March 2, 1943. N. TESTI 2,312,453

MAGAZINE FOR SAFETY RAZOR BLADES

Filed Feb. 7, 1942

Fig. 1

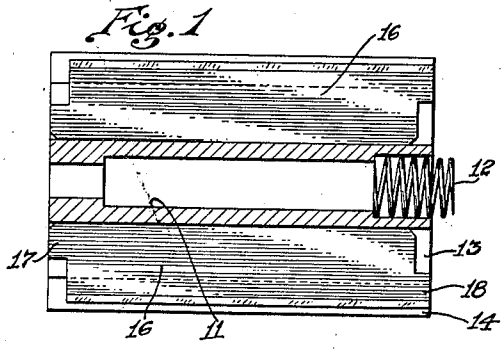
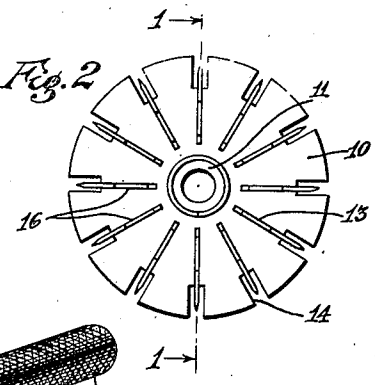


Fig. 2



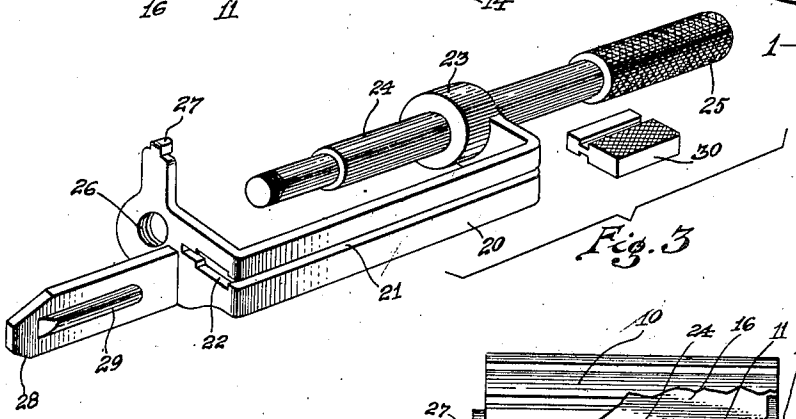


Fig. 3

Fig. 4

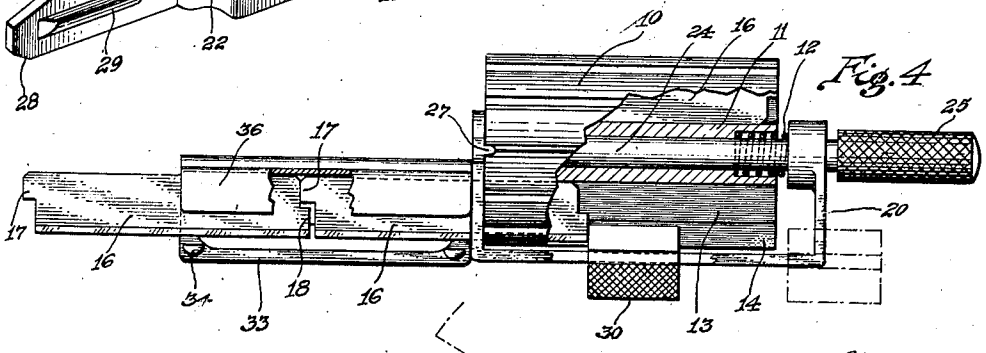


Fig. 5

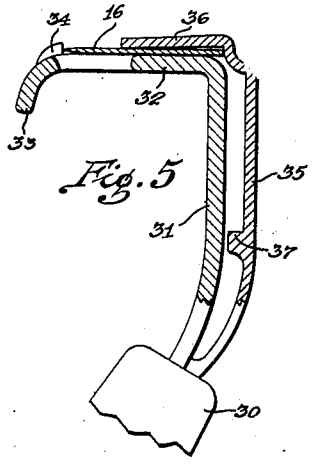


Fig. 6

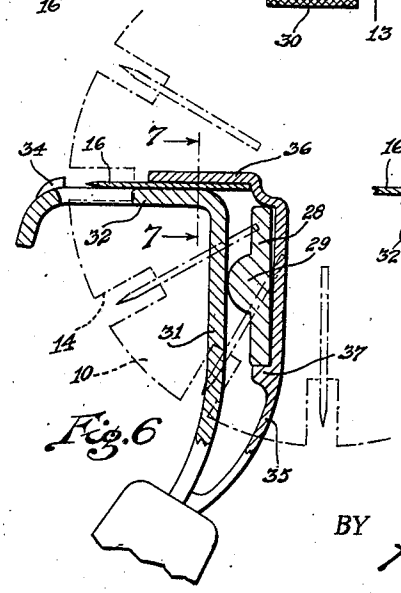
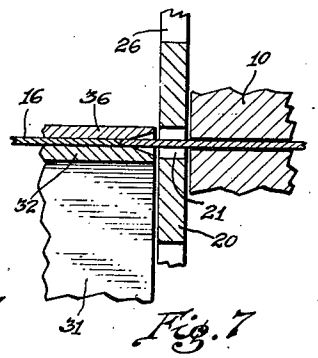


Fig. 7



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MAGAZINE FOR SAFETY RAZOR BLADES

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Application February 7, 1942, Serial No. 429,852

11 Claims. (Cl. 30—40)

This invention consists in an improved rotary magazine for safety razor blades, including a holder constructed and arranged to be detachably secured to a safety razor when it is desired to deliver a blade thereto and to be detached so that the razor may be used for shaving without the obstruction and added weight of the magazine.

The attempt has been made heretofore to combine a rotary magazine with a safety razor as part of the permanent razor organization, but this combination has not been successful because the weight and bulk of the magazine has proved an intolerable annoyance to the user in manipulating the razor for shaving. Moreover, in such a permanent organization the blades in the magazine are likely to become wetted in flushing the razor. An important feature of the present invention consists in a rotary magazine structure, constructed and arranged to be temporarily secured to the safety razor only during the operation of supplying a fresh blade and to be entirely removed so that it thereafter has no connection with the safety razor. One object of the invention is to provide an improved magazine and holder which may be used in this manner and the various mechanical features of my invention hereinafter pointed out contribute to that desirable end.

As herein shown the body of the magazine consists in a cylinder of wood or other suitable material provided with radial slots opening through the end walls of the cylinder so that the individual blades may be delivered to and withdrawn from the cylinder by endwise movement. The holder for the magazine cylinder is preferably provided with indexing means for locating the cylinder with one or another of its blade-containing slots in line with the blade seat of the razor and if desired for separating the blade-clamping members of the razor itself so that a used blade may be conveniently ejected and a new sharp blade supplied without danger either to the user or to the keen edge of the blade.

Another feature of the invention consists in a holder having a movable blade-feeding device and a rotatable magazine, together with indexing means operative to lock the magazine in any desired angular position for the delivery of a selected blade by endwise movement and simultaneously to register the magazine properly with reference to the blade-feeding device so that the particular blade selected may be engaged and advanced. The invention contemplates a novel relationship between a cylindrical magazine and a blade-feeding device movable in a fixed path, the construction and arrangement being such that when one compartment of the magazine is indexed to register with the blade seat of the razor the same compartment is indexed to register with the said blade-feeding device.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawing, in which:

Fig. 1 is a view of the cylindrical magazine body in longitudinal section;

Fig. 2 is a corresponding end view;

Fig. 3 is a view in perspective of the magazine holder, separate from the razor;

Fig. 4 is a plan view partially in section showing the magazine and its holder in operative relation to a safety razor;

Fig. 5 is a view of the razor head in cross-section and on an enlarged scale, showing a blade clamped in shaving position;

Fig. 6 is a similar view showing the blade released by wedging action of the magazine holder; and

Fig. 7 is a fragmentary sectional view on a larger scale taken on line 7—7 of Fig. 6 showing a blade in process of delivery to the blade seat of the razor.

The cylindrical body 10 of the magazine may be constructed of Balsa wood or moulded of resinous composition such as Bakelite or of any other suitable material adapted frictionally to retain the blades in place. The magazine cylinder as shown in Figs. 1 and 2 is provided with a shouldered bore 11 having an enlarged chamber in one end for a helical compression spring 12 whose function is to hold the cylinder yieldingly in place longitudinally upon a spindle fitted within the bore 11 to support the magazine for rotary movement as will be presently described. The cylinder is provided with a series of radial grooves 13 herein shown as twelve in number. Each of the radial slots 13 terminates in a wider channel 14 opening into the circumferential surface of the cylinder and both the slot and channel open through both end walls of the cylinder.

The shape and arrangement of the slots may be adapted to the type of blade which is to be handled. As herein shown the blade is a flat single-edged blade in an order of .006" to .012" in thickness. It has end edges unsymmetrically formed, that is to say, as seen in Fig. 1, the left-hand end of the blade has a projection 17 in its

rear portion, including the rear unsharpened edge of the blade, and the right-hand edge has a projection 18 in its forward corner which includes a portion of the sharpened blade edge. Stated from a different standpoint, the blades may be said to be recessed at diagonally opposite corners.

The magazine holder, as best shown in Fig. 3, comprises a main frame 20 having a longitudinal slot 21 and parallel end arms extending at right angles to the body of the base. The slot 21 is carried around into the left-hand arm to provide a blade passage and in both arms are provided enlarged or widened portions 22 which affords clearance for the endwise passage of a grooved feed slide 30. The right-hand arm of the frame 20 is extended into a cylindrical boss 23 in which is formed a bearing for the spindle 24. At its left end the spindle is shouldered and provided with a threaded portion of reduced diameter while its outer end is enlarged into a knurled handle portion 25. The left arm of the frame 20 is provided with a threaded hole 26 in line with the bearing in the boss 23 and otherwise shaped to receive and make threaded connection with the reduced and threaded end of the spindle 24. This arm also carries a laterally extending branch provided with a detent 27 shaped to enter and hold the magazine cylinder in the desired angular position when rotated to index one of the blade-holding slots in alignment with the blade seat of a razor. Projecting outwardly from the same arm is an elongated external finger 28 provided on one side with a rounded rib 29 having an outer bevelled end and being in general parallel to the spindle 24 and located below the slot 22.

The magazine body 10 may be handled separately as a package for dispensing twelve blades at a time and may be filled by the manufacturer by inserting the requisite number of blades in the slots 13 as indicated in Fig. 2. The filled magazine may then be assembled in its holder by disengaging the threaded end of the spindle and retracting it toward the right as suggested in Fig. 3. When the magazine has been properly positioned the spindle may be advanced through the bore 11 and threaded into engagement with the left-hand end of the frame. The spring 12 tends at all times to move the cylinder 10 yieldingly toward the left on its spindle so that when one of the slots is turned into registration with the detent 27 the latter will enter the slot and lock the cylinder accurately in predetermined angular position. It will be noted that the slots are of sufficient depth to receive the blades 16 with their outer edges entirely within the cylindrical surface of the magazine thus being safely bestowed from all danger of contact and providing sufficient clearance so that the detent 27 may be received without contacting the blade edge.

In Figs. 5 and 6 is shown a sufficient portion of one type of safety razor only, of the many with which the illustrated magazine may be used, so that the manner in which the magazine co-operates with the razor will be understood. The razor comprises a handle 30 having a two-part head consisting of a rigid bar or plate 31 of metal bent forwardly at its upper end to form the blade seat 32 of the razor and provided at its forward end with a downwardly curved guard 33 which may be either solid or in the form of a bar or teeth as preferred. A spring member 35 of somewhat similar shape also projects from the handle 30 and is bent forwardly at its upper end to form a blade clamp 36 located above the blade seat. The blade seat is provided at its two forward corners with lugs 34 which engage the corners of the blade and position it accurately in shaving position. The spring member 35 tends always to move forwardly into the position shown in Fig. 5, engaging the rear unsharpened edge of the blade 16 and advancing it until its corners contact with the blade stops 34.

The right-hand ends of the blade seat 32 and of the blade clamp 36 are bevelled as shown in Fig. 7 to facilitate the entrance of a new blade. Upon the inner vertical face of the spring member 35 is provided a transversely extending guide shoulder 37. This is so arranged as to support and guide the lower edge of the finger 28 of the magazine holder when the latter is forced into position between the members 31 and 35 of the safety razor head and the magazine holder thus temporarily connected to the razor head. In Fig. 6 the finger is shown in this inserted position and it will be noted that the spring member 35 has been displaced rearwardly releasing the blade 16 from contact with the blade stops 34 and freeing the blade so that it may be easily removed in an endwise direction. In Fig. 6 a portion of the magazine cylinder is indicated in dot-and-dash lines and it will be understood that the cylinder is locked by the detent 27 with one slot 13 held in alignment with the surface of the blade seat 32 so that a blade 16 may pass directly from its slot in the cylinder to and upon the blade seat.

The feed slide 30 constitutes a convenient means for advancing a blade from its retaining slot. This operation is indicated in Fig. 4 from which it will be seen that the slide 30 is free to move longitudinally in the slot 21 of the holder, that its inner end fits freely in any one of the enlarged channels 14 while its outer knurled portion is conveniently located for engagement by the user. The detent 27 not only indexes the cylinder 10 in respect to the blade seat but also in respect to the feed slide 30.

When it is desired to rotate the cylinder the feed slide 30 is moved into its extreme right-hand position as indicated in dot-and-dash lines in Fig. 4. In this position it entirely clears the cylinder 10. The cylinder is then moved toward the right against the compression of the spring 12 sufficiently to disengage it from the stationary detent 27 and, when so positioned, the operator may freely turn the cylinder so as to bring the selected slot into alignment with the blade seat of the razor located at the end of the cylinder and the feed slide located opposite its circumferential wall. When the cylinder is released it is automatically moved toward the left and located when in the proper angular position by the detent 27. The feed slide is then moved toward the left engaging a blade by its projection 18 at the right-hand end of the blade and moving the fresh blade endwise out of the cylinder, through the slot 22 and into the space between the blade seat 32 and the blade clamp 36 as shown in Fig. 7.

In this movement the rear projection 17 on the left-hand end of the blade engages what is in effect a recess in the right-hand end of the used blade as clearly shown in Fig. 4. This matching or interlocking engagement of the blade ends facilitates effective engagement of the two blades at a point somewhat within the right-hand edge of the razor, that is, the projection 17 passes freely a short distance into the razor before it engages the used blade. This entering movement is facilitated by the flaring entering

surfaces of the razor parts and at the same time all danger of overlapping and consequent jamming of the blades is obviated because they do not make contact except in the narrow portion of the passage.

An important feature of the invention consists in the combination of the narrow inner slots **13**, the wide channels **14** in which they terminate, and the feed slide **30** wider than the blade and practically filling the channel **14** in which it travels. The fact that the feed slide is substantially wider than the blade it engages avoids danger of jamming and reduces cost of manufacture by allowing increased manufacturing tolerance in the magazine mechanism.

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

1. A magazine for thin sharp-edged blades, comprising a holder, a cylinder mounted for rotary movement in the holder and having a plurality of radial slots opening through the ends of the cylinder, each slot adapted to hold a blade, and means guided by the holder for removing a blade from the cylinder by endwise movement.

2. A magazine for thin sharp-edged blades, comprising a holder having a projecting member for insertion between the blade-clamping members of a safety razor, a magazine cylinder mounted in the holder, and feeding means carried by the holder independently of the safety razor for advancing a selected blade from the cylinder to the razor, the holder thereupon being detachable with the magazine cylinder as a complete unit leaving the blade in the safety razor.

3. A magazine for thin sharp-edged blades, comprising a holder having a longitudinally slotted cylinder rotatably mounted therein, a longitudinal guide member adjacent to one side of the cylinder, a blade-feeder mounted thereon, and means for locking the cylinder in predetermined blade-delivering position and with one of its slots in alignment with the blade-feeder.

4. A magazine for thin sharp-edged blades, comprising a holder having a longitudinally slotted cylinder rotatably mounted therein, a longitudinal guide member extending along and beyond one side of the cylinder, a blade-feeder movable on the guide member in engagement with the cylinder and to a disengaged position beyond the cylinder, and means for temporarily locking the cylinder with a slot in one end of the cylinder in predetermined angular position and at the same time with the circumferential opening of the same slot opposite the said blade-feeder.

5. A cylinder magazine for sharp-edged blades having radial blade slots opening through both ends of the cylinder with each slot merging into a wider channel at the side of the cylinder, each slot adapted to hold a blade which projects therefrom into said channel in combination with a guided blade-feeding device filling said channel and movable endwise therein to advance the blade that projects into said channel.

6. A magazine for thin sharp-edged blades, comprising a holder having upstanding arms, a slotted cylinder journaled to turn between the arms of the holder, one of said arms being slotted and provided with an external finger for temporarily connecting the magazine to a safety razor, and a blade-feeding device movable in the holder to advance any selected blade from the magazine through the said slotted arm and into a safety razor engaged by said finger.

7. A magazine for thin sharp-edged blades, comprising a holder having spaced arms, a spindle therein, a slotted cylinder journaled on the spindle, one of the arms having a blade opening opposite the end of the cylinder, a detent on said arm, a spring tending to move the cylinder and detent into engagement, and a feed slide movable in the holder and simultaneously in one of the cylinder slots.

8. A magazine for thin sharp-edged blades, comprising an elongated holder with angular arms supporting a spindle therebetween, a cylinder mounted for rotary and longitudinal movement on the spindle, an external finger projecting from one of the holder arms, and a slide movable endwise in the holder only when the cylinder is turned to register one of its slots therewith, and means independent of the slide for locking the cylinder in position to deliver a blade in a path substantially parallel to the said external finger.

9. A magazine for safety razor blades having unsharpened end edges recessed in diagonally opposite corners, comprising a radially slotted cylindrical body, each slot adapted to hold a blade, each blade being disposed with the recess in the same end adjacent to the axis of the said body, and feeding means movable in contact with the unrecessed corner of one blade after another.

10. A magazine for sharp-edge blades, comprising a holder and a rotatable cylinder therein; the holder including an elongated longitudinally slotted frame with parallel outturned arms, a spindle removably mounted in said arms, and a detent and an external locating finger carried by one of the arms; the said cylinder being rotatable on the spindle and radially slotted to provide blade pockets, each slot widening into a channel in the surface of said cylinder for receiving said detent, said cylinder being recessed in one end to provide a concentric chamber, and a spring in said concentric chamber tending always to move the said cylinder on its spindle into engagement with said detent.

11. A blade magazine comprising a solid cylindrical body provided with narrow blade-receiving slots radially disposed therein, each slot widening into a channel in the surface of said body.

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