Sept. 29, 1953 E. A. NELSON 2,653,704

SINGLE-EDGE BLADE DISPENSER

Filed Aug. 6, 1948

FIG. 1.

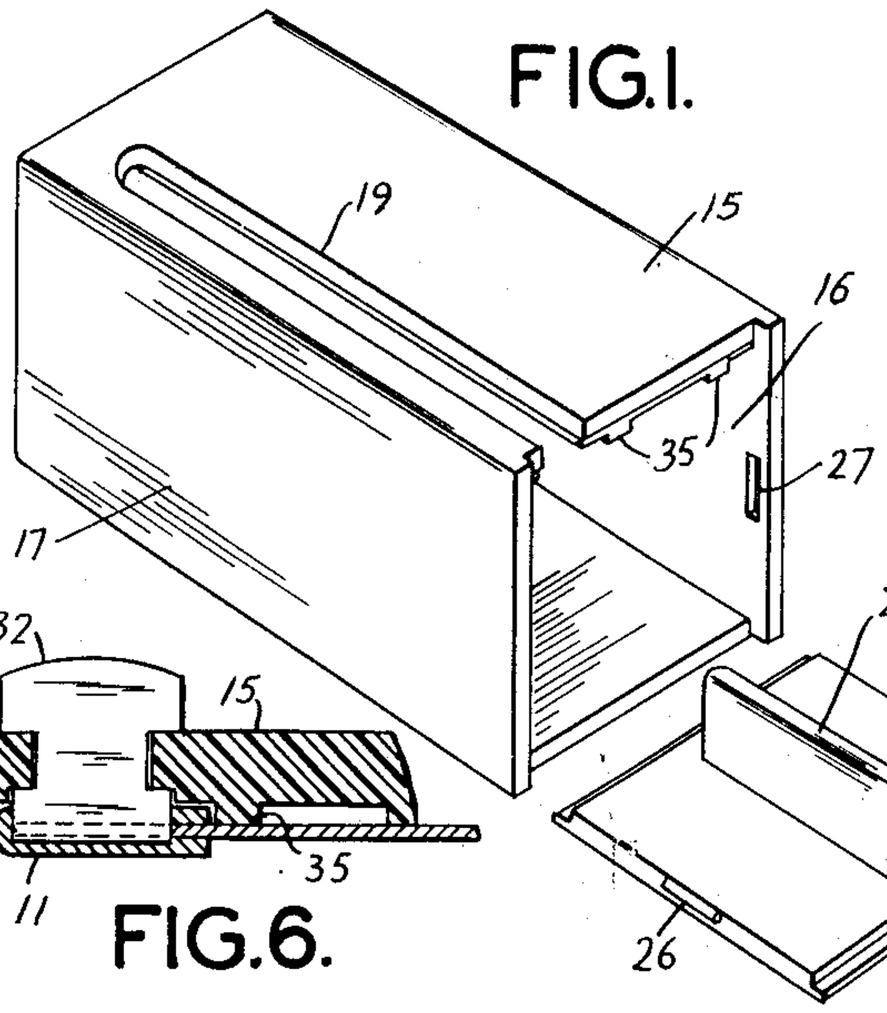

FIG. 2.

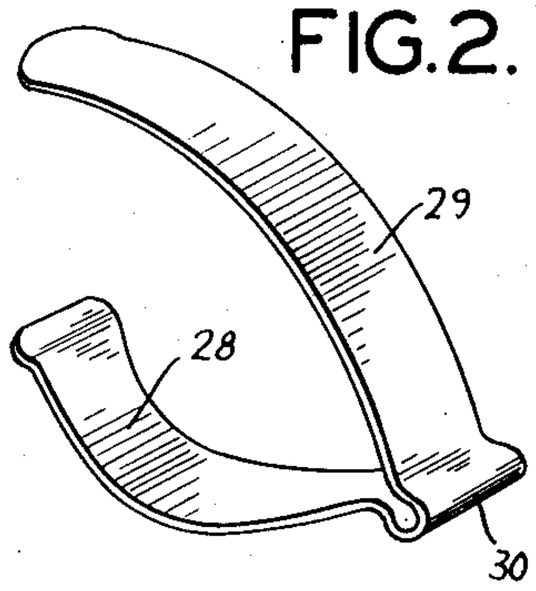

FIG. 6.

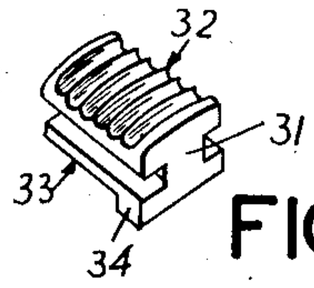

FIG. 3.

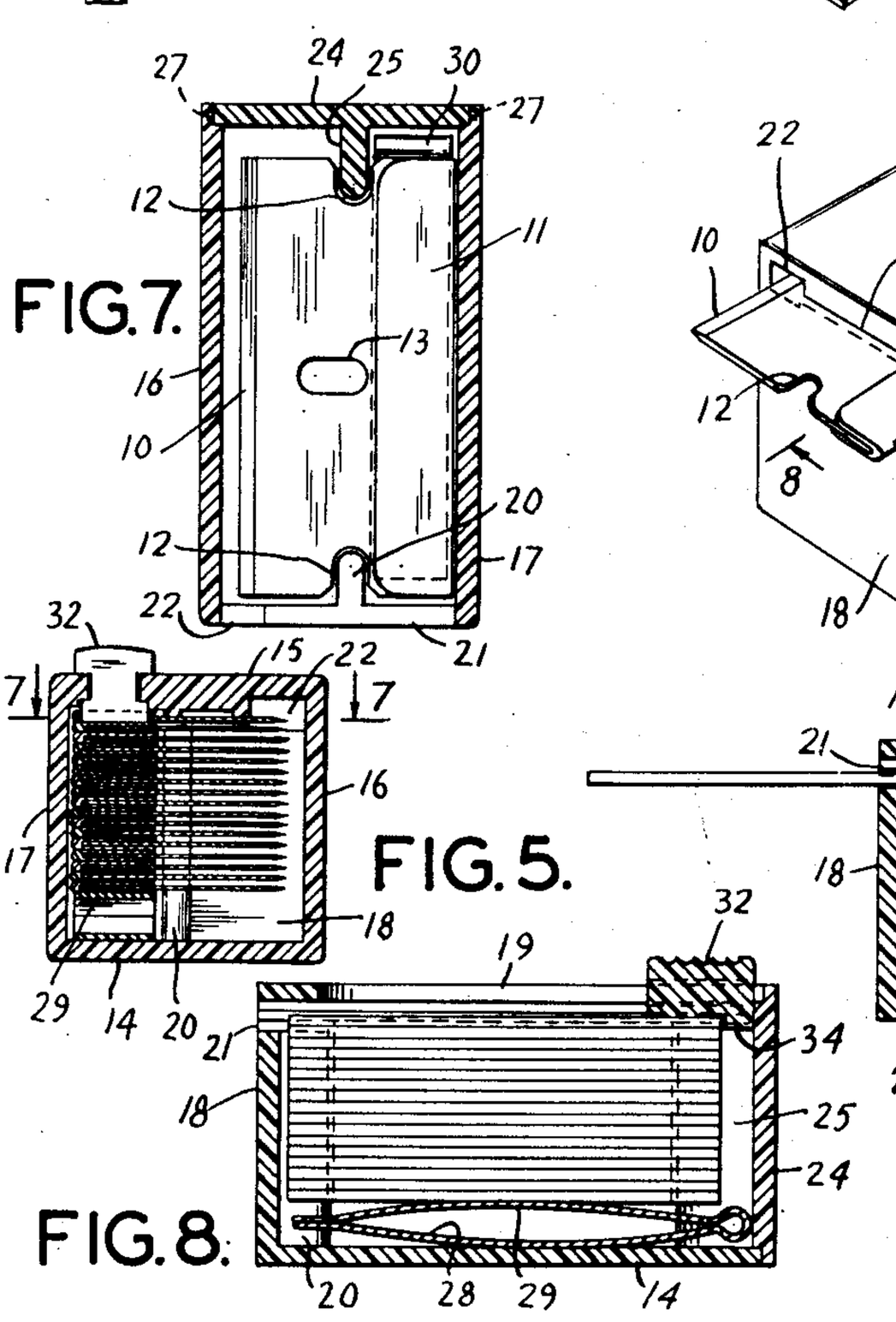

FIG. 7.

FIG. 5.

FIG. 8.

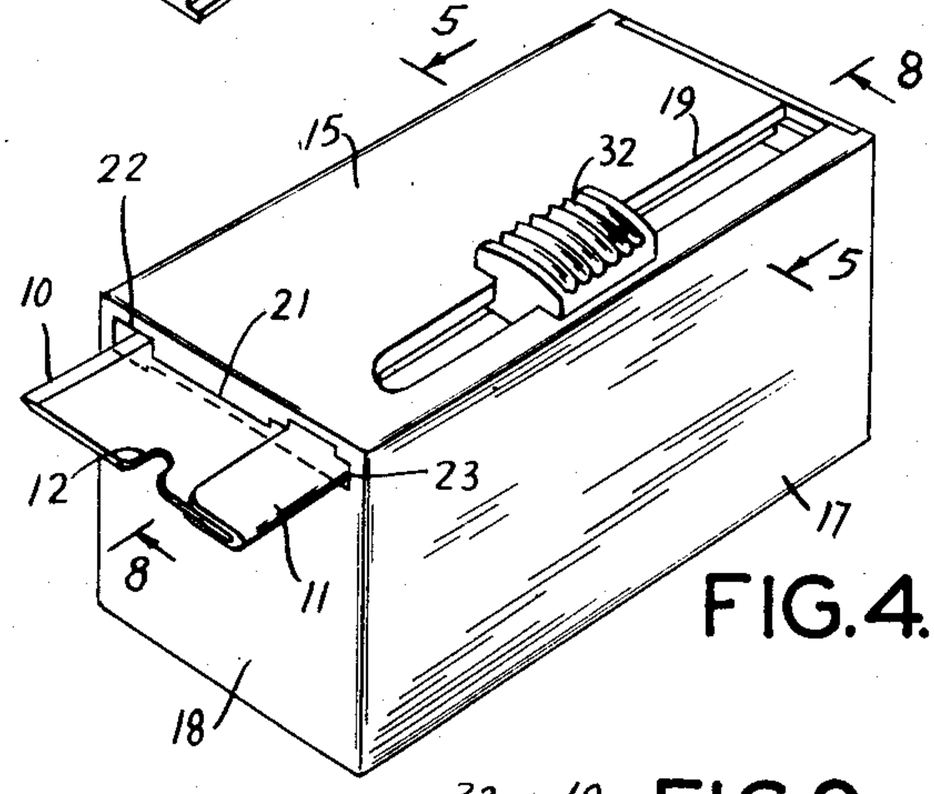

FIG. 4.

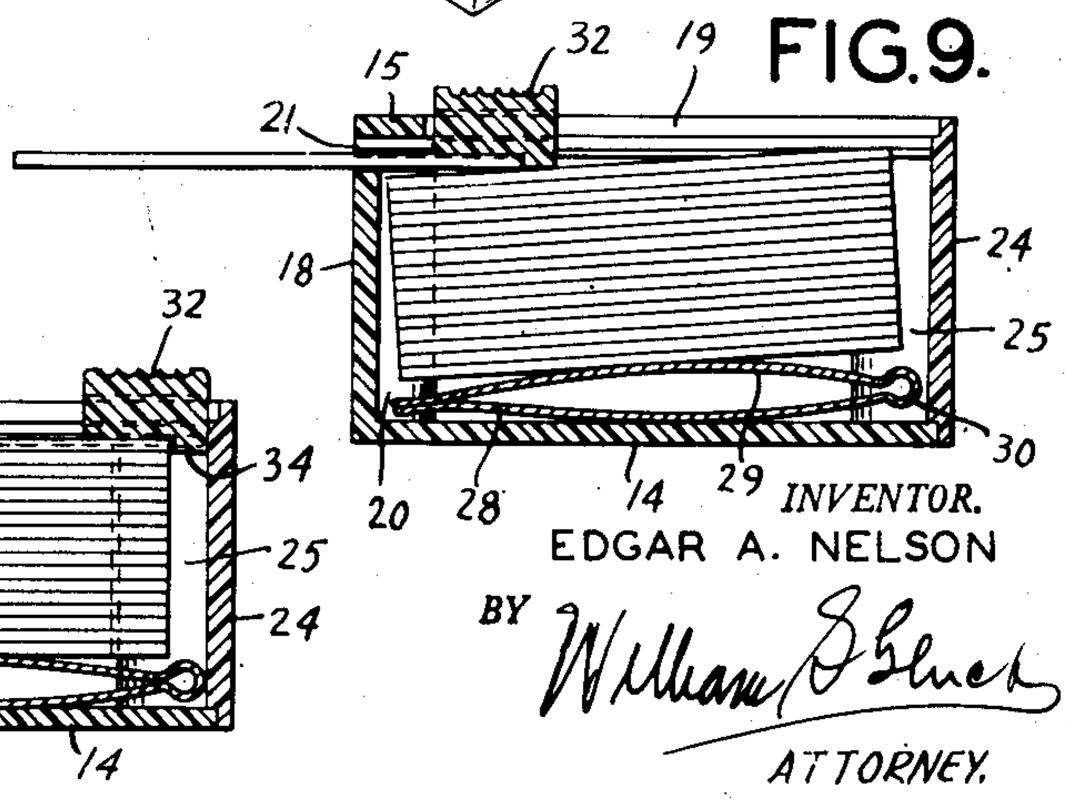

FIG. 9.

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SINGLE-EDGE BLADE DISPENSER

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2 Claims. (Cl. 206—16)

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This invention relates generally to receptacles, and has particular reference to an improved receptacle or container for a stack of razor blades.

It is a general object of the invention to provide a razor blade package in which a plurality of blades, in stacked relation, are neatly accommodated within a substantially rectangular box of simple, inexpensive, and attractive character, the box being provided with a means whereby the blades may be ejected, one by one, as they are needed.

One of the more particular objects of the invention is to provide a package which is specially desiged for, and uniquely adapted to accommodate, razor blades of the type in which there is a relatively thick reinforcement extending lengthwise of the blade and having opposed faces which are flat and parallel. Such a blade is exemplified by the well-known single-edge blade in which the reinforcement referred to extends along the rear edge.

The type of blade for which the present receptacle is designed is also provided with opposed notches in its side edges. In the single-edge type of blade hereinbefore alluded to, these notches lie forwardly of the thickened rear edge reinforcement, and serve in the razor itself as means to accommodate blade-advancing lugs or the like.

Other objects of the present invention lie in the provision of a construction which permits the box to be easily and more expeditiously loaded by the manufacturer, which accommodates the stacked blades in a relationship which guards their cutting edges against injury and which makes it easy for the ultimate user to eject the blades, singly, and in succession, without impairment of the cutting edge of any blade during the process of its ejection.

The structural features and innovations which make it possible to achieve these objectives in a receptacle which is so inexpensive that it may be completely discarded after the accommodated blades have been all ejected, will be set forth more fully hereinafter.

I achieve these objectives, and such other objects and advantages as may hereinafter appear or be pointed out, in the manner illustratively exemplified in the accompanying drawings, in which:

Fig. 1 is a perspective view of a box of the present improved character, one end wall in its original separated state, and prior to the insertion of any blades into the box;

Fig. 2 is a perspective view of the spring;

Fig. 3 is a perspective view of the slidable ejector;

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Fig. 4 is a perspective view of the loaded box, showing the relationship of the parts during the ejection of a blade;

Fig. 5 is a cross-sectional view taken substantially along the line 5—5 of Fig. 4;

Fig. 6 is an enlargement of the upper part of Fig. 5;

Fig. 7 is a cross-sectional view taken substantially along the line 7—7 of Fig. 5; and

Figs. 8 and 9 are cross-sectional views taken substantially in the direction 8—8 of Fig. 4, illustrating how the ejection of the uppermost blade is effected.

The type of blade toward the accommodation of which the present invention is particularly directed is shown most clearly in Fig. 7. The blade has a forward cutting edge 10, a rear-edge relatively thick reinforcement 11 (whose opposite faces are flat and parallel), and notches 12 in the opposite side edges. The blade illustrated has an elliptical opening 13 in its midportion, but this opening serves no function in connection with the present receptacle or package.

In the present package, a plurality of these blades are arranged in a stack, with the reinforcements 11 in superposed relation, and with the cutting edges 10 extending in the same direction. This brings the notches 12 of the blades into substantial alignment. This stack is accommodated within a box of the character shown most clearly in Fig. 1.

The box may be composed of any suitable material, and is preferably formed of two parts, each of which is a molded body of plastic or the like. The main part consists of a bottom wall 14, a top wall 15, side walls 16 and 17, and an end wall 18 (Fig. 4). This part of the box is thus open at the end opposite the end wall 18, and it is through this open end that the stack of blades, and other elements necessary for the construction, are inserted during the loading procedure.

In the top wall 15 there is provided a longitudinal slot 19. This slot is arranged perpendicular to the end wall 18 and terminates short of that wall. However, the slot extends all the way to the opposite end of the box structure, as shown in Fig. 1. The slot is arranged relatively close to the side wall 17.

On its interior, the end wall 18 is provided with a rib 20 which extends almost for the full height of the wall 18. In its upper region, the wall is provided with an aperture 21 which is substantially parallel to the top wall 15. The rib 20 terminates short of this aperture. The aperture is enlarged at one end, as shown at 22, and is

similarly enlarged at the opposite end as at 23, the purpose of these enlargements being hereinafter described.

The other part of the box structure is the end wall 24 (Fig. 1) which is adapted to be applied to the box only after all accommodated blades and other elements have been loaded into position. The end wall 24 is of such character that when it is applied to the loaded box, it locks itself into permanent association with the structure so that the ultimate user will not by inadvertence disassemble the box structure.

As shown most clearly in Figs. 1 and 7, the end wall 24 is provided with a rib 25 extending for substantially the full height of the wall 24. The rib 25 corresponds to the rib 20, in opposed relation to the latter, as shown most clearly in Fig. 7. The ribs 20 and 25 are adapted to engage within the opposed notches 12 in the blade stack. The rib 25 is, however, a little longer than the rib 20, so that the entire stack is constantly maintained in the position most clearly shown in Fig. 7, i. e., nearer the end wall 18 than the wall 24.

To hold the wall 24 in position, after the box has been loaded, ears 26 are formed on opposed side edges, and these ears deflect slightly and snap into permanent engagement with corresponding depressions 27 formed in the box body. Any other convenient construction or relationship of parts, to permit the end wall 24 to be separately constructed and assembled with the box only after the loading procedure, and to permit the association to be a self-locking or otherwise permanent one, may be employed.

Before describing the loading procedure, attention is directed to Figs. 2 and 3. In Fig. 2 I have illustrated the present improved type of spring. It is essentially a leaf spring, but is composed of two opposed arcuate or bowed portions 28 and 29, joined at 30. This spring has the advantage of being simple to make and use, of being readily compressible into the condition shown in Figs. 8 and 9, and maintaining a great amount of resilience during all stages of its relaxation into the relatively open position shown in Fig. 2.

In Fig. 3 I have shown the ejector. This consists essentially of a shank 31 which fits slidably into the slot 19, a manually engageable outer part 32 (which may be formed in any convenient manner and of any desired shape), and an inner part which engages the uppermost blade of the stack. It is a particular feature of the present invention to provide this inner part of the ejector in a manner which provides a flat bottom face 33 adapted to overlie the engaged blade, and a depending lug 34 at the rear end of the face 33.

After the several parts of the box have been manufactured, it is loaded as follows: The ejector shown in Fig. 3 is first inserted into the slot 19 through the open rear end of the slot. The spring of Fig. 2 is then inserted into the box directly adjacent to the side wall 17. The stack of blades is then inserted, with the superposed reinforcement 11 lying adjacent to the wall 17. During the insertion, the spring is compressed until it ultimately assumes the position shown in Fig. 8. When the stack has been completely inserted, the inner notch 12 will be engaged with the rib 20 as shown in Fig. 7. As a final step, the end wall 24 is applied and snapped into position. This serves not only to seal the rear end of the slot 19, but also to force the rib 25 into

the corresponding notches 12 of the blade stack. The ejector is then drawn to the rear end of the slot 19, and the package is ready for use. In this condition, the parts are in the relationship shown in Fig. 8. It will be observed that the depending lug 34 of the ejector has positioned itself between the blade stack and the end wall 24. This space or gap is provided by virtue of the increased depth of the rib 25 compared with that of the rib 20, and also by virtue of the fact that the box has a length slightly greater than the length of the blade stack.

The lug 34 has a depth no greater than that of a single reinforcement 11, and since the bottom flat face 33 of the ejector rests upon the reinforcement 11, there is never any possibility of engagement (by the ejector) of more than the single uppermost blade of the stack.

The aperture 21 in the end wall 18 is so positioned that it is in alignment with the uppermost blade of the stack. The enlargement 22 is for the purpose of affording ample clearance for the cutting edge of the blade as it is ejected. The enlargement 23 is for the obvious purpose of permitting passage through it of the thickened reinforcement 11.

By virtue of the fact that the spring lies beneath the superposed reinforcements 11, these reinforcements are constantly pressed together so as to lie flatwise with respect to one another, as shown most clearly in Fig. 5. As a result, the cutting edges of the blades are constantly maintained in spaced relationship, thus safeguarding them against inadvertent contact with other edges. Preferably, the top wall 15 is provided on its interior face with one or more depressed parts 35 against which the uppermost blade may abut. This affords extra support for the uppermost blade, and assures a maintenance of alignment of the blade during the ejection procedure.

The parts being normally in the position shown in Fig. 8, the ejection of the uppermost blade is obviously effected by advancing the ejector forwardly along the slot 19. This ejects the blade as indicated most clearly in Figs. 4 and 9. During this procedure, the entire blade stack tips slightly under the unique action of the present spring, as indicated in Fig. 9, thus helping to prevent any but the uppermost blade from emerging from the aperture 21. During the return movement of the ejector, the stack assumes its normal position as shown in Fig. 8, and the ejector lug 34 snaps into position behind the blade which has now assumed the uppermost position.

This ejection procedure is repeated whenever another blade is to be discharged, and the operation is the same in each case, regardless of the number of blades in the stack. After all blades have been discharged, the empty receptacle may be discarded.

In general, it will be understood that many of the details herein described and illustrated may obviously be modified by those skilled in the art without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

What is claimed is:

1. A dispensing magazine for unwrapped single-edge safety razor blades of the type having a reinforcing back and end notches, comprising a casing having top, side and end walls, and bottom, a discharge slot at the intersection of one end wall and the top, widened at one end to permit passage of the reinforcing back, an

opening in the top behind the widened end of the slot providing access to the blades, vertical guide bars in the end walls, the forward bar terminating at the lower edge of the discharge slot, a stack of blades in the casing with their reinforcing backs in contact and their end notches in alignment and embracing the vertical guide bars, a spring interposed between the bottom of the casing and the bottom of the blade stack, engaging the reinforcing back of the lowermost blade and urging the stack upward with the topmost blade against the underface of the top and in alignment with the discharge slot, and a longitudinal rib on the underface of the top spaced from the side wall of the casing, which is adjacent the reinforcing backs of the blades, a distance slightly greater than the width of the reinforcing backs and thereby cooperating with said adjacent side wall to hold the topmost blade in alignment with the other blades of the stack.

2. A dispensing magazine for unwrapped single-edge safety razor blades of the type having a reinforcing back and end notches, comprising a casing having a top, side and end walls, and bottom, a discharge slot at the intersection of one end wall and the top of such shape and size as to permit passage of a blade having a reinforcing back, vertical guide bars in the end walls, the forward bar terminating at the lower edge of the discharge slot, a stack of blades in the casing with reinforcing backs in contact and end notches in alignment and embracing the vertical guide bars, a spring interposed between the bottom of the casing and the bottom of the blade stack, engaging the reinforcing back of the lowermost blade and urging the stack upward with the topmost blade against the under face of the top and in alignment with the discharge slot, the top having an opening providing access to the reinforcing backs of the blades, and a longitudinal rib on the underface of the top spaced from the side wall of the casing, which is adjacent the reinforcing backs of the blades, a distance slightly greater than the width of the reinforcing backs and thereby cooperating with said adjacent side wall to hold the topmost blade in alignment with the other blades of the stack.

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