June 22, 1943. J. HOLTZMAN 2,322,443

SHAVING EQUIPMENT

Filed Dec. 22, 1941 2 Sheets-Sheet 1

Fig. 1.

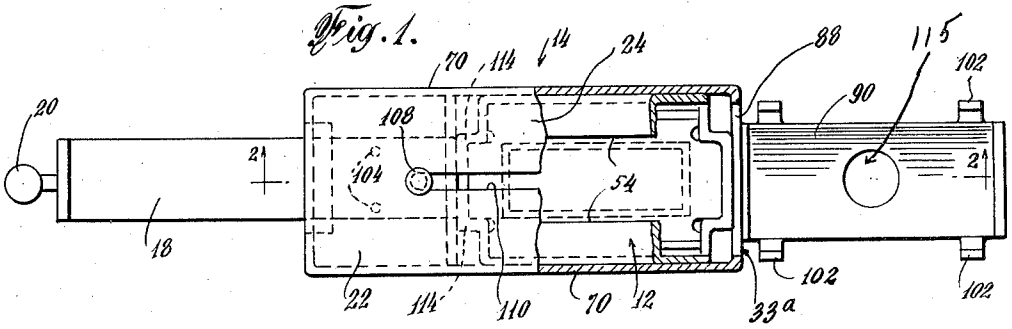


Fig. 2.

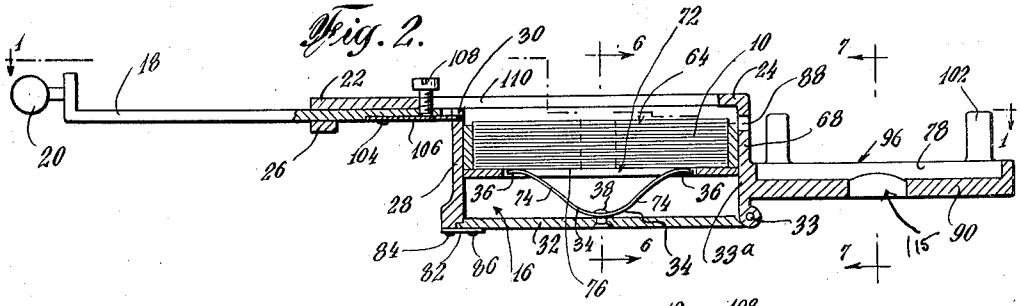
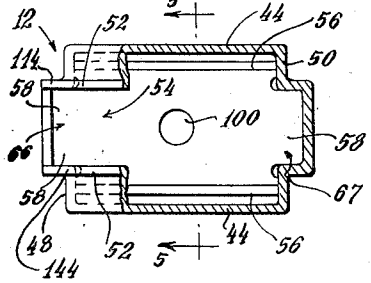


Fig. 4.



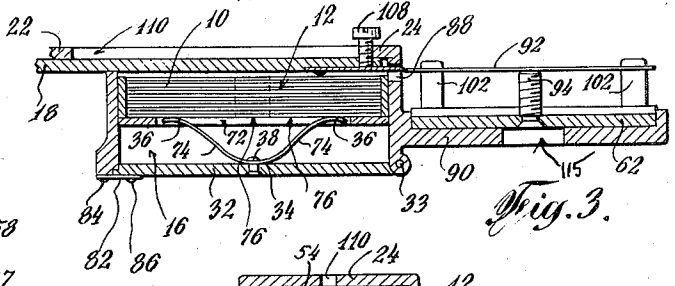


Fig. 3.

Fig. 6.

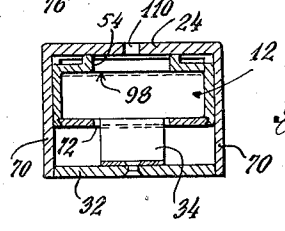


Fig. 5.

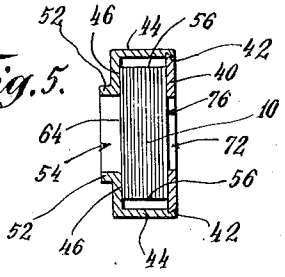
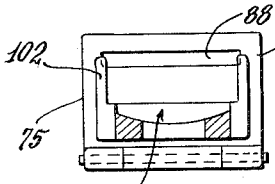


Fig. 7.



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Fig. 8.

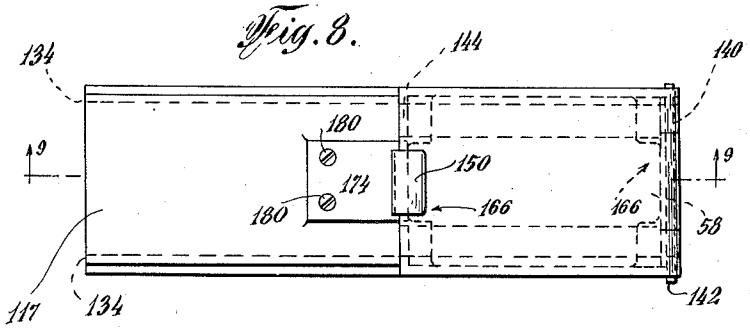


Fig. 9.

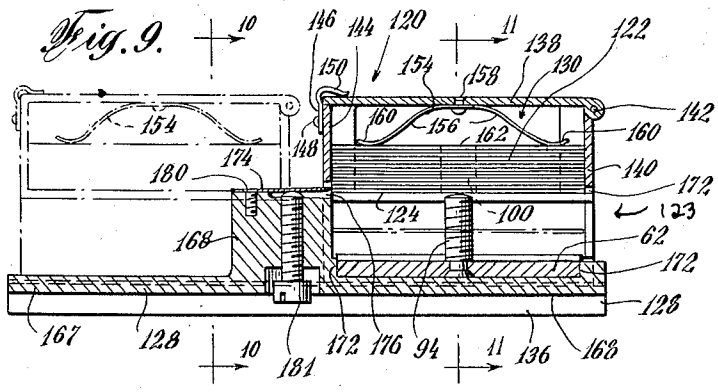


Fig. 10.

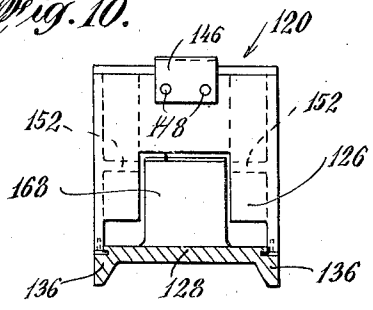


Fig. 11.

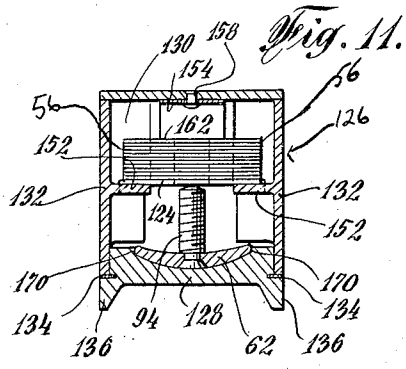


Fig. 12.

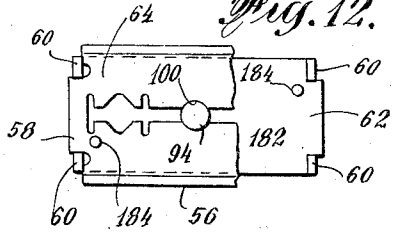
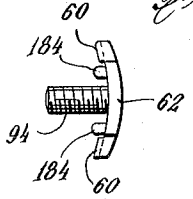


Fig. 13.



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UNITED STATES PATENT OFFICE

2,322,443

SHAVING EQUIPMENT

John Holtzman, New York, N. Y.

Application December 22, 1941, Serial No. 423,869

36 Claims. (Cl. 30—40)

This invention relates to a combined blade magazine and blade transferring means for a safety razor.

The invention contemplates the provision of a magazine containing a pile or stack of blades and which magazine is arranged so that the blade holder of a razor may be detachably carried on the magazine in position to receive a blade transferred from the pile or stack by a loading means on the magazine.

The invention further contemplates the provision of a separable case or container for a pile or stack of razor blades which may be placed in the casing of a magazine in position adjacent a blade transferring means thereon to transfer a single blade at a time from the pile or stack held in the case or container.

The invention still further contemplates the provision of adjustable blade transferring means designed to effect the transfer from a pile or stack of razor blades of a single relatively thin blade onto the blade holder of a razor.

The invention still further contemplates the provision of a magazine casing having means thereon for temporarily detachably carrying or supporting a razor blade holder in position to receive a blade transferred to it from the magazine.

The invention still further contemplates the provision of a razor blade and cooperating blade holder properly intended for use with my combined blade magazine and transferring means and which will prevent the use therewith of blades not manufactured in accordance with the proper construction.

To enable those skilled in the art so fully to comprehend the underlying features of my invention and other and further objects thereof so that they may embody the same in any modifications in the structure and relative arrangement of the parts thereof contemplated by my invention, as a part of this disclosure, drawings depecting certain forms of my invention have been annexed hereto, in which drawings

Fig. 1 is a plan view, on the line 1—1 of Fig. 2, of a combined magazine casing, blade transferring means and blade holder carrying or supporting platform according to my invention.

Fig. 2 is a section of the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary view similar to Fig. 2 and illustrating the blade transferring plunger at the inner position of its stroke with a blade in position to be received on a blade holder.

Fig. 4 is a plan view of the separable case or container for a pile or stack of blades according to my invention, the top wall partially broken away to disclose the pile or stack of blades contained therein.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Fig. 6 is a section on the line 6—6 of Fig. 2.

Fig. 7 is a section on the line 7—7 of Fig. 2.

Fig. 8 is a plan view of a modification of my combined magazine casing, blade transferring means and blade holder supporting platform.

Fig. 9 is a section on the line 9—9 of Fig. 8, the razor blade case or container being illustrated at the outer position of its stroke in broken lines.

Fig. 10 is a section on the line 10—10 of Fig. 9.

Fig. 11 is a section on the line 11—11 of Fig. 9.

Fig. 12 is a plan view of a blade holder and associated blade intended for use with a magazine according to my invention.

Fig. 13 is an end view thereof.

Referring now to the drawings, I have there illustrated my invention as used with thin wafer like double-edged blades, such as the "Gillette" type, and their corresponding blade holder, though it will be understood that I do not intend to be limited thereto.

In one modification of my invention, such as illustrated in Figs. 1 to 7, a stack or pile 10 of blades may be packed in a separate case or container 12 therefor (see Figs. 4 and 5). Such a case or container, if desired, may be packed with a selected number of blades by the blade manufacturer and sold as an individual or single article of commerce for insertion into and use with the combined blade transferring or razor loading magazine 14.

It is well known that the edge of a razor blade, even though most perfect, may be rendered imperfect and its shaving qualities impaired by merely touching the edge thereof with the finger or with any other object.

It will be further recognized that necessity of handling the blades in loading conventional razors is a serious disadvantage as accidents frequently occur due to the careless handling of such blades, when transferred from the wrapper onto the blade holder, particularly by unskilled persons.

Further, for use with conventional razors, blades were heretofore wrapped as single articles or were singly accessible for transfer by hand from the package in which they were sold. As a result, such sharp edged blades were thereby made available to children, who might injure themselves, a condition totally avoided, when the blades are sold, packed in a container such as

my case 12 for use with a magazine here concerned with.

My improved magazine 14, therefore, is provided with an interior compartment or chamber 16, in which the case or container 12 may be stored for use, and which magazine is provided with means for holding or supporting a razor blade holder in position to receive a blade transferred from the case 12 by blade transferring means, all to be hereinafter described, so that the razor blade is never handled, until it is cleaned or thrown away.

The blade transferring means comprises the plunger or ejector 18, provided at one end with the knob or handle 20 and which plunger is mounted on the apron 22, extending from the top wall 24, which covers the magazine compartment or chamber 16.

The plunger 18 is illustrated in Fig. 2 at the outermost position of its stroke, whereat it is withdrawn from or clear of the inner chamber 16 and is suspended at its intermediate part on the channel forming cross-piece 26 extending down from the apron 22.

The inner end of the plunger, which will be described in further detail, is supported on the front end wall 28 and upon operative blade transferring movement enters the slot 30 formed therein immediately under the top wall 24 of the magazine.

In operation, the magazine 14 is loaded with a stack or pile of blades by inserting a case or container 12 through the bottom of the magazine up against the top wall 24.

For this purpose, the bottom wall 32 is hingedly, as by means of the pivot 33, secured to the rear end wall 33a and may be swung about the pivot 33 to thereby open the magazine and provide access to the inside of the chamber 16, so that a case 12 packed with razor blades may be inserted thereinto or a new case substituted for one from which all of the blades have been fed.

On the inside of the bottom wall 32, I provide a resilient means, such as the flat plate spring 34, which is secured to the bottom wall intermediate its ends 36, as by the rivet 38.

Referring now to Figs. 4 and 5, the case 12 is formed by the bottom wall 40 the tapered or bevelled edges 42 of which slide into and cooperate with corresponding tapered or bevelled grooves along the edges of the side walls 44 to lock the stack or pile of blades 10 in the case 12, the sides 44 and the ledge like elements 46 which extend inwardly therefrom to constitute together the top wall of the case.

Upstanding from each ledge like member 46 and running therealong from the front 48 to the rear 50 of the case 12, I provide a flange 52, which flanges together form the channel 54, in which the plunger 18 is projected during the blade transferring operation.

Referring now more particularly to Figs. 12 and 13, blades of form such as those used with the present type of "Gillette" razor have inwardly thereof, between the edges 56, at each end, an extending continuous portion or land 58 which are adapted to lie between the lugs or projections 60 upstanding a short distance at each corner of the blade holder 62 to cooperate therewith for properly positioning the blade 64 thereon. (See Figs. 12 and 13.)

To accommodate these extending portions or lands 58 of the blades 64, I provide at each end of the case, extending from the end walls 48 and 50 thereof, throat like portions 66 and 67 in which the lands lie and which cooperate together, as will be further described, to initially properly guide the razor blades upon engagement by the plunger and ejector 18 and corresponding movement in the blade transferring operation.

The dimensions of the case or container 12 correspond with those of the compartment or chamber 16 so that the throat like portions 66 and 67 and side walls 44 of the case or container 12 are positioned respectively against the front end wall 28, the rear end wall 68 and sides 70 of the magazine, when the case or container is loaded therein.

The bottom wall 40 of the razor blade case 12 has arranged therein a longitudinal slot 72 which, when the bottom wall 32 of the magazine is swung into closed position, receives the arms 74 of the spring 34, the ends 36 of which bear against the last blade 76 in the pile or stock.

The resilient means or spring 34 is arranged so that it will be compressed, that is the arms 74 pressed outwardly, upon closing the bottom wall 32 on the blade packed case 12, the somewhat flat ends 36 of the spring 34 bearing against the last blade 76 of the pile or stack. The upward pressure of the spring means forces the pile or stack 10 against the ledge like elements 46 to thereby press and hold the case or container 12 against the magazine top wall 24 in blade transferring position.

A plate like member, made of any suitable material, such as cardboard or the like, is preferably arranged at the bottom of the stack or pile 10, so that, upon depleting the pile or stack the resilient means will not press directly against the last blade during the blade transferring operation.

To effect transfer of a blade from the stack or pile, as will be further described, the case or container 12 is locked in position by any suitable means, such as the latch member 82, which is secured as by a rivet 84 to the front end wall 28 of the magazine 14 and which latch member engages a cooperating catch member 86 on the pivoted bottom wall 32 of the magazine, in which locked position the front throat like portion 66 is aligned with and is continuous with the slot 30 in the front end wall 28 and the rear throat like portion 67 is aligned with and is continuous with the slot 88 provided in the rear end wall 68.

Extending from the rear end wall 68 of the magazine and preferably integral therewith, I arrange the support or platform 90, which carries the blade holder 62 in position to receive the blade 92 (Fig. 3) ejected from the magazine 14 by the plunger 18.

The blade holder, as illustrated, may be of the "Gillette" type having the central threaded post 94, upon which the razor handle (not shown) is screwed to hold the blade between it and the guard (not shown).

In operation, the handle, guard and used blade are removed from the blade holder, which is then seated in the recess 78 in the platform 90 between the shoulders 96 formed thereby, with the central post 94 extending upwardy toward the slot 88.

The plunger 18 is withdrawn from the magazine 14 to the outer position of its stroke, as illustrated in Figs. 1 and 2, whereat the device in position transfer the top blade 64 from the stack or pile 10 onto the blade holder 62.

To effect this transfer, the plunger 18 is pushed

into the slot 30, the end thereof engaging the forward end or land 68 of the top blade 64, forcing the blade toward the rear end wall 68 of the magazine.

As the plunger is pushed into the chamber 16 of the magazine to the inner position of its stroke (illustrated in Fig. 3) it carries the top blade 64 through the slot 98 (Fig. 6) with which the slot 88 is aligned and of which it is a continuation.

As the blade emerges from the magazine 16, it will ride on and be supported by the pile or stack 10 and the bottom faces of the slots 88 and 98 through which the plunger ejects it until its forward end reaches the central post 94 of the blade holder 62 by which it is further supported.

As the blade is completely ejected from the magazine, the central aperture 100 on the blade is brought into register with the post 94 and the blade falls home on the blade holder.

I prefer to arrange at each corner of the platform an upstanding guide post 102, which posts serve to prevent possible lateral displacement of the blade as it is ejected from the magazine during the blade transferring and the feeding or loading operation.

It will be recognized that with wafer-like thin blades, such as those of the "Gillette" type, it is essential to insure that the end of the plunger 18 engages only the top blade 64 of the stack or pile 10 as it is pushed into the magazine.

To adjust the relative position of the end of the plunger so that it will engage only the top blade, I secure thereat to the plunger, as by means of the rivet 104, the relatively thin resilient plate 106. Bearing against the end plate 106 and arranged in a correspondingly internally threaded opening in the end of the plunger 18, I provide the adjustable screw pin 108, which, as it is screwed into or out of the plunger, adjusts the relative position of the resilient plate to operatively engage only the top blade of the pile.

To permit movement of the pin 108 with the plunger, I arrange on the apron 22 and the compartment top wall 24, extending through the operative stroke of the plunger, the longitudinal slot 110 in which the pin 108 moves. The pin thereby also serves to suspend the end of the plunger so that it cannot be accidently deflected down as it is moved into the channel 54, the dimensions of which are such that the flanges 52 prevent substantial lateral displacement of the plunger, throughout its stroke.

It will be recognized that contact by a blade edge with the sides of the case or container or the magazine during the blade transfer operation would impair its shaving edge and I therefore arrange the blades in the case or container so that the edges 56 thereof are positioned a substantial distance, such as $\frac{3}{32}$'', from the sides 44.

As the end plate 106 engages the blade in the transferring operation, substantial lateral displacement of the blade is initially prevented by the walls 114 of the throat like portion 66, which are in engagement with sides of a land 58 of the blade. Since initial substantial lateral displacement of the blade is prevented and the plunger is throughout its movement guided true, the shaving edges will not touch anything in the movement of the blade in the magazine and ejection therefrom.

So that my device may be used with razors of the type, such as one kind of "Gillette," in which the guard is not separable therefrom, but in which two members forming it are pivotally secured to the holder to be swung upward into vertical open position by operation of the razor handle, I provide the opening 115 in the platform 90, designed to receive the handle of the razor and carry the razor on the platform in open blade receiving position.

The movable plunger 18 may be dispensed with and I have illustrated in Figs. 8 to 11, a modification in which, the magazine 120 containing a pile or stack 122 of blades is moved from the inner position in its stroke 123, shown in Fig. 9, to its outer stroke position, shown there in broken lines, to feed or load the bottom blade onto the blade holder, in the manner to be hereinafter described.

If desired, the separate case or container 12 may likewise be dispensed with, so that the user of my device may use the conventional "Gillette" blade as it is at present conventionally packed for purchase in the open market.

My device is provided with a superstructure 126, which in operation, as will be described, is reciprocated on the base 128 and which superstructure is provided at its upper part with the blade storage compartment or chamber 130.

The side walls 132 of the superstructure 126, at their lower edges, are provided with longitudinally extending guide rails 134 which project inwardly into corresponding grooves provided in the sides 136 of the base to be slidable therein.

The top wall 138 is hingedly secured to the rear end wall 140 of the superstructure by means of the pivot 142 to provide access to the blade storage chamber or compartment 130 and is locked in closed position on the sides 132 and the front end wall 144 by any suitable means, such as the resilient latch, the finger 146 of which may be secured to the front end wall 144, as by rivets 148 and the resilient tongue 150 of which engages the top wall or compartment covering cap 138 to lock it.

To load the magazine 120, the cap 138 is swung open and the storage chamber 130 filled with razor blades, the pile or stack 122 thereof lying on the ledge like elements 152 extending toward each other from the sides 136 and which constitute the bottom wall of the blade storage chamber.

On the inside of the top wall 138, I provide a resilient means, such as the leaf spring 154, secured thereto intermediate its arms 156, as by the rivet 158. Upon locking the wall or cap in closed position, the substantially flat ends 160 of the spring 154 engage the top blade 162 of the pile or stack 122, forcing the entire stack or pile against the ledge like elements 152 and maintaining the bottom blade 124 in feeding position.

The end walls 144 and 140 are formed with the throat like portions 166, in which the lands 58, extending from each end of the conventional "Gillette" blade, lie to suitably position the blades in the storage chamber so that the blade edges 56 are held a substantial distance, for example $\frac{1}{32}$'' away from the sides 132 to prevent their impairment by coming in contact with them at any time.

In operation, the superstructure 126 is normally positioned above the forward end 167 of the base 128, as illustrated by the broken lines of Fig. 9, in which position the support or platform 168 is thereby accessibly disposed to receive and carry in the recess formed therein for that purpose between the side shoulders 170 and the end shoulders 172 thereof, a blade holder

62 with the centre threaded post 94 extending upwardly toward the storage chamber 130, the end of the post extending between the ledge like elements 152 to just immediately below the blade 124 at the bottom of the pile or stack 122.

To transfer the bottom blade 124 of the pile or stack, the superstructure is brought to its rear position directly above the blade holder 62. It will be understood that any satisfactory means of limiting the reciprocation of the superstructure may be provided and which means need not be here described.

The superstructure is then returned to its forward end 167 position (broken lines Fig. 9), the flexible plate plunger like member 174 entering the slot 176 provided on the front end wall 144 and communicating with the throat like portion 166 provided on the front to engage the adjacent end of the bottom blade.

The throat 166 is dimensioned to just accommodate the member 174, play therebetween being held to an operative minimum and the walls of the throat engaging the land to thereby prevent any possible initial lateral displacement of the blade as it is engaged and held by the member 174 in position above the blade holder, upon movement of the superstructure to the forward end.

As the superstructure is further moved, the fixed member 174 prevents the bottom blade from being carried along with it, the slot 172 being provided in the rear end wall 140 in alignment with the bottom blade to permit its exit from the storage chamber or compartment.

The member 174 is made of any suitable material, such as spring steel, and is secured to the upstanding support 168, as by the countersunk screws 180. An adjustment screw 181 is arranged in a correspondingly threaded opening in the support to engage the leaf spring member 174 so that its position relative to the blades in the stack or pile may be adjusted to insure that only the bottom blade of the pile may be engaged by it.

It will be apparent that as the superstructure is moved to the forward position 167, the bottom blade is restrained in its original position above the blade holder with the central opening 100 in the blade in alignment with the center post 94.

As the blade continues to emerge from the slot 172, as the end stroke position of the superstructure is reached, it will completely emerge from the magazine and fall by gravity into position on the blade holder, the center post coming into registration with the opening in the blade.

After the bottom blade is thus received on the blade holder, the conventional guard is placed thereon and the handle screwed on the center post to thereby clamp the blade, the holder and the guard for shaving operation, the thereby assembled razor unit being removed from the recess for use.

The superstructure may then be locked in this front position for further blade transfer operation by any suitable means, which need not be here described.

It will be understood that my device may be used with a blade holder which is not provided with a center post or any other blade aligning means or additional or different blade aligning means may be provided on the blade holder.

Such modified blade holder and cooperating blade serve also to prevent the use with my novel magazine, particularly where the blade is fed from above onto the blade holder, of blades and blade holder not properly intended for use with it.

I provide such additional or substitute blade aligning means by forming on the inner face 182 of the blade holder 62 a pair of diagonally positioned lugs or pins 184, each adjacent an end of the blade holder.

On each blade I provide a corresponding aperture or opening in which the lug or pin will be received when the blade is directed upon the blade holder by my blade transferring and feeding means hereinabove described, to thereby align the blade in shaving position on the blade holder.

It will be seen that I have provided a magazine in which a pile or stack of blades may be stored and which is arranged so that the blade holder of a razor may be positioned on the magazine so that it will receive a razor blade transferred from the pile or stack by a loading means provided on the magazine. It will be further seen that I have provided a separable case or container for a pile or stack of blades which may be placed in the casing of a magazine in position adjacent a blade transferring means provided therein so that a single blade may be transferred at one time from the stack or pile.

It will be still further apparent that I have provided an adjustable blade transferring means designed to effect the transfer from the stack of razor blades only a single relatively thin blade at one time therefrom.

It will be still further apparent that I have provided a razor blade and cooperating holder which is intended for use and may be used only with my combined blade magazine and transferring means.

While I have described in specific detail certain embodiments of my invention, I do not intend to be limited thereto but intend to claim the invention as broadly as the following claims and the state of the prior art will permit, since further modifications thereof will now readily occur to those skilled in the art.

I claim:

1. In a device of the character described; a magazine for storing therein a pile of blades, said magazine having a slot at one end for the ejection therethrough of a blade from the pile of blades; supporting means arranged below the slot for detachably carrying a blade holder of a razor in position to receive a blade ejected from the magazine through the slot; and means for transferring a single blade from the pile to the blade holder through the slot, said transferring means including a relatively thin flexible member and means for flexing the member to adjust the position of the member relative to the pile of blades.

2. In a device of the character described; a magazine for storing a pile of razor blades therein; means for transferring a blade from the pile of blades stored in the magazine and ejecting it from the magazine; and a platform on the device having a seat for detachably carrying thereon the blade holder of a razor in position on the seat to receive a blade ejected from the magazine.

3. In a device of the character described; a magazine for storing a pile of blades therein; a cover for said magazine arranged to open and close the magazine; means for transferring a blade from the pile of blades stored in the magazine and ejecting it from the magazine; a platform for detachably carrying thereon the blade holder of a razor in position to receive the blade ejected from the magazine; and resilient means on the magazine cover adapted, upon closing the

cover, to engage the pile of blades stored in the magazine to hold said pile in blade transferring position.

4. In a device of the character described; a magazine for storing therein a pile of blades, said magazine having a slot for the ejection therethrough of a blade; means for transferring a blade from the pile of blades stored in the magazine and ejecting it from the magazine through the slot; and a platform having a seat, adjacent the slot, for detachably carrying thereon the blade holder of a razor in position on the seat to receive the blade ejected from the magazine.

5. In a device of the character described; a magazine for storing therein a pile of blades, said magazine having means positioned thereon for the ejection of a blade from the magazine; means for transferring a blade from the pile of blades stored in the magazine and ejecting it therefrom through the first-mentioned means; means, adjacent the first mentioned means, for detachably carrying a blade holder of a razor in position to receive thereon a blade ejected from the mazagine; and means on the said carrying means for guiding the ejected blade onto the blade holder.

6. In a device of the character described; means for ejecting therefrom a blade stored in the device; a platform extending from the device for detachably carrying a blade holder of a razor in position to receive a blade ejected from the device, and guides adjacent the corners of the platform for directing the blade ejected from the device onto said blade holder carried by the platform.

7. In a device of the character described; a magazine for storing therein a pile of blades; means for transferring a blade from a pile thereof stored in the magazine and ejecting it from the magazine, said transferring means adapted to enter the magazine to engage an end of the blade to be transferred and ejected therefrom; said magazine having throats on opposite walls arranged and constructed so that the blades are engaged by the magazine at the ends of the blade to thereby position the shaving edges of the blades away from and out of contact with the magazine and to initially restrain lateral movement of the blade to be transferred upon entry into the magazine of said transferring and ejecting means and engagement thereby of said end of said blade.

8. In a device of the character described for storing therein a pile of double edged blades; said blades having positioning extensions extending from the ends thereof between the edges; means for transferring a blade from a pile of blades stored in the magazine and ejecting it therefrom; magazine side walls, a throat like portion at each end of the magazine, the positioning extensions on the blades of a pile thereof stored in said magazine fitting relatively snugly into said throat like portions, the edges of the blades of the said pile thereby positioned away from the magazine side walls; the transferring means adapted to enter one of said throat like portions to engage, at an extension, an end of the blade to be transferred from the pile and ejected from the magazine and operatively move the blade between said magazine side walls to eject it from the magazine.

9. A container for packing therein a plurality of razor blades and said container adapted for operative positioning within a magazine having means for engaging a blade packed within the positioned container and ejecting it from the magazine; said container comprising a front wall having an opening provided therein to receive the blade engaging and ejecting means upon operative movement thereof; means extending from the opening for directing operative movement of the blade engaging and ejecting means; and a rear wall having a slot for ejecting therethrough the blade engaged by the first mentioned means.

10. A container for packing therein a plurality of razor blades, which blades have extending therefrom at each end a positioning extension, said container adapted for operative positioning within a magazine having a member for engaging a blade packed within the positioned container and ejecting it from the magazine; said container comprising end walls, one end wall having an opening for operatively receiving the said member of the magazine and the other end wall having a slot for ejecting therethrough the blade engaged by the member, side walls of the container being contracted into a throat at each end wall, said throats adapted for receiving the positioning extensions of the razor blades packed in the container to dispose the shaving edges of the packed blades away from the side walls; and top and bottom walls, one of said last mentioned walls having a flanged slot therein for operatively receiving said member.

11. A container for packing therein a pile of razor blades, which blades have extending therefrom at each end a positioning extension, said container adapted for operative positioning within a magazine having a member for engaging a blade packed within the positioned container and ejecting it therefrom and which magazine is provided with resilient means for engaging the pile of blades in the container so positioned therein; said container comprising end walls, one of said end walls having an opening for operatively receiving the blade engaging member and the other end wall having a slot for ejecting therethrough the blade engaged by the member; side walls of the container being contracted into a throat at each end wall, said throats adapted for receiving the positioning extensions of the razor blades packed in the container to dispose the shaving edges of the packed blades away from the side walls; and top and bottom walls, one of said last mentioned walls having a flanged slot therein for operatively receiving said member and the other wall having a slot for receiving the resilient means in engagement with the pile of blades.

12. Means for transferring a blade from a pile of blades positioned adjacent the transferring means comprising a member, a flexible element for engaging a blade to be transferred from the pile and secured to the member and an adjustable screw in engagement with the element to flex it and thereby selectively adjust its position relative to the pile.

13. In a device of the character described, a flexible element for engaging a blade in a pile of blades positioned in the device and for transferring said blade from the pile, said flexible element secured to the device with that part thereof for engagement with a blade adapted to be flexed and selectively positioned relative to the blade to be engaged and means adjustably positioned in the device for engaging the flexible element to position it relative to said blade.

14. In a device of the character described, a magazine for storing therein a pile of razor

blades, means for transferring a blade from the pile of blades and ejecting it from the magazine and a platform having an opening for receiving therein the handle of a razor to carry the blade holder thereof in position to receive a blade ejected from the magazine.

15. In a device of the character described; a base; a superstructure normally positioned at one end of the base and arranged for reciprocation on the base from said end of the base to the other end thereof, said superstructure having a compartment for the storage therein of a pile of razor blades; a blade ejector on the base in the path of reciprocation of the superstructure and positioned to enter the compartment to engage a blade in the pile of blades stored therein and eject it from the compartment upon movement of the superstructure from the first mentioned end of the base to the other end thereof, said movement thereby uncovering said first mentioned end of the base; said thereby uncovered end of the base constituting a seat for a blade holder thereby positioned to receive a blade ejected from the compartment; said blade ejector being, upon return movement of the superstructure to cover the said seat, thereby withdrawn from the compartment.

16. In a device of the character described, in combination; a magazine; an ejector slidably mounted on the magazine at one end thereof; said magazine provided with a slot at said end to be entered into by the ejector; a case for a pile of blades positioned in the magazine and having a slot adjacent the first mentioned slot on the magazine, said ejector adapted to enter thereby into the case to engage a blade therein, means in the case for slidably guiding the ejector therein to eject therefrom the blade engaged by the ejector; said case and magazine provided with aligned slots for passing therethrough the blade ejected by the slidable ejector and means adjacent the last mentioned slots for carrying a blade holder in position to receive a blade ejected from the magazine.

17. The combination of a razor blade in a stack of blades in a magazine with a blade holder therefor held in position on the magazine, which razor blade is to be transferred from said stack and ejected from the magazine onto the said blade holder to receive the blade ejected therefrom, means for aligning the ejected blade on the blade holder as it is received thereby from the magazine comprising a pair of pins diagonally positioned on the blade holder and extending upwardly therefrom in held position on the magazine, said blade having openings thereon in position to receive, upon ejection from the said magazine, a said pin in a said opening.

18. In a device of the character described, a magazine for storing therein a pile of blades; said magazine having means for the ejection therethrough of a blade from the magazine; means for transferring a blade from the pile of stored blades and ejecting it therefrom through said first-mentioned means; means, adjacent said first-mentioned means, for detachably carrying the blade holder of a razor in position to receive thereon by gravity a blade ejected from the magazine.

19. The combination of a razor blade in a stack of blades in a magazine with a blade holder of a razor therefor held in position adjacent the magazine, which razor blade is to be transferred from said stack and ejected from the magazine onto the blade holder to receive the blade ejected therefrom, means for aligning the ejected blade on the blade holder as it is received thereby from the magazine comprising pins positioned on the blade holder and extending upwardly therefrom in held position adjacent the magazine, the said blade having openings thereon in position to receive upon ejection of the blade from the said magazine, a said pin in a said opening.

20. In a device of the character described for storing therein a pile of blades; means for transferring a blade from a pile thereof stored in the magazine and ejecting it from the magazine; said magazine having a front wall provided with an opening therein to receive the blade transferring and ejecting means; means comprising a throat extending from the opening for receiving therein the blade transferring and ejecting means to direct operative movement thereof; and a rear wall having a slot for ejecting the blade therethrough.

21. In a device of the character described; a magazine for storing therein a pile of blades, a member for engaging a blade within the magazine and ejecting it from the magazine; the side walls of said magazine being contracted into a throat at an end wall thereof, said throat adapted to receive the said member, upon blade engagement and ejection.

22. In a device of the character described; a magazine for packing therein a plurality of razor blades, which blades have extended therefrom at each end a positioning extension; a member for engaging a blade packed within the magazine and ejecting it from the magazine; said magazine comprising end walls, one end wall having an opening for operatively receiving the said member and the other end wall having a slot for ejecting therethrough the blade engaged by the member, side walls of the magazine being contracted into a throat at each end wall, said throats adapted for receiving the positioning extensions of the razor blades packed in the magazine to position the shaving edges of the packed blades away from the side walls.

23. A container for packing therein a plurality of razor blades, which blades have positioning extensions at each end thereof; throat-like portions at each end of the container, the positioning extensions on the blades of a pile thereof in the container fitting relatively snugly into said throat-like portions, the side walls of said container extending away from the throat-like portions out of contact with the edges of the razor blades packed in the container.

24. A container for packing therein a plurality of razor blades, which blades have positioning extensions at each end thereof; throat-like portions at each end of the container, the positioning extensions on the blades of a pile thereof in the container fitting relatively snugly into said throat-like portions and the side walls of said container extending away from the throat-like portions out of contact with the edges of the razor blades packed in the container, one end wall of the container having an opening therein connecting with a throat-like portion and the other end wall having a slot for ejecting therethrough a blade from the pile of blades packed in the container.

25. A container for packing therein a plurality of razor blades, which blades have a positioning extension at each end thereof, said container having side walls, end walls and a top and bottom wall, the side walls of the container being contracted into a throat at each end wall, said throats adapted for receiving the positioning ex-

tensions of the razor blades packed in the container to thereby position the shaving edges of the packed blades away from the said side walls, one of said end walls having a slot for the passage therethrough of a blade from the container and one of said top and bottom walls adapted to have the pile of blades positioned thereagainst and the other of said last-mentioned walls having an opening therein.

26. In a device of the character described for storing therein a pile of double-edged blades; said blades having positioning extension at their ends between the edges; means for transferring a single blade from a pile of blades stored in the device and ejecting it therefrom, end walls, each having a portion adapted for relatively snugly receiving therein positioning extensions on the blades of a pile thereof stored in the device, the edges of the blades of said pile thereby positioned away from the side walls of the device; one of the end walls having a slot for the ejection of a blade therethrough, the slot communicating with the extension receiving portion on that end wall; the transferring means adapted to engage the blade in the pile to be transferred and operatively move the blade between the side walls of the device to eject it through the slot.

27. In a device of the character described adapted to contain a pile of blades, means for transferring a blade therefrom, said means including a thin flexible member and means for flexing the member relative to the pile of blades to adjust the position thereof relative to the said blade.

28. In a device of the character described for packing therein a plurality of razor blades, which blades have positioning extensions at each end thereof; side walls, end walls, and a top and a bottom wall; the end walls, each having a portion shaped to receive a positioning extension of the razors packed in the device to thereby position the shaving edges of the packed blades away from the said side walls, one of said end walls having a slot for the passage therethrough of a blade packed in the device and one of said top and bottom walls adapted to have the pile of blades positioned thereagainst and means at the other of said top and bottom walls for engaging and holding the pile of blades against the first-mentioned wall of said top and bottom walls.

29. In a device of the character described, a holder adapted to detachably position a razor thereon and having a guideway, a magazine for storing therein a pile of blades and movable back and forth on the guideway away from and toward the razor positioned on the holder, a blade ejector on the holder in the path of movement of the magazine and adapted, upon movement of the magazine in one direction, to enter the magazine to engage a blade in the pile of blades stored therein and feed said blade from the magazine and, upon return movement in the other direction, to be withdrawn from the magazine.

30. Blade feeding mechanism for a safety razor comprising a holder having a guideway, a magazine for storing therein a pile of blades, said magazine adapted to be moved back and forth along the guideway of the holder and means for feeding a blade from the pile in the magazine to the holder upon movement of the magazine in one direction along the holder.

31. Blade feeding mechanism for a safety razor comprising a seat having a guideway, a magazine for storing therein a pile of blades and adapted to be reciprocated in the guideway away from and toward the seat and a member mounted in the path of movement of the magazine adapted to engage a blade in the pile and hold it stationary upon movement of the magazine away from the seat.

32. The combination with a safety razor of a holder adapted to detachably hold the razor thereon, a blade magazine movable back and forth on the holder away from and toward the razor, and a member mounted in the path of movement of the magazine adapted to engage a blade in the magazine and hold it stationary upon movement of the magazine in the holder away from the razor.

33. The combination with a safety razor of a holder having a seat for detachably holding the razor on the holder, a blade magazine movable back and forth on the holder away from and toward the seat and means for engaging a blade in the magazine and holding it stationary upon moving the magazine away from the seat.

34. In a device of the character described adapted to contain a pile of blades, means for transferring a blade therefrom and means for selectively adjusting the position of the first mentioned means relative to the thickness of the blades in the pile thereby adapting the first mentioned means to engage a single blade in the pile to transfer it therefrom.

35. In a device of the character described adapted to contain a pile of blades stacked one upon the other, means for engaging a blade in a pile of blades in the device to transfer said blade from said pile; said means including a flat plate-like member to engage said blade, said member of thickness only sufficient to engage said blade and means for adjusting the position of the member along the thickness of the pile of stacked blades to permit the member to engage only the blade to be transferred.

36. In a razor blade feeding mechanism for a safety razor having a blade holder, a magazine for storing therein a pile of blades, threaded adjustable spring means for feeding a blade from the pile of blades in the magazine to the blade holder upon movement from one position of the said feeding means in one direction relative to the said pile of blades and said feeding means, upon the return thereof to said position in the opposite direction, moving in non-operative blade feeding position on the pile of blades.

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