Dec. 1, 1931. F. KYLBERG 1,834,284

PACKAGE FOR RAZOR BLADES

Filed Jan. 29, 1929

Fig. 1

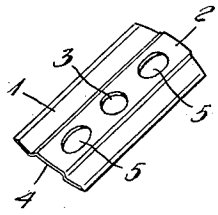


Fig. 2

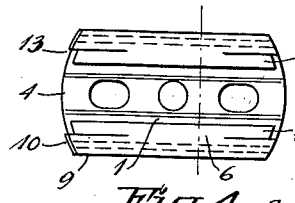


Fig. 3

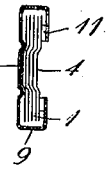


Fig. 4

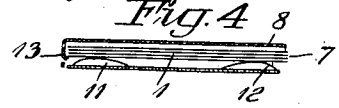


Fig. 5

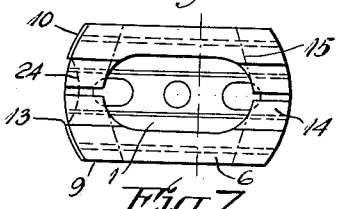


Fig. 6

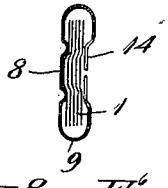


Fig. 7

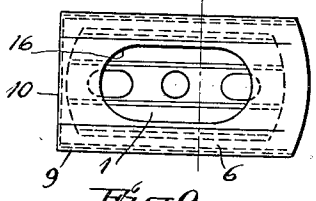


Fig. 8

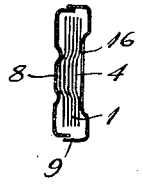


Fig. 10

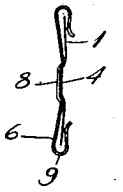


Fig. 15

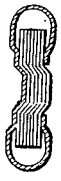


Fig. 9

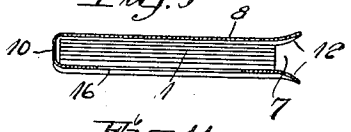


Fig. 11

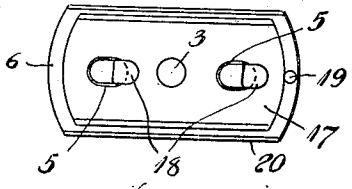


Fig. 13

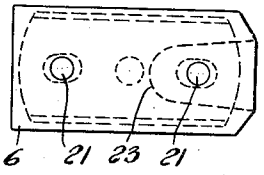


Fig. 16



Fig. 12

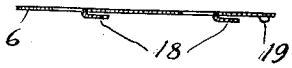


Fig. 14



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Patented Dec. 1, 1931

1,834,284

UNITED STATES PATENT OFFICE

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PACKAGE FOR RAZOR BLADES

Application filed January 29, 1929, Serial No. 335,937, and in Sweden February 10, 1928.

All known packages for razor blades suffer from the drawback that the blade edges are easily damaged on inserting the blades into the packages or removing them from the same. Even if the edges have been manufactured with the greatest care this offers no guaranty that the buyer of a blade will obtain it in a perfectly intact condition. Considering the present method of packing the blades, viz. by hand, the chances are that the razor blade will have been damaged long before it leaves the factory.

The present invention relates to a package where the razor blade edges are protected against damage during the insertion of the blades, it being possible according to the invention to effect the packing by machine. In addition one gains the advantage that the risk of damage during the transport of the razor blades and on their being taken out of the package will be considerably lessened.

The invention, which for its application is dependent on the razor blades being provided with holes, recesses, channels, abutments, elevations, ridges or the like, is essentially characterized in that the package for securing the razor blades to the same is provided with members engaging in the holes, recesses, channels or the like or embracing the abutments, elevations, ridges or the like.

To permit a convenient removal of the razor blades from the package the securing members of the package should be arranged so that the blades may be removed only by displacement preferably in a direction parallel to the edges. The package may then be devised so as to hold either a single razor blade or a varying number thereof in which latter case the blades should be provided on one side with ridges or the like extending in the longitudinal direction, and on the opposite side with corresponding channels or the like.

It is preferable that the razor blade or the pile of razor blades should be kept by suitable means in its displaced position which is most simply effected by a friction device. Such a device may either consist of springs disposed in the package and arranged to bear against the razor blade or the outmost blade of the pile, or the package may consist of thin, elastic material so that it is resilient by itself. The package, which is preferably made in the shape of an envelope, clamp or the like open at one or both ends, may in the last-mentioned case be provided with guiding members consisting of ridges, channels or the like, extending in the longitudinal direction and formed by means of pressing, rolling or the like. The blades may also be prevented from displacement in the package by their being made resilient.

In the attached drawings, Fig. 1 is a perspective view of a razor blade suitable for packing, whereas the other figures shown in the drawings represent different embodiments of a package manufactured according to the invention.

One of these embodiments is shown in Figs. 2, 3 and 4 viewed in plan, cross section and longitudinal section. Another embodiment is illustrated by Figs. 5 and 6, of which the former is viewed in plan and the latter in cross section. A third embodiment is shown in plan view, cross section and longitudinal section in Figs. 7, 8 and 9, a fourth in Fig. 10 in cross section, a fifth in Figs. 11 and 12 in plan view and longitudinal section, a sixth embodiment in Figs. 13 and 14, also in plan view and longitudinal section a seventh embodiment in Fig. 15 in cross section, and an eighth embodiment in Fig. 16 in cross section.

The razor blade 1 has on one side a longitudinal ridge 2 extending over the whole length of the blade. On the opposite side of the blade there is a corresponding channel 4 formed on making the ridge 2 by pressing or rolling the razor blade blank of uniform thickness. The razor blade is further shown to be provided with a central hole 3 as well as with two holes 5 serving to guide the blade normally in the shaving apparatus. Such a blade permits by suitable shape of the ridges 2 and channels 4 the piling of a plurality of razor blades on one another so that they support themselves in the transversal direction, each ridge being suituated in a corresponding channel of the adjacent blade. A pile thus formed will have on

one of its outer sides a longitudinal ridge extending over the whole length of the outer blade and on its other outer side a corresponding channel 4, all edges being situated in two planes parallel with each other.

Such piles are shown in Figs. 2–9 to be inserted in packages 6 of elastic sheet metal, which are provided for the purpose with openings 7 at one end, through which openings the pile is inserted, as well as with internal channels 8 at one side, said channels extending in the longitudinal direction of the package and being arranged so as to form guiding members for the ridge 2 on the outer side of the pile of blades. The packages are moreover devised in such a manner that their edges 9 extending parallel to the blade edges will be situated at a suitable distance from the latter edges, so that these are not damaged on the blades being inserted into or removed from the package.

In the embodiment shown in Figs. 2–4, where the package is made in the shape of an envelope or the like provided with a bottom 10, the pile of blades is kept secured in its inserted position by means of friction by springs 11 engaging one of the outer sides of the blade pile, said springs being formed preferably by cut up portions, arranged at the longitudinal edges of the envelope, which for the purpose in view may be positioned on a certain distance from each other. The insertion of the blades will be facilitated if the ends of the springs are further provided with suitably bevelled portions 12 or the like. In order to permit the removal of one blade at a time from the package the distance between the longitudinal edges of the envelope should be chosen so that the uppermost razor blade may be conveniently actuated by pressure from outside. In consequence of the described effect of the springs the latter, independently of the height of the pile, may keep and protect not only the original number of blades inserted but also the minor number which may be left in the package after some of the blades have been withdrawn. Such a package can thus protect all razor blades up to the moment when the last blade is removed from its package.

The insertion of the razor blades into the envelope is preferably effected by machine and by a member displaceably arranged on the same from a store consisting of bigger piles, the insertion taking place in a direction coinciding with the longitudinal direction of the blades or the ridges and channels. This insertion will be facilitated, if the bottom 10 is provided with a suitably arranged opening 13 through which the springs 11 may be actuated from the bottom side by means of a plunger or the like driven by the machine in such a manner that the springs are shoved aside on the insertion of the blade pile into the package.

The package according to the embodiment shown in Figs. 5 and 6 conforms essentially with the above described embodiment. The substantial difference consists in that the package 6, made in the shape of an envelope, is here manufactured of so thin material that the envelope obtains by itself proper elasticity for keeping the inserted razor blade secured. One outer side of the package 6 is shown in this embodiment with an opening for actuating the razor blades from the outside, said opening comprising only the middle portion of the one side, whereby the blade pile is kept between one side of the envelope and four abutments 14 arranged on the other side. In order to render the resilience more suitable, if desired, these abutments may be varied as to their form, for instance, by means of cut up portions or the like 15.

The modification in Figs. 7–9 shows a package made in the shape of a clamp, the elasticity of which is concentrated substantially to the bottom 10 of the package. The blades are thus in this case kept secured between the two shanks of the clamp, one of which shanks is provided with a channel 8 for guiding the blades in the transversal direction, and the other with an opening 16 for the removal of the blades. One or both of the shanks should further be provided with the longitudinally extending edges 9 for protection of the blade edges, said edges being preferably formed by bending the longitudinal edge portions of the shanks upwards. For the insertion of the blades the ends of the shanks are moreover preferably provided with a rounded or bevelled portion 12 or similar.

Figs. 10–14 demonstrate packages which are especially adapted for packing each blade per se. Fig. 10 shows such a package, consisting of a plate of relatively rigid material and provided with a channel 8 cooperating with the ridge 2 of the razor blade. The longitudinal edges of the plate are bent, so that the edges of the blade are embraced by the same, and the blade edges are situated at a suitable distance inside each bent edge 9, said bent edges being so arranged relatively to the channel that the elastic blade alters its shape during the insertion so that it will assume the position shown in the figure, whereby it will be kept by the package in its inserted position. The same result may be obtained if the piate is arranged to actuate the blade so that the latter assumes a bent form in the longitudinal direction.

In Figs. 11–14 similar packages are shown, which are contemplated for razor blades 17 which have no ridges or channels but which are provided with holes 3 and 5. The blades are in such cases secured to the package 6 by means of members engaging in the holes 5, said members consisting according to Figs. 11 and 12 of laps 18 formed and bent out of

plate 6 constituting the package, said laps being arranged in such a manner that the razor blade 17 is kept against the plate at the holes 5. In order to prevent unintentional falling out of the razor blade the plate 6 may preferably be provided with a button 19 etc. arranged in such a manner, that the one end surface of the blade will be situated inside the same. In such a case the resilience of the blade itself may be sufficient to permit the insertion of the blade over the button. The longitudinal edges of the plate may, if desired, be bent in angles as shown in the drawing at 20 in order to better protect the edge.

Figs. 13 and 14 show a package 6, which simply consists of thin flexible material in the form of a band, yet having sufficient firmness, in which are provided two abutments 21 or the like engaging holes 5 of the razor blade, so that the blade when located on the same can be kept in its position by bending the band at the two ends of the blade as shown in the drawing. It may be preferable to provide the band with holes 22 corresponding to the abutments 21 and arranged in such a manner that the abutments at the bent portion pass through the same, the band at its free end being formed as a lap 23 or the like. The opening of this package takes place quite simply by pulling the lap 23 so that the blade becomes accessible and may be removed from the pins 21 or the like. The material of the package may evidently consist, for instance, of card-board or the like of thin quality in which case the fastenings of the razor blade may be made in a simple manner after the blade has been put into place in the package, by making impressions or the like from outside into the card-board at the holes, the bending having been effected.

It is evident that also the packages in Figs. 10–14 may very well be arranged to hold a plurality of blades although they are most adapted for protecting single blades. The shown embodiments may also be varied in many respects. Thus the opening 16 for removing the blades from the package may very well be substituted by a perforation arranged at the bottom and sides of the envelope, for instance, in the manner shown at 24 in Fig. 5. The guiding members arranged in the package are also subject to certain variations. Thus the guidance of the razor blades may be effected by ridges on one inside of the package, said ridges cooperating with a channel or channels in the adjacent blade of the razor blade pile. Such an embodiment is shown in Fig. 15. The guidance may be brought about by a ridge or ridges arranged on one inside of the package and by a channel or channels corresponding to the ridges and arranged on the other inside. Such an embodiment is shown in Fig. 16. Preferably the package should, however, in every case be arranged so that at least one of the insides, which is provided with guiding members, will be unperforated in order to obtain the best guidance possible of the razor blades in the transversal direction of the same.

What I claim is:—

1. A package for razor blades of the type in which one side of the razor blade is provided with a ridge and the opposite side with a corresponding channel, including a member guiding the ridge of the blade, and means for holding by friction the blade in its place.

2. A package for razor blades of the type in which one side of the razor blade is provided with ridges extending in the longitudinal direction and the opposite side is provided with corresponding channels, including members guiding the ridges of the razor blades, and means for holding by friction the razor blades in a pile.

3. A package for razor blades of the type in which one side of the razor blade is provided with a ridge extending in the longitudinal direction along the whole length of the blade and the opposite side with a corresponding channel, including a member guiding the ridge of the blade, means for holding by friction the blade in its place, and said guiding member extending along the whole length of the package.

4. A razor blade package comprising a sheet metal casing, the lateral portions of which are adapted to grasp over the lateral parts of the blades, and the main portion forming the bottom of which has a longitudinal part forming a ridge on the one side of said bottom and a corresponding channel on the other side of the said bottom and adapted to engage a corresponding ridge on the one side of the blade.

5. A razor blade package, comprising a sheet metal casing, the lateral portions of which are adapted to grasp over the lateral parts of the blades, and the main portion forming the bottom of which has a longitudinal part forming a ridge on the outside of said bottom and a corresponding channel on the inside of the said bottom and adapted to embrace a corresponding ridge on the one side of the blade, and means whereby the blade is held by friction in said casing.

6. A razor blade package, comprising a sheet metal casing, the lateral portions of which are adapted to grasp over the lateral parts of the blades, and the main portion forming the bottom of which has a longitudinal part forming a ridge on the outside of said bottom and a corresponding channel on the inside of the said bottom and adapted to embrace a corresponding ridge on the one side of the blade, said casing being opened at the one end and at the one side.

7. A razor blade package, comprising a casing, the lateral portions of which are adapted to grasp over the lateral parts of the blades, and the main portion forming

the bottom of which has a longitudinal part forming a ridge on the outside of said bottom and a corresponding channel on the inside of the said bottom and adapted to embrace a corresponding ridge on the one side of the blade, the casing being made of thin elastic sheet metal, and adapted to hold the blade in place by its own resiliency.

8. The combination of a pile of razor blades, each being provided with a corrugation extending from the one to the other end of the blade, and a sheet metal casing in the form of an elastic clamp, the main portion of which has a longitudinal part adapted to engage the adjacent blade, while the lateral parts of the casing are formed so as to grasp over the lateral parts of the pile of blades.

9. A razor blade package comprising a sheet metal casing, the lateral parts of which are adapted to grasp over the lateral parts of the blades and the main portions forming the bottom of which has a longitudinal part, forming a ridge on the inside of said bottom and a corresponding channel on the outside of the said bottom and adapted to be embraced by a corresponding ridge on the one side of the blade, and means whereby the blade is held by friction in said casing.

In testimony whereof I affix my signature.

FOLKE KYLBERG.