

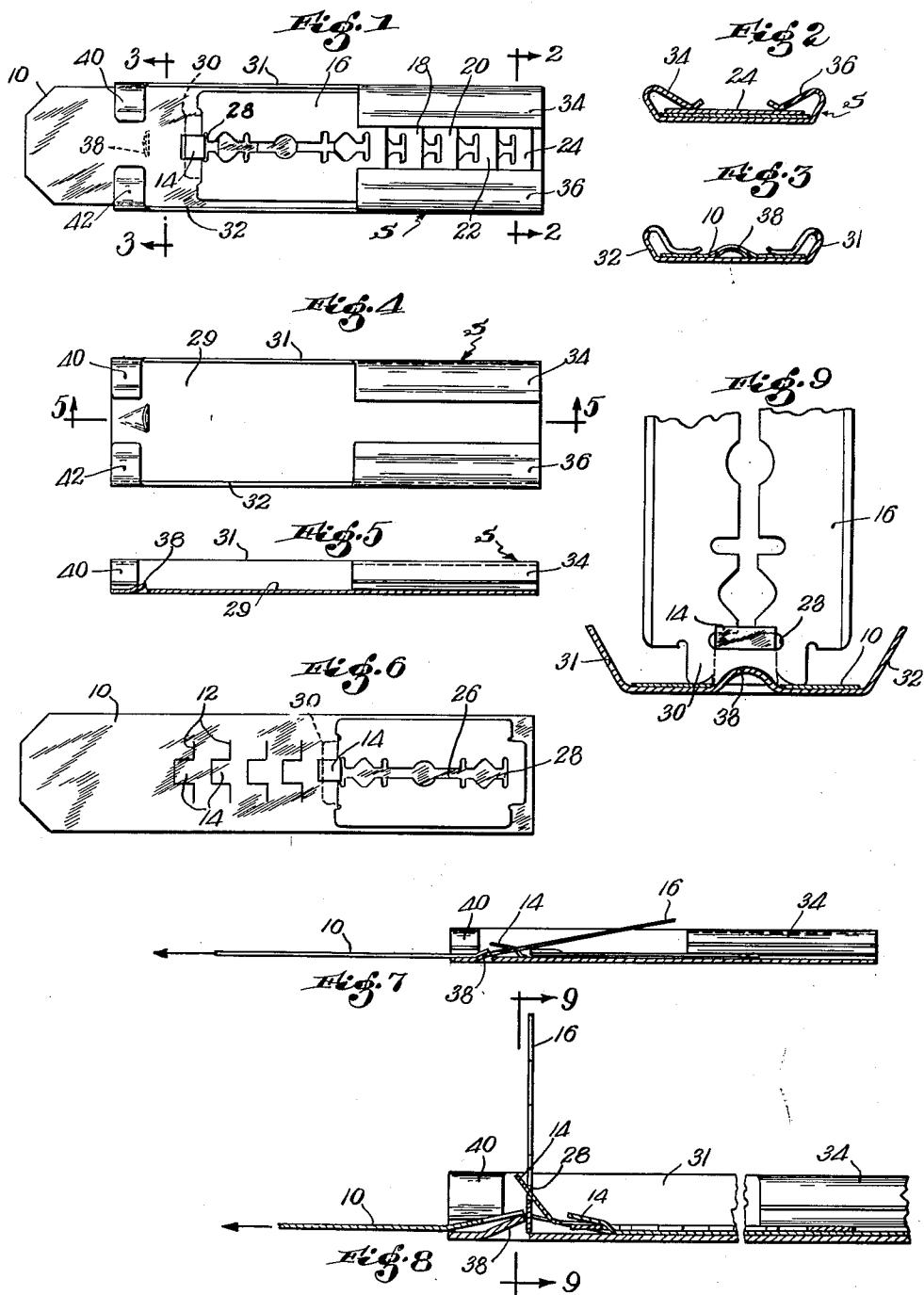
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RAZOR BLADE DISPENSING PACKAGE

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## RAZOR BLADE DISPENSING PACKAGE

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This invention relates to an improved razor blade pack of the type in which a series of blades are mounted on a flexible carrier strip with the strip itself being contained in a protective covering in such a manner as to constitute a blade dispensing slide. The invention is herein exemplified as embodied in a package of safety razor blades of the well known double-edged type although it is not limited to that type or to blades of any specific shape.

It is a general object of the invention to improve blade packaging methods, and to provide an inexpensive blade dispensing package which will insure an exceedingly keen shaving edge of the blade against impairment from the time it leaves the manufacturer up to the time it is selected by the user. It is a further object of the invention to devise a razor blade pack having a novel blade dispensing aperture from which individual blades may, by means of a relatively simple slide movement, be drawn forth with a minimum of effort and simultaneously raised into an upright position to facilitate handling.

In one aspect the present invention is a solution of the problem of satisfactorily dispensing individual unwrapped blades as distinguished from blades protected by individual packing or envelopes. The removal of a thin safety razor blade from an individual envelope is not only somewhat troublesome for the user but is likely to cause impairment of the shaving edge by accidental contact with the fold of the envelope. There is also involved some danger to the user from cutting.

Much of the unnecessary handling and inconvenience arising out of the removal of individual blade wrappers is eliminated in the blade dispensing package of the invention by arranging a series of blades directly in contact with one another on a carrier strip, with the ends of the blades being held in longitudinally overlapping relation. The strip is slidably received in a sheath member so that the cutting edges on both sides of each blade are protectively encased between two opposite sheath surfaces which extend beyond these cutting edges. In place of the usual operation of unwrapping each blade the user merely has to slide the carrier strip a short distance out of the sheath to have at hand an unwrapped blade ready to be inserted in a razor and used. During this slide movement, the sheath or casing is held in one hand and the strip pulled out with the other hand. Danger of cutting is thus greatly minimized since the blade

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is only in contact with the fingers for a short interval at the time the blade is transferred from the pack to the razor body. Even this contact may, if desired, be avoided by engaging the razor directly in the blade slot, while the blade is still supported in the pack.

Another feature of the invention consists in a series of blades attached to a carrier strip in spaced-apart stepped relation so that each blade 10 when not resiliently held in the sheath, normally presents a free end extending angularly upward in an unobstructed position, from which it is convenient to tip or up-end the blades into a completely upright position. Combined with the 15 blade and strip assembly noted is an open sheath or casing which is constructed with guide members extending throughout a part only of the length of the sheath, thus defining a blade dispensing aperture from which blades may be 20 withdrawn.

In another aspect, the present invention consists in a blade package for blades having well defined unsharpened end portions such as those 25 found in safety razor blades of the double-edged type. Such blades are provided with corner notches which define each end of the blade and elongated unsharpened end portions of reduced width as compared to the body of the blade. These end portions are further characterized by 30 the presence of transverse openings. In accordance with the invention, it is proposed to package this type of razor blade by inserting the reduced end portions through transverse slits in the carrier strip member, thus avoiding any need 35 for separate fastening means. In order to loosely hold the blades in the strip as they are withdrawn from the sheath, the strip is further provided with longitudinally extending tongue portions included between the extremities of the 40 slits. The tongue portions are bent upwardly and then caused to extend through the transverse openings in end portions of respective blades, thus affording a convenient holding means by which the blades can be pulled along with the 45 strip.

Another feature of the blade package of the invention is a stop member centrally formed in one side of the sheath member and projecting upwardly into contact with the strip so that it lies in the path of movement of the reduced blade ends. Provision is made for holding the blades and strip firmly against the sheath by means of tabs located at opposite edges of the sheath. With this arrangement, as the strip is moved out 45 of the sheath, the reduced end of the foremost

blade is positively engaged against the stop member, and the tongue extending through the blade thereupon draws the engaged blade upwardly, pivoting it into an upright position. The blade is then easily detached from the strip, with the reduced end sliding out from between slotted portions of the strip and with the tongue falling away from the slot as the blade is pulled away.

These and other objects and novel features of the invention will be best understood and appreciated from the following description of the preferred embodiment selected for purposes of illustration and shown in the accompanying drawings, in which

Fig. 1 is a plan view of the razor blade pack of the invention in position for removal of the first blade;

Fig. 2 is a cross section taken on the line 2—2 of Fig. 1;

Fig. 3 is a cross section taken on the line 3—3 of Fig. 1;

Fig. 4 is a plan view of the sheath member with the blade carrier strip removed;

Fig. 5 is a cross section taken on the line 5—5, further illustrating the stop means formed in the sheath member;

Fig. 6 is a plan view showing the carrier strip removed from the blade sheath and further illustrating one blade interlocked with slotted portions of the strip;

Fig. 7 is a vertical cross section taken centrally of a razor blade pack indicating the position assumed by a blade when partly removed from the sheath;

Fig. 8 is another enlarged vertical cross sectional view indicating a further position assumed by a blade member during withdrawal of the carrier strip from the sheath; and

Fig. 9 is a vertical cross sectional view taken on the line 9—9 of Fig. 8.

The principal parts of the blade dispensing package shown in the drawings comprise a sheath which is open along one side to form a blade dispensing aperture, and a blade carrier member slidably supported in the sheath in a manner such that it may move blades into register with the blade dispensing aperture. The carrier member consists of a rectangular strip 10 of thin cardboard, plastic or any stiff but flexible material. Along its intermediate portions, the strip 10 is formed with a series of spaced-apart transverse slits 12 which are interrupted to define longitudinally extending tongue portions 14. The sheath is generally denoted by arrow S.

Blades 16, 18, 20, 22 and 24, as shown in the illustrated pack, are double-edged and each is further formed with a median slot 26. Each blade also has corner notches which define elongated unsharpened end portions denoted in the case of blade 16 for example by the numeral 30. The end portions are reduced in width relative to the body of the blade and the outline of the end portions is emphasized by employing notches of re-entrant contour. It will also be seen that the median slot 26 has spaced enlargements constituting openings 28 which extend transversely of the reduced end portions.

Each blade is separately attached to the strip by inserting one of its reduced end portions downwardly through a transverse slit in the manner indicated in Fig. 1 so that the blade is normally supported in the strip in an inclined position. From an inspection of blade 16 it may be seen that the shouldered portions of the blade engage upon uncut portions of the strip, with the re-

duced end portion 30 passing through the strip and lying at the under side thereof. In the inclined position of the blade which results, the tongue portion 14 is conveniently bent upwardly and engaged through the opening 28 as suggested in Figs. 1 and 7, thus locking the blade into the strip 10 so that it can be advanced along the sheath together with the strip.

The sheath member may be of any suitable material such as cardboard, plastic, thin metal and the like, and is formed with a slide supporting surface 29 and upstanding retaining edges 31 and 32 within which the carrier strip 10 is supported. The overall width of the supporting surface and retaining edges slightly exceeds the width of the carrier strip and the strip in turn exceeds in width the attached blades so that the cutting edges of the blades are at all times protected. At the right-hand end of the sheath member as viewed in Fig. 1, are two guide members 34 and 36, which comprise downwardly extending sections integral with, and resiliently engaged against the slide supporting surface of, the sheath. It will be observed that the remainder of that side of the sheath constructed with the guides is left open thereby defining and forming a blade dispensing aperture.

The strip and attached blades are normally packed between the flat face of the sheath and the guide members 34 and 36 in the manner illustrated in Figs. 1 and 2. It will be seen that the ends of the blades are bent over upon one another in longitudinally overlapping relation with each blade being held in a flexed position. The guides extend along the sheath for an appreciable distance, thus providing an enclosure for retaining the overlapping blade ends when the carrier strip is advanced into the initial position shown in Fig. 1. The free outer end of the carrier strip normally projects well beyond the sheath in the position shown in Fig. 1 and thus furnishes a convenient tab which can be grasped between thumb and finger for withdrawing the strip and blades from the sheath.

The slide supporting surface of the sheath is formed with a centrally located upwardly projecting stop member 38 which preferably consists of a portion of the sheath upset to provide a curved edge more clearly shown in Fig. 3. The stop is spaced away from inner ends of the guide members 34 and 36 a distance slightly greater than the length of one of the razor blades so that each blade in moving out of the sheath becomes disengaged from the guides 34 and 36 before the forward end of such blade reaches the region adjacent the stop. It will be noted further that stop 38 is arranged directly in the path of movement of the blade and positive engagement of its forward end is provided for by flexible holding elements comprising ears 40 and 42 which maintain the carrier strip flatly against the surface of the sheath. Since the forward end of the outermost blade shown extends through the strip, its leading edge is pressed down against the sheath by the restraining action of the carrier strip and this edge comes to rest against the stop. The stop thus cooperates with the strip and its interlocking tongues to arrest movement of the forward end of a blade coming into contact therewith while the respective tongue portions tip the rearmost portion of the blade upwardly, pivoting it into an erect position such as suggested in Fig. 9.

In assembling the razor blade pack of the invention, the blades are separately attached start-

ing at one end of the strip, with a reduced end being thrust through its respective slot and the included tongue being brought into interlocking relation with the blade end as indicated in Fig. 6. The several blades thus assembled are then forced down upon one another into longitudinally overlapping position and while in the resulting flexed position inserted in the sheath between the slide supporting surface and the guides. The free end of the strip is passed under the holding elements at the end of the sheath and if desired an outer wrapper or casing may be attached to the pack to seal the blades against dust, moisture, or other foreign matter.

When the user desires to secure a blade, he may conveniently grasp the sheath in one hand and with the other pull out on the free end of the strip. As this is done the first blade in the series passes out from under the ends of the guides 34 and 36 into register with the blade dispensing aperture of the sheath. Immediately the blade springs upwardly into a slightly stepped position as shown in Fig. 7. This is due to the restraining action of the strip which, in response to the pressure of the holding elements 40 and 42, is directed against the underlying reduced end of the blade with the result that a limited fulcruming action takes place, inducing an initial upward movement of the blade. In this slightly raised position, the blade is carried forward a very short distance until it trips against the stop member. As the forward edge of the blade comes to rest against the stop, the pull of the strip is transferred to the respective interlocking tongue which tips the blade, swinging it out through the blade dispensing aperture into an upright position as shown in Fig. 9. The blade may then be picked up between finger and thumb and slid out of the strip with the tongue readily falling away.

It will be noted that the spacing of the several blades in the series is so chosen that the next succeeding blade on the strip remains in engagement with the guides during the period that the outermost blade is being released and upended, thus leaving the remainder of the pack in a fully protected condition. To withdraw another blade, the cycle of operation above described is repeated with the strip being moved outwardly an additional distance.

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

1. A razor blade pack comprising a sheath member formed at one side with a blade dispensing aperture, a series of razor blades supported in the sheath, adjacent blades lying directly in contact with one another in longitudinally overlapping relation, a carrier strip engaged at spaced points along its length with the blades in a position to advance progressively the whole series of blades along the sheath into register with the blade dispensing aperture, and means in the sheath member for arresting successive blades when they are brought to the blade dispensing aperture by movement of the carrier strip.

2. A razor blade pack comprising a sheath member formed at one side with a blade dispensing aperture, a series of blades received in the sheath member, adjacent blades lying directly in contact with one another and in longitudinally overlapping relation, guide members located at one end of the sheath in position to maintain the overlapping ends of the blades substantially in face to face contact, and slide means engaged

with all the blades in position to selectively advance blades out of engagement with the guide members into register with the blade dispensing aperture.

3. A razor blade pack comprising a flexible and slotted carrier strip, a series of blades each inserted at one end in the strip in longitudinally overlapping relation with the next blade, a blade carrier sheath formed with a blade dispensing aperture and constructed and arranged to receive the carrier strip in a longitudinally movable position, guide members located at one end of the sheath for maintaining the overlapping ends of the blades substantially in face to face contact with each other and means for swinging the blades into upright position as they leave the blade dispensing aperture after moving out of engagement with the guide members.

4. A razor blade pack comprising a carrier strip of flexible material formed with transverse spaced-apart slits, a series of blades having reduced end portions extending through the slits to support the blades in a normally inclined position, a blade carrier sheath presenting a longitudinally extending guideway in which the carrier strip and blades are slidably received, said guideway being formed by side flanges of limited length overhanging the edges of the blades, and means for swinging each blade into an upright position as it is released by said flanges in the movement of the carrier strip.

5. A razor blade pack comprising a flexible carrier strip, a series of blades having their ends extending through slits in the strip and lying in longitudinally overlapping relation, a blade carrier sheath formed with a blade dispensing aperture and constructed and arranged to support the carrier strip in a longitudinally movable position, guide members located at one end of the sheath for maintaining the overlapping ends of the blades substantially in face to face contact, and stop means located centrally of the sheath in the path of movement of said blades for the purpose of upending consecutive blades after they have been moved out of engagement with the guides.

6. A razor blade dispensing pack comprising a flexible carrier strip formed with transverse spaced-apart slits, a series of double-edged blades having reduced end portions extending angularly through the slits to normally support the blades in stepped longitudinally overlapping relation, a blade carrier sheath provided with means for slidably receiving and guiding the strip and blades, said sheath including an offset stop portion spaced longitudinally from the guiding means and projecting into the path of movement of the blades on the strip and cooperating therewith to tip consecutive blades into an upright position during withdrawal of the strip from the sheath.

7. A razor blade dispensing package comprising a flexible carrier strip provided with transverse spaced-apart slits which define tongue portions, a casing member formed with a blade dispensing aperture and having means for slidably guiding the carrier strip therein, a series of blades having reduced end portions extending through the slits in longitudinally overlapping relation, tongue portions of the strip projecting upwardly through openings in the blades, and stop means arranged in the path of movement of the ends of the blades extending through the strip and spaced longitudinally from said guiding means and cooperating with the strip to pivot consecutive blades through the blade dis-

pensing aperture as the strip is withdrawn from the sheath.

8. A razor blade pack comprising a sheath member open at one side to provide a blade dispensing aperture, a series of razor blades supported in longitudinally overlapping relation within the sheath, adjacent blades lying directly in contact with one another, a transversely slotted carrier strip slidably received in the sheath and formed with tongue portions which extend into interlocking engagement with the blades while the blade ends project through the slits of the carrier strip, stop means arranged on the sheath in the path of movement of the blades of the series for arresting successive blades when they are brought to said blade dispensing aperture by movement of the carrier strip, and holding elements located at the end of the sheath adjacent said stop means for guiding the strip and blades into contact with the stop means.

9. A razor blade pack comprising a sheath member having a stop member formed at one side thereof, a carrier strip slidably supported in the sheath in sliding contact with the stop, a series of blades having reduced end portions inserted through slits in the strip, and means integral with the sheath for maintaining the strip in close proximity to the stop member and in position to engage reduced end portions of successive blades with the stop as they are drawn out of the sheath.

10. A razor blade pack comprising a casing formed with a blade dispensing aperture and strip guiding means, a flexible carrier strip slidably guided for movement in the casing, said strip having a plurality of spaced-apart transverse slits, portions of the strip included between the extremities of the slits being cut out to provide longitudinally extending tongues, a series of blades mounted on the strip in longitudinally overlapping relation, each of said blades having a reduced end portion which passes through one of the slits and rests against the under side of the strip, respective tongues of the slits received through openings in the blades and overlying the reduced end portions, and stop means located below the strip on the casing and longitudinally spaced from said strip guiding means in a position to engage the reduced end portions of successive blades as the carrier strip is advanced, said strip and stop means cooperating to raise consecutive blades into an erect position as the carrier strip is withdrawn from the casing.

11. A razor blade pack comprising a sheath member open at one side and having integral guide members for resiliently retaining blades, a carrier strip slidably supported in the sheath, a series of blades arranged in longitudinally over-

lapping relation and having reduced end portions inserted through slits in the strip, a stop element formed in the sheath and extending into contact with the under side of the strip, the stop element being spaced away from the integral guide members a distance greater than the corresponding length of one of said blades.

12. A razor blade pack comprising a sheath member presenting an opening at one side at least and having integral guide members located at one end of said opening for resiliently retaining blades, a carrier strip slidably received in the sheath, a series of blades having reduced end portions inserted through slots in the strip, a stop element formed in the sheath and extending into contact with the under side of the strip in the path of the inserted blade ends, the opening in the sheath being at least slightly larger than the entire surface area of a blade.

13. A razor blade dispensing package comprising an elongated carrier strip having a series of spaced transverse slits therein, a safety razor blade having a reduced end portion projecting a limited distance through each slit, a sheath having guiding flanges holding the bodies of the blades in longitudinally overlapping relation, and a stop spaced from the guiding flanges by more than the length of a blade and located in the path of movement of the blade ends projecting through the carrier strip.

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