 10 is moved into position, the ends 72 engage the cam surfaces 70 and are deflected outwardly until they assume the position shown in Fig. 6, at which time the portions 34 of the walls 20 have been moved away from the blades 12 so as to permit movement of the blades upwardly against the under side of the slide 56 under the influence of the springs 14.

When the slide 56 is retracted, the top blade of the stack is moved upwardly against the under side 74 of the clamping cap 60 by means of the

springs 14. The back edge 62 of the blade is provided with a V-shaped notch 63 which is adapted to be engaged by a V-shaped projection on the forward edge of the slide 56 upon forward movement of the slide 56. Forward movement of the slide 56 moves the blade into shaving position on the blade supporting surface 54 and at the same time is operable for ejecting a previously positioned blade. The engagement of the projection on the forward edge of the slide with the notch 63 in the blade will centrally locate the blade during movement thereof by the slide on to the surface 54 with respect to the previously positioned blade so that the blades will be aligned as shown in Fig. 8.

The back wall 18 of the magazine is engageable with the under side 74 of the clamping cap 60 so as to limit the upward movement of the magazine into the chamber 52 and to properly position the magazine within the chamber. A notch 76 is provided in the wall 18 so as to permit the slide 56 to move across the magazine.

When the last blade in the stack has been used, the handle 68 and the cover 66 are removed from the body 50 and the springs 14 are then operable for ejecting the container 10 from the chamber 52.

While I have illustrated and described a preferred embodiment of my invention, it is understood that this is capable of modification and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. A magazine unit for use with a razor having a chamber therein adapted to receive said unit, comprising a container having front and back walls and movable end walls, the upper ends of said end walls normally being disposed inwardly of said container, a stack of blades in said container, said end walls being springable outwardly to permit said blades to be inserted in said container, said upper ends of said end walls being engageable with the top blade of said stack of blades when said blades are arranged in said container, spring means in said container for biasing said blades upwardly against said end walls; said end walls being engageable with a part of said razor upon insertion of said unit into said chamber in said razor so as to be sprung outwardly, thereby releasing said blades for movement out of said container under the influence of said spring means.

2. A magazine unit for use with a razor having a chamber therein adapted to receive said unit, comprising a container having a movable wall, the upper end of said wall normally being disposed inwardly of said container, a stack of blades in said container, said wall being springable outwardly to permit said blades to be inserted in said container, said upper end of said wall being engageable with the top blade of said stack of blades when said blades are arranged in said container for releasably confining said blades therein, spring means in said container for biasing said blades upwardly against said end of said wall, said wall being engageable with a part of said razor upon insertion of said unit into said chamber in said razor so as to be sprung outwardly, thereby releasing said blades for movement out of said container under the influence of said spring means.

3. A magazine unit as set forth in claim 2 wherein said spring means comprises a pair of

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oppositely deflected leaf springs arranged in abutting relation within said container.

4. A magazine unit as set forth in claim 2 wherein said spring means comprises a pair of oppositely deflected leaf springs arranged for vertical movement within said container, and wherein said container is provided with means for guiding said springs during said movement in said container.

5. A magazine unit for use with a razor having a chamber therein adapted to receive said unit, comprising a container, a stack of blades in said container, said container having a wall thereof normally inclined inwardly of said container, said wall having a portion thereof engageable with the top blade of said stack of blades when said blades are arranged in said container, spring means in said container for biasing said blades upwardly against said portion of said wall, said wall being movable outwardly and arranged to be engaged by a part of said razor upon insertion of said unit into said chamber in said razor so as to be moved outwardly, thereby releasing said blades for movement out of said container under the influence of said spring.

6. A blade magazine for use with a razor having a chamber therein adapted to receive said magazine, comprising a container adapted to receive a stack of blades therein, said container being shaped to fit the contour of a blade, said container having opposite walls thereof provided with inwardly projecting portions engageable with the top blade of said stack when said stack is arranged in said container for releasably confining said blades therein, said walls being movable outwardly of said container, said walls being engageable with a part of said razor upon insertion of said magazine into said chamber in said

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razor so as to move said inwardly projecting portions thereof outwardly of said container, thereby releasing said blades for movement out of said container.

7. A magazine unit for use with a razor having a chamber therein adapted to receive said unit, comprising a container having front and back walls and movable end walls, the upper end of said end walls normally being disposed inwardly of said container, a stack of blades in said container, said end walls being movable outwardly to permit said blades to be inserted in said container, said upper ends of said end walls being engageable with the top blade of said stack of blades when said blades are arranged in said container for releasably confining said blades therein, spring means in said container for biasing said blades upwardly against said end walls, and a removable U-shaped spring wire member engageable with said end walls for maintaining said end walls in their said inwardly disposed position.

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