

June 5, 1956

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2,748,979

RAZOR BLADE MAGAZINES

Filed Dec. 27, 1951

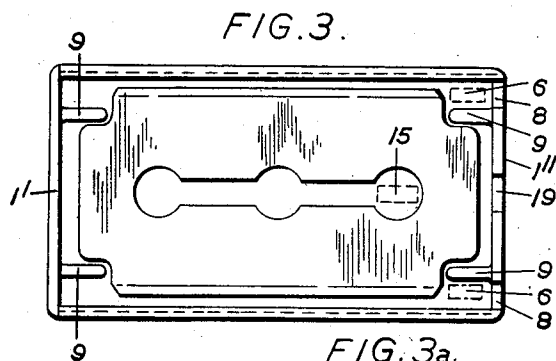
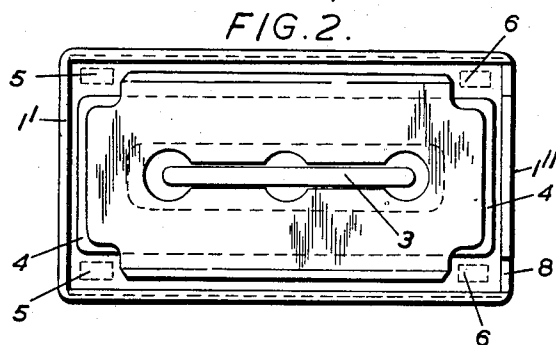
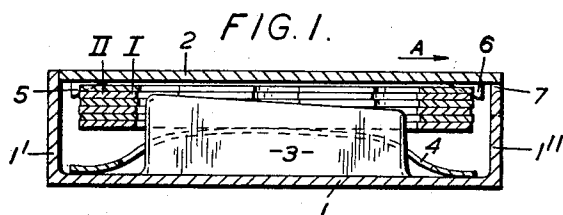
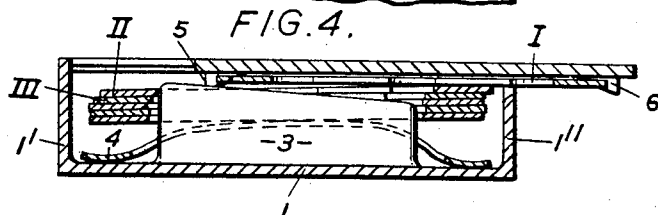
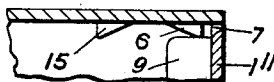


FIG. 3a.



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2,748,979

RAZOR BLADE MAGAZINES

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Application December 27, 1951, Serial No. 263,543

4 Claims. (Cl. 221-229)

The present invention relates to a magazine for safety razor blades which ejects and presents the blades to the user for complete withdrawal of one blade at a time.

Although magazines of this type should be filled by the manufacturer and delivered to the consumer as a complete package so as to guarantee the perfect condition of the delicate blades, the fact must also be taken into consideration that many consumers use a blade two or more times and wish to return it to the magazine after use.

In designing a magazine of the type referred to the following further considerations must be borne in mind: The magazine should dispense one blade at a time only. The withdrawal should be easy. During storage in the magazine and while being slid out of it, the blades must not touch anything with their delicate cutting edges lest these be spoiled. Magazines should be closed all around and be presented to the purchaser as a closed package into which no moisture can penetrate.

As far as possible, the contact of the blades with moist fingers should be avoided, human fingers being always moist.

When withdrawing a blade the likelihood or contingency of cutting the withdrawing finger must be positively excluded.

There are known magazines of the type referred to which hold the blades in a stack wherein the blades are in alternately staggered relation, and from which they are ejected alternately from opposite ends of the magazine.

There is no doubt that the known magazines of this type are quite suitable, although not all above requirements are met, but the staggered arrangement of the stack unduly increases the length of the magazine. Moreover the magazines of this type cannot be opened and freshly loaded by a consumer, should he so wish. Finally the known magazines present certain difficulties in manufacturing them. These articles are usually made from plastics, and it is known that the moulds for this manufacture represent a considerable investment. Now the known magazines require quite complicated moulds. Thus in designing the magazine according to the present invention, attention has been paid to this particular point. A magazine according to the present application can be moulded in relatively simple and inexpensive moulds. It is therefore the object of the present invention to provide a blade magazine of inexpensive and simple construction.

It is a further object of the invention to provide a magazine which is not substantially longer than a razor blade.

Yet another object of the invention is to provide a magazine which can be delivered by the manufacturer as a sealed package, but which permits, once the seal is broken, the withdrawal and reinsertion of a blade.

The invention will now be described with reference to the annexed drawing showing the new magazine:

In Fig. 1 in a lateral elevational section,

In Fig. 2 in a top view, with cover removed,

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Fig. 3 is a like view of a slightly modified construction, while Fig. 3a shows in a fractional side view a detail of a construction exemplified by Fig. 3.

Fig. 4 is a side view, in section of the construction according to Figs. 1 and 2, a blade being just ejected.

The magazine is formed by a flat rectangular box 1, substantially of the size of a razor blade. This box has two head walls—a rear one 1' and a front one 1''. A sliding cover 2 is provided on the box, abutting against wall 1'.

On the bottom of the box and extending centrally lengthwise is a rib 3 with a sloping upper edge. Its highest point is near wall 1' where its distance from the cover of the box is equal to the thickness of a blade. A flat spring 4 is placed on the bottom of the box. This spring has a central slot through which rib 3 emerges. A stack of blades is placed in the box, their central longitudinal slots being engaged by the rib 3.

On the lower side of cover 2 are arranged at its end normally near wall 1' two wedge-shaped studs 5, while two like studs 6 are provided at the opposite end.

Wall 1'' is lower than the other walls of the box. Thus a gap or slot 7 is created between the upper edge of wall 1'' and cover 2. The edge of wall 1'' is rounded towards the inside of the box. Two notches 8 are provided on the upper edge of wall 1'', permitting the wedges to pass when the cover is slid out. The function of the magazine in the ejection of blades will be understood from the following and from a glance at Figs. 1, 2 and 4. The spring 4 urges the whole stack upwards against the cover 2. All blades are secured against lateral displacement by being held on rib 3. Only the uppermost blade is clear of the rib 3, but is in frictional contact with the underlying stack from below and with the cover from above. The cover 2 is now slid for about half its length in the direction of the arrow A. Wedges 5 will engage with their oblique faces the free uppermost blade marked I and push it out of the container 1. The blade passes out through slot 7 and its passage is positively aided by the edge of the slot being rounded against the oncoming blade, thus facilitating its passage.

Now the blade I which by now has assumed the position shown in Fig. 4 can be drawn off the underside of the cover 2, by hand, passing smoothly over the wedge faces of studs 6.

As soon as the blade I is withdrawn, the next one in the stack marked II, takes its place, urged by spring 4 against the underside of cover 2.

It will be clear to everyone skilled in the art that although a fair measure of correctness of the dimensions can be attained in manufacture of articles from plastics, it might nevertheless happen that while blade I is slid out, blade II is taken along as well for a short distance until it is stopped by rib 3, being held thereon. This distance varies with the length of the longitudinal slot in the blades of different makes. So blade II will have been moved out of its proper place and this might cause an undesirable effect; it could perhaps be ejected together with blade III. To avoid this I have provided studs 6. When after the ejection of blade I the cover 2 is slid back into its normal position, the oblique faces of studs 6 will push blade II back into its place on top of the stack. Fig. 4 shows just this possibility. Blade I has been slid out so far that it can be drawn off, and blade II has been slightly displaced. This will obviously be corrected in the way described when the cover is slid back into the position shown in Fig. 1.

When a blade slides out it glides with its elongated unsharpened end portion over the rib 3; it is clear that the friction between the blade end and the top of the rib has a certain braking effect. In order to eliminate this and facilitate the movement of the blade, rib 3 is sloping,

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as explained above. Thus the distance between its top and the cover increases with the progress of the blade on its way onwards.

Rib 3 can be shaped to fit exactly into a longitudinal slot of specific shape. Thus it could be assured that only blades of a specific make are used in the magazine.

In Figs. 1, 2 and 4 the blade positioning means have been shown as a central rib. In lieu of this there could be arranged four studs 9, rising from the bottom of the receptacle 1 and extending from its end wall 1' and 1'', as shown in Fig. 3. These studs are positioned to lie in the notched corners of the blades and keep the unsharpened end portions of the blades between them. To be sure, these positioning means can be used only with blades having notched corners. The studs 6 for correcting the proper order of the blades in the stack, if this has been disturbed, would come to lie at the places indicated in Fig. 3.

Fig. 3 shows yet another possible variation which may be combined with one or the other blade positioning means. In lieu of studs 5 shown in Fig. 1, one such stud 15 could be provided on the underside of cover 2 near the front end of the blade, engaging with its wedge face the front of the longitudinal central slot. The relative position of studs 15 and 6 is shown in Fig. 3a. If stud 15 is provided, a corresponding notch 19 must be made in wall 1'', to permit the passage of the stud.

What I claim is:

1. In a magazine for dispensing razor blades having blade locating edges, said magazine comprising bottom, front, rear and side wall portions to define a compartment, a top closure for said compartment, means within said compartment for locating and maintaining a stack of blades therein in substantially vertical registration with the shaving edges thereof parallel to and spaced from the adjacent side wall portions, and including yieldable means beneath the stack for elevating it to engage the topmost blade of the stack with the inner face of the top closure, said front wall portion having a blade discharging passageway aligned substantially with the topmost blade of the elevated stack and of a height about that of the blade thickness, the combination having at the rear of said

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top closure on its inner face engaging means for the rear end portion of the topmost blade comprising depending wedge shaped studs having oblique wedge faces each forming an obtuse angle to the inner face of the closure turned toward the blade discharging passageway to project said oblique wedge faces in the leading position in engagement with the topmost blade, said studs having the peak portion thereof extending for a distance greater than the thickness of a blade for advancing the topmost blade through the passageway, the wall defining said passageway faced toward the leading edges of said studs being rounded.

2. A magazine for safety razor blades in accordance with claim 1 wherein said closure is provided adjacent the leading edge thereof with complementary depending wedge shaped studs having oblique faces directed toward the middle of the container.

3. A magazine in accordance with claim 1 wherein said bottom includes upstanding means to hold the stack in a position spacing the cutting edges clear from the side walls, the upper edge of said upstanding means being spaced below said closure by at least the thickness of a blade.

4. A magazine in accordance with claim 1 wherein said bottom includes upstanding means to hold the stack in a position spacing the cutting edges clear from the side walls, the upper edge of said upstanding means being spaced below said closure by the thickness of a blade adjacent the rear wall portion, said upstanding means decreasing in height toward passageway.

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