

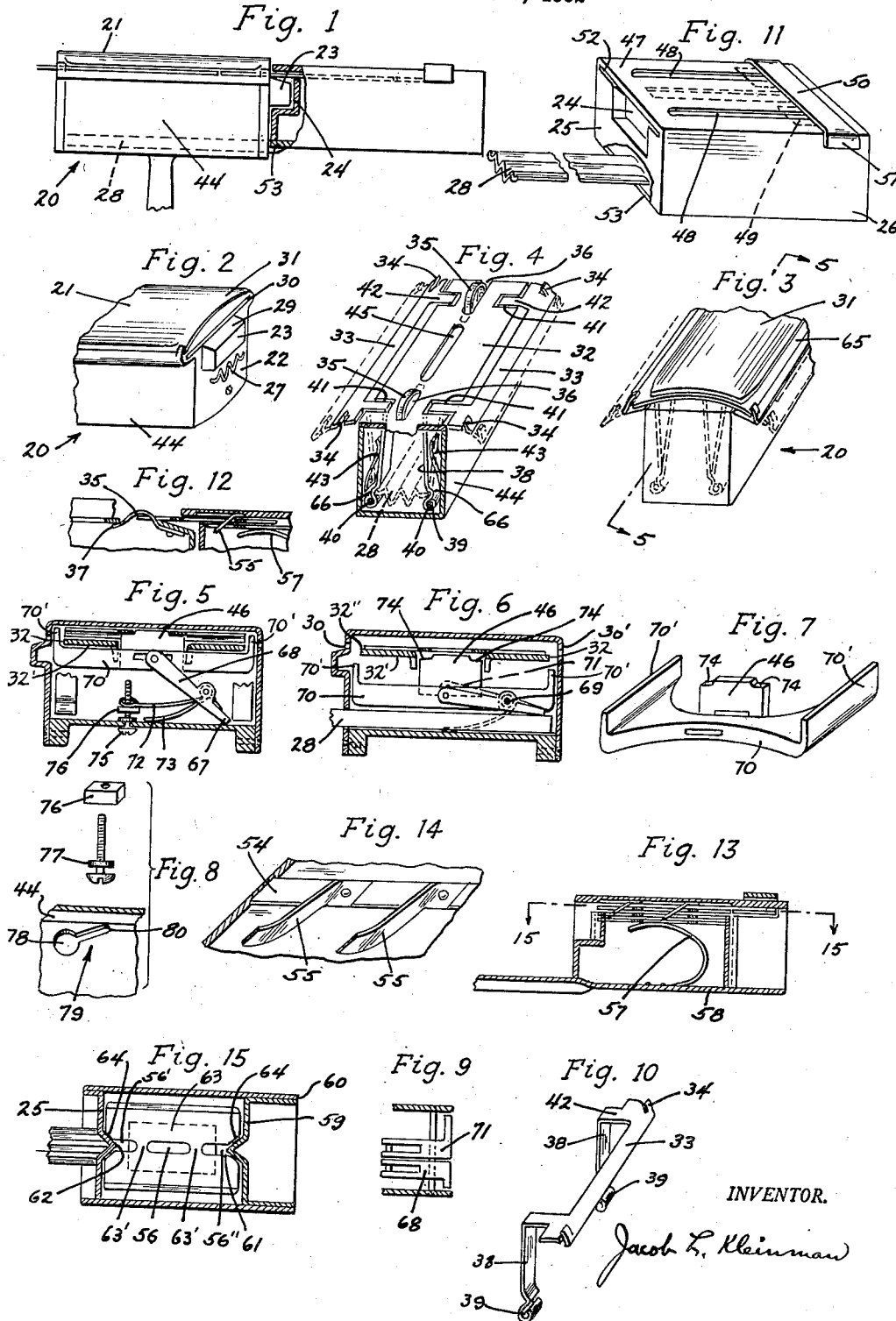
Feb. 4, 1958

J. L. KLEINMAN

2,821,779

MAGAZINE SHAVING IMPLEMENT

Filed Feb. 4, 1952



1

2,821,779

MAGAZINE SHAVING IMPLEMENT

Jacob L. Kleinman, Arverne, N. Y.

Application February 4, 1952, Serial No. 269,782

11 Claims. (Cl. 30—40)

This invention relates to the construction of shaving implements in general and more particularly to a type known as a magazine razor, which is constructed in a manner wherein the blades are fed from the magazine directly into the razor head and held in position in a locked manner.

My novel construction is capable of being utilized in connection with various types of shaving implements, but particularly so with a type of an injector razor adapted to hold a blade having a double cutting edge.

In accordance with my invention, I produce a shaving implement comprising a razor head having a seat for holding a razor blade having two cutting edges wherein the guard sections are adjustable with respect to said seat and such cutting edges, and wherein the head structure is provided with adjustable means for flexing the blade upon its seat to tilt the cutting edges into desired position for shaving purposes, and with means normally blocking the removal of the blade from its seat or the insertion of a succeeding blade and with a wall portion having a zig-zag or corrugatedly shaped slot for a finger of similar shape to be inserted therethrough into the interior of the razor head to move the guard sections away from the seat and from the cutting edges of the blade and to move the blocking means into a non-blocking position permitting the removal of the blade from its seat or the insertion of a succeeding blade, and upon the retraction of such finger from the slot the blocking means will revert back to its normal locking position and the guard sections will adjust their positions with respect to the cutting edges of the blade.

To illustrate the ordinary commercial utility of my novel shaving implement in daily life, a shaving implement constructed in accordance with my invention, of whatever style or type it may be made, could be utilized to great advantage; it is a well known fact that the head structure of the present type injector razor comprises two separate members, one having a seat for the blade and the other forming a blade cover, so that when a magazine finger is placed within the space between these two members, these members will flex away from each other moving the cover away from the seat for placing a blade upon the seat, but instead of a magazine finger, a screw driver, nail or the like can easily be placed within the space between these two members, moving the cover away from the seat so that a foreign blade can be inserted by hand into the head structure without the use of a blade magazine feeder, especially so when the razor head is not provided with blocking means to prevent such blade insertion. Such foreign blades are usually constructed in a defective manner and of inferior quality, and are known as bootleg blades; they do not function in a satisfactory manner and are apt to bring about hazardous after shaving effect. The average shaver is an ordinary layman who does not know the manner in which razor blades are constructed and cannot judge blade quality, and therefore buys such defective blades ignorant of the danger involved especially when a quick

2

shave is desired. It is an object of the present invention to protect such inexperienced layman and shield him against possible shaving injuries by preventing the use of such inferior and defective blades. It can therefore be seen that a shaving implement constructed in accordance with my invention will prevent the use of defective blades and will therefore eliminate the hereinbefore mentioned features and protect the user against hazardous shaving effects, and instead such user will derive the full benefit of superb shaving performance, especially so because applicant's structure provides a double edge magazine injector razor using a double edge blade, thus providing the user with a maximum of shaving comfort to an extent whereby such shaving implement would become an indispensable item with the user and therefore quite valuable to the trade commercially.

There is, therefore, thus produced, in accordance with my invention, a shaving implement comprising a head structure for using a blade having two cutting edges, wherein said structure is provided with means normally blocking the removal of the blade from its seat or the insertion of a succeeding blade, thus eliminating the use of foreign blades, protecting the user against persuasion to buy blades which may be made of inferior material or constructed in a defective manner, and guarding the user against possible injuries or hazardous after shaving effects, and wherein the cutting edges of the blade are shielded against injuries while such blade is being moved from the magazine into the razor head thereby affording the user double means for quick and satisfactory shaving.

Thus, a shaving implement made in accordance with my invention comprises a properly constructed razor head and a removable blade magazine built in a practical manner, such shaving implement affording a long sought for superb shaving performance. It can be used with considerable ease and provides great satisfaction and comfort to the user. It is believed that such a shaving implement can be utilized to great advantage and therefore prove quite valuable commercially.

The variety of possible applications of my novel construction with different types of razors, as hereinabove indicated, is so prolific that for the purpose of illustrating the invention the specific embodiment of my invention in its application to a shaving implement exhibiting the greatest difficulties has been selected. Such a shaving implement is one which necessarily must conform most rigidly to the contours of the portion to be shaved and one which has the field of greatest possible commercial use. For this purpose I have selected for illustration a shaving implement constituting a magazine feeding type razor so that the principles of construction may best be illustrated in a razor known as a magazine razor or shaving implement.

For a fuller understanding of the nature and objects of the invention reference is had to the following detailed description together with the accompanying drawing, in which:

Fig. 1 is a side elevation of a magazine in position within a razor, a front part of one wall of the magazine being broken away;

Fig. 2 is a perspective view of one end of the head of the razor, the rest being partly broken away;

Fig. 3 is a perspective view as seen from one end of the razor, the rest being partly broken away and the dotted lines representing the movement of the guards of the razor;

Fig. 4 is a perspective view of the head of the razor with the cover removed;

Fig. 5 is a longitudinal sectional view taken through line 5—5 of Fig. 3 showing the pivoted lever in downward position that is, while the projecting corrugated

finger of the magazine has not been inserted into the razor;

Fig. 6 is similar to Fig. 5 except that the corrugated finger of the magazine has been inserted showing the pivoted lever in its upward position;

Fig. 7 is a perspective view of the slot closing member and its disconnected blade centralizing member;

Fig. 8 is an exploded view of a portion of the floor showing a slot and the screw and nut for insertion into said slot and for adjusting the tension of the spring which is associated with it;

Fig. 9 is a top view of the pair of pivoted levers shown on their pivot with the opposed walls partly broken away;

Fig. 10 is a perspective view of one of the guard members;

Fig. 11 is a perspective view of the magazine and its projecting corrugated finger for insertion into the razor;

Fig. 12 is an elevational view partly in section of the upper portion of the magazine and razor showing the spring means for centrally holding the blade during its movement through the front portion of the magazine and the front portion of the razor;

Fig. 13 is a side longitudinal elevational view of the magazine shown in Fig. 11;

Fig. 14 is a perspective view of the spring means positioned on the bottom face of the top of the magazine for holding the blades centrally with respect to the magazine during the ejection of the blades; and

Fig. 15 is a sectional view taken through line 15—15 of Fig. 13 with part of the corrugated finger broken away.

Referring to Fig. 1, numeral arrow 20 indicates a razor head having a top or cap 21 for covering the upper part of a razor blade, the razor head being adapted for housing a double edged razor blade. The front wall 22 of the razor has a projecting member 23 which is adapted to fit within the recessed portion 24 formed in the front wall 25 of the magazine 26. Wall 22 of the razor is provided with a horizontally formed zig-zag or corrugatedly shaped slot 27 located in any suitable position, for example, beneath the projecting member 23 for receiving a corrugatedly shaped finger 28 of the magazine 26. Directly above the sloping top 29 of the projecting member 23 there is a horizontal slot 30 to permit entrance within the razor of the uppermost blade of the magazine 26. The cap 21 of the razor is arcuately formed to permit the flexing of the blade 63 within the head structure of the razor when such blade 63 is forced upwardly by the shoulder portions 74 of the centralizing member 46. Within the head structure of the razor there is a platform 32 having an under face 32' and an upper face 32'', said upper face 32'' forming a seat upon which the blade is seated. On either side of the platform 32 there is a pair of opposed guards 33 which are caused to move in opposite lateral directions with respect to the seat 32'' when the corrugated finger 28 is inserted within the corrugated slot 27. At opposed ends of the guards 33 there are stops 34 to engage the end portions of the cutting edges of the razor blade within the razor. Secured within the front and rear of the razor there are centrally disposed opposed spring members 35 positioned along the longitudinal medial line of the razor, the said springs 35 protruding upward through the slots 36 of the platform. The end portion 37 of the spring 35 rests against the underside of the platform 32, thus controlling the upward movement of the spring. Guards 33 are formed with depending legs 38 and have openings 39 at the lower ends thereof for receiving pivot pins 40. The platform 32 has two pairs of opposed slots 41 for guiding the upper portions 42 of the guards. In order to hold the guards in their normal position, two pairs of opposed springs 43 are provided, the said springs being attached to the inside of the side walls 44 of the razor 20. The platform 32 is also provided with a slot 45 located centrally along

the longitudinal medial line of the razor to permit the blade centralizing member 46 to pass therethrough.

Referring to the magazine structure, this magazine is adapted to house double edged blades and has a top 47 having two longitudinal opposed slots 48 within which a pair of feeding members 49 move. Attached to the top of feeding members 49 there is a fingerpiece 50 which moves along the top 47 and has depending opposed flanges 51 for guiding the fingerpiece and the feeding members on the magazine. The front wall 25 is recessed and has a horizontally disposed slot 52 directly beneath the top 47 to permit the uppermost blade to pass from the magazine to the razor. Projecting from the bottom 53 there is a horizontal corrugated finger 28 and beneath the longitudinal medial portion of the top 47 there is a groove 54 within which is positioned a pair of spring elements 55 which are adapted to be positioned within the longitudinal slots 56 of the blades of the stack of razor blades within the magazine so that the blades cannot shift laterally, thus preserving the cutting edges of the blade during movement of the blade at the time it is being ejected. A spring member 57 is attached to the bottom 58 of the magazine which creates a forward pressure upon the stack of blades so that the uppermost blade is always in position to be ejected from the front of the slot.

In the magazine there is a rear wall 59 which is spaced inwardly from the rear edge 60 of the magazine so that there is ample space for the feeding members 49 and the fingerpiece 50 to move behind the stack of blades within the magazine in order to permit the feeding members 49 to engage the rear edges of the uppermost blade for the purpose of ejecting such blade. The rear wall 59 has a vertical ridge 61 running up to just below the uppermost blade in the magazine for aiding in the alignment of the stack of blades to prevent lateral movement of the stack of blades, thus ensuring against marring of the cutting edges. The front wall 25 has a similar vertical ridge 62 of sufficient height to act for the same purpose upon the front of the stack of blades as the ridge 61.

By inserting the corrugatedly shaped finger 28 within the slot 27, the projecting member 23 will fit within the recessed portion 24, thus aligning the slot 52 of the magazine with the slot 30 of the razor, thus preventing lateral movement of the magazine and ensuring perfect alignment of the slot and thereby permitting the uppermost blade to move freely into the razor without any danger of marring the cutting edges of the blade. The sloping top portion 29 of the projecting member 23 guides the front edge of the uppermost blade into the slot 30 of the razor. During the ejection of the uppermost blade from the magazine, the spring members 55 guide the uppermost blade against lateral movement and when the front of the blade enters the slot 30 of the razor, the spring 35 falls within the front slot 56' of the blade so that it is also guided within the razor and ensures against lateral movement of the blade, thus eliminating any danger of marring the cutting edges. During the ejection of the uppermost blade from the magazine, the spring members 55 are lifted from the leading slot 56 and ride over the bridges 63 of the blade and then springs 55 fall into the succeeding openings 56'' of the blade. It should be noted that the front and rear slots of the blade have tapered corners 64 so that when the leading edge of the blade enters the razor through slot 30, the tapered corners 64 will locate the adjacent spring 35 which will guide and position the blade centrally within the razor.

It should also be noted that when the guards 33 are in normal position, the stops 34 engage the end portions of the cutting edges of the blade 65 as best seen in Fig. 3 so that the cutting edges are in their proper relation with respect to the front edge of the guards 33. When the corrugatedly shaped finger 28 is inserted within the razor in order to remove the used blade and insert a new blade,

the finger 28 will engage the opposed curved portions 66 of the legs 38 and force the legs 38 and guard 33 outwardly away from the seat and from each other, thus releasing the blade 65 from the grip of the stops 34. When the finger 28 is completely within the razor, the fingerpiece 50 is then moved towards the razor, ejecting the uppermost blade from the magazine and injecting the new blade into the razor head and while this action is taking place, the used blade 65 is simultaneously ejected by such incoming blade. This form of structure assures proper relation of the cutting edges of the blade 65 with respect to the front edges of the guards 33. The fact may be pointed out (for explanatory purposes) that the cross-sectional width of razor blades are not all of the same size, they differ in size for various reasons, for example, a long strip of razor steel can not be uniformly hardened, while being heat-treated, throughout its full length; the blades of such strip of steel are therefore not all of the same spring temper, so that during the grinding process more steel may be removed from the edges of the blade which is of a weaker spring-temper than that of the blade which is of a stronger spring-temper, thus a blade of a weaker spring-temper may be of a lesser size in width cross-sectionally than the cross-sectional width of a blade of a stronger spring-temper. It can therefore be seen that my movable guard portions 33 which are movable independently of the blade seat and are provided with stops 34 for engaging the end portions of the cutting edges of the blade 65 are a very important contribution to the art of making razors or razor blade holders. The stops 34 will always hold the front edges of the guards 33 in proper relation with respect to the cutting edges of the blade 65 regardless of the size of the cross-sectional width of the blade.

The member or movable element 70 (which is positioned underneath the under face 32' of the platform 32) is provided with upwardly projecting portions 70'. These upwardly projecting portions 70', when in normal shaving position, block the removal of a blade from the head structure or the insertion of a blade into the head structure. When the corrugated finger 28 is being inserted into the head structure through the space, slot or opening 27 the leading edge of such finger will, while being moved inwardly, engage the lower portion 67 of the lever 68 and cause such lever 68 to pivot about the pivot, element or pin 69 and draw the movable element or member 70 with its upwardly projecting portions 70' downwardly, thereby clearing the front slots 30 and 30'; and, simultaneously therewith, pivoting the opposed lever 71 which in turn will draw downwardly the blade centralizing member 46, thereby removing the uppermost end portion of such member 64 from the slot 56 of the blade 63, thus clearing such slot 56 and permitting the removal of the blade 63 from the head structure of the razor or the insertion of a blade within such head structure, and upon the removing of the finger 28, the spring elements 72 and 73, the upper ends of which press upon the end portion 67 of the levers 68 and 71, will cause the upper portions of the said levers to rise and carry with them the movable element and its slot closing portions 70' and also the blade centralizing member 46 to their uppermost position, in which case the end portions 70' will pass the platform or seat 32 and also the blade thereon until they reach the cap structure 21, and the upper portion of the centralizing member 46 will enter the opening 56 of the blade 63 holding such blade centrally located within the head structure of the razor, thus effectively closing the slots 30 and 30' and also flexing the blade within the razor by the shoulders 74 of the member 46 engaging and pressing upwardly the bridge portions 63' of the blade 63, thereby flexing the blade to the desired position shown in Fig. 3.

The tension and the flexing of the blade within the razor can be adjusted to the desired curvature and posi-

tioning of the cutting edges by turning or rotating the screw 75 which holds the terminal or spring 72. It should be noted that the nut 76 is held by the inside face of one of the walls 44 against rotation so that nut 76 will travel up or down by the turning of the screw 75, thus adjusting the tension of the spring.

The screw 75 is provided with a shoulder 77 and is inserted through the large opening 78 of the slot 79 and is then moved into position in the portion 80 against the wall 44 and is held against movement by the terminal loop of spring 72.

It is naturally understood that the disclosures herein are for illustrative purposes only and not for limitation purposes, it is therefore obvious that various changes and modifications may be made in the details of construction and arrangement of parts without departing from the general spirit of the invention.

I claim:

1. A shaving implement comprising a head structure and a handle, a platform for a double edged razor blade within said head structure, movable guards associated with said head structure, said guards having means for engaging the end portions of each of the cutting edges of said blade to hold said blades in position and to gauge the space between each of said cutting edges and the outer edge of its adjoining guard when said guard is in normal position, movable means for flexing said blade within said head structure to tilt said cutting edges into desired position for shaving purposes, in combination, a finger, said finger insertable between said movable guards and engageable with said movable means for moving said guards and said movable means out of their normal position for the removal of said blade from the said platform and the replacing of a fresh blade, and upon the removal of said finger said movable means and said guards reverting back to normal position tilting the cutting edges of the blade into desired position and properly gauging said edges away from the outer edge of said guard for shaving purposes.

2. A shaving implement in accordance with claim 1, including a magazine housing a stack of blades, said finger projecting from the front of said magazine, spring means at the bottom of said magazine for exerting an upward pressure upon said blades, an opening in the front of said magazine for ejecting blades from said magazine, and a pusher on said magazine for ejecting the uppermost blade in said magazine.

3. A shaving implement in accordance with claim 1, in addition to slots in said platform and opposed springs attached to said razor along the longitudinal medial line, said springs projecting through said slots for guiding and positioning the blade centrally within the razor.

4. A shaving implement in accordance with claim 1, wherein said guards being pivoted at the lower portion of said head structure, and two pairs of opposed springs exerting pressure upon said guards urging same towards each other for the said means to engage the end portions of the cutting edges of said blade.

5. A shaving implement in accordance with claim 4, wherein said guards each have a pair of depending legs, the terminal of said legs being pivoted and a longitudinal groove adjacent said terminals for receiving the opposed edges of said finger.

6. A shaving implement in accordance with claim 1, wherein said platform has a pair of opposed slots adjacent each end for guiding said guards in their lateral movements.

7. A shaving implement in accordance with claim 1, wherein said head structure has a pair of opposed horizontal openings for a blade to pass therethrough, a slot closing member and a blade centralizing member both movable vertically.

8. A shaving implement in accordance with claim 7, wherein said slot closing member and said blade central-

izing member are movable by a pair of pivoted levers, said levers being actuated by said finger.

9. A shaving implement in accordance with claim 8, wherein the base of said head structure has an adjustable screw for adjusting the said blade centralizing member to change the angle of the cutting edges.

10. A shaving implement in accordance with claim 7, wherein said platform has a pair of end slots and a central slot along the longitudinal medial line of said platform, said central slot permitting said blade centralizing member to pass therethrough, said blade centralizing member having a pair of shoulders for exerting upward pressure upon the blade within the head structure.

11. A shaving implement in accordance with claim 1, wherein the front of said head structure has a horizontal slot for receiving blades, a projecting member for aiding in the positioning of said razor against a magazine, said

projecting member having a sloping top for guiding the uppermost blade from said magazine into said horizontal opening, and a corrugated slot beneath said projecting member to receive a corrugated finger within said head structure.

References Cited in the file of this patent

UNITED STATES PATENTS

10	1,823,976	Gaisman	Sept. 22, 1931
	1,859,083	Gaisman	May 17, 1932
	2,327,388	Auerbach	Aug. 24, 1943
	2,587,380	Polynice	Feb. 26, 1952
	2,654,149	Bowen et al.	Oct. 6, 1953
15	2,683,929	Auerbach	July 20, 1954
	2,686,967	Laudwehr	Aug. 24, 1954