

Jan. 3, 1933.

E. A. CONNER

1,892,931

MAGAZINE RAZOR

Filed March 5, 1932

2 Sheets-Sheet 1

Fig. 1

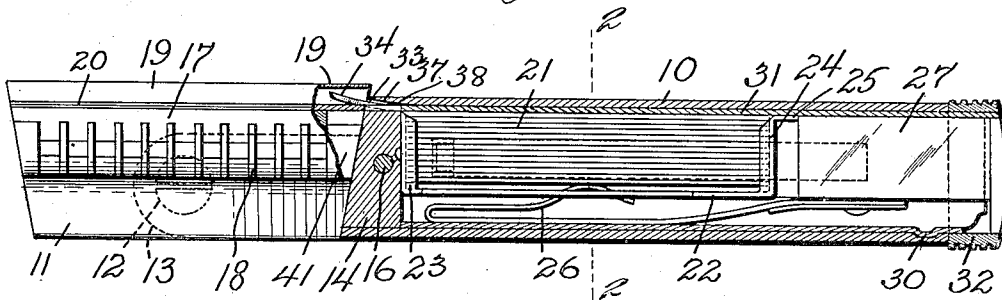


Fig. 2

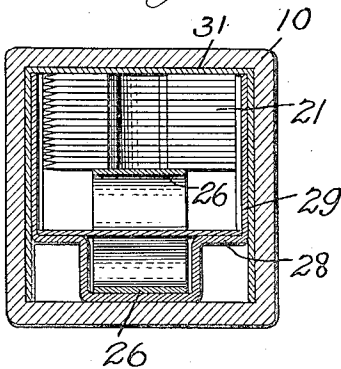


Fig. 3

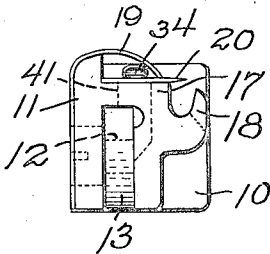
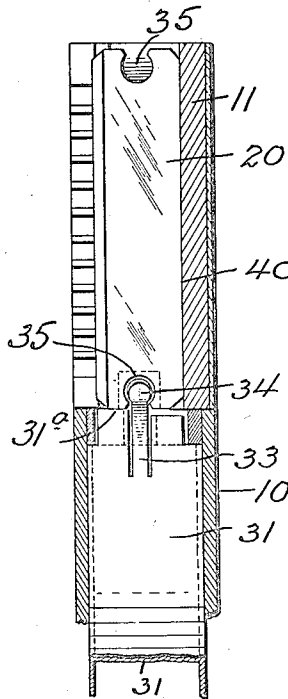


Fig. 4



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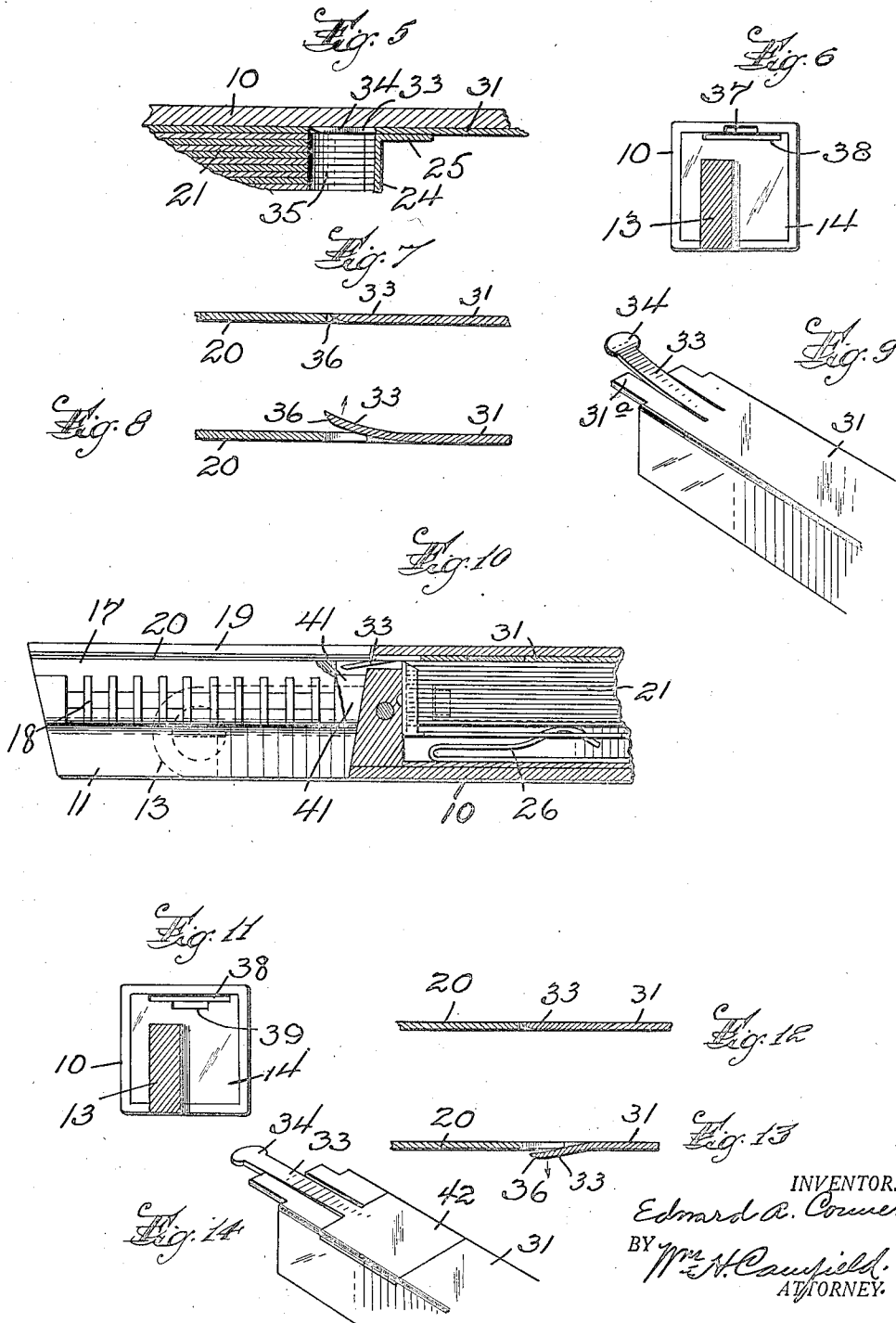
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UNITED STATES PATENT OFFICE

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MAGAZINE RAZOR

Application filed March 5, 1932. Serial No. 596,941.

This invention relates to an improved device for feeding blades from a stack of blades and is particularly adapted for use in razors known in the trade as magazine razors.

The object of the invention is to insure the feeding of only one blade at a time to insure against jamming more than one blade in the restricted passage through which they are advanced one at a time from the stack.

Another object of the invention is to prevent the feeding of the top blade by frictional engagement with the feeding slide or tongue.

A still further object is to cause the withdrawal of a blade partly fed if such feeding is inadvertently done while the shaving head is not in position to receive the blade.

The device for feeding keeps control of the blade until the blade is entirely ejected and at that time the slide automatically releases the blade. This is of particular advantage in those razors that include a tilting shaving head and the head is free to be tilted in view of the release of the blade, which it contains, from the feeding means.

The invention is illustrated in the accompanying drawings in which Figure 1 is a central longitudinal section of a magazine razor with the shaving head in position to receive a blade and showing a blade in position in the shaving head, the shaving head being shown partly in elevation. Figure 2 is an enlarged section on line 2—2 in Figure 1 but showing the stack of blades in elevation. Figure 3 is an end view of the razor shown in Figure 1. Figure 4 is an enlarged sectional view of the shaving head and part of the blade magazine, this section being taken on the plane of the top surface of the blade. Figure 5 is a detail section of the front part of the stack and the ejecting slide and the rear end of the stack of blades.

Figure 6 is an end view of the blade magazine with the post that supports the shaving head in section. Figure 7 is a detail section of part of a blade and the ejecting slide in

normal feeding position and Figure 8 is a similar view with the end of the ejecting slide in releasing position. Figure 9 is a perspective view of the front end of the ejecting slide. Figure 10 is a section similar to Figure 1 but showing a modified form of construction. Figure 11 is an end view of the blade magazine of Figure 10 with the shaving head post in section. Figure 12 is a section of the blade and slide in feeding position and Figure 13 is a similar view with the slide in releasing position. Figure 14 is a perspective view of the end of the slide shown in Figure 10.

The invention is illustrated as embodied in a razor of a known commercial type and comprises a handle 10 which is square in cross section and is hollow. The top of the handle is provided with a shaving head 11 pivoted at 12 on a post 13 which is on a foot 14 inserted in the end of the handle and forming a closure except for the restricted passage or slit 15 for the passage of a blade. A pin 16 can be used to hold the foot 14 in place. The shaving head includes a blade platform 17 and a guard 18 and also a gripping means for the blade such as the strip 19 of spring metal. The blade in the head is shown at 20.

Inside the handle which forms a magazine is placed the stack of blades 21 usually supplied, for convenience, in a clip 22. The clip has end walls 23 and 24, the rear wall 24 usually having a rearwardly extending lip 25. The clip has a slot in the bottom through which a spring 26 extends to push the stack of blades upwardly for feeding. The spring is insertable and removable by the bolt 27 to which it is secured. The clip rests on a track 28 formed by the inwardly bent sides of the sleeve 29 held in the handle by the projection 30. The blades are fed by a slide 31 which fits into the handle and is U-shaped and has a grip 32 at its end by means of which it is slid back and forth. The slide 31 passes with a sliding fit between the bolt 27 and the top wall of the handle which is above it and also

passes over the stack of blades and is used for projecting a blade at a time from the top of the stack. The parts as described up to the point are old and well-known and are subject to equivalent constructions and devices.

The invention resides in means for retaining control of a blade both in advancing it or pulling it back until the blade arrives at a point where it is to be released and at that point the release is made. The release is preferably automatic and is usually made after the blade is wholly outside the casing or holder. The slide that controls the blade and the blade itself have co-operating means for connecting them and in the form shown it is the blade that is recessed and the slide that has a tongue held in alignment with the blade and thus interlocked until the tongue is moved laterally relative to the plane of the blade at the point where the release takes place. The spring action resident in the tongue can be utilized to cause this lateral release.

The blade is propelled by the front edge of the slide 31 as by the end 31^a. The slide is provided with a tongue 33 which has a spring action to move it so that the enlarged end 34 of the tongue is out of the plane of the slide. This will be noted from Figures 1, 3, 8 and 9.

The blade 20 is provided with a recess 35 preferably one at each end. This recess is formed with a restricted entrance to receive the shank of the tongue and its whole size is such as to loosely receive the tongue in order that the tongue can move out of the recess when at a pre-determined point.

When the blade is picked up by the slide, as in Figure 5, the slide has been pulled back to where the front edge or shoulder 31^a engages the back edge of the blade and the tongue 34 is in the recess 35 in the blade.

The tongue is held in alignment with the blade by the inside face of the handle 10.

When the slide is pushed forward toward the shaving head the blade is pushed ahead of the slide. The tongue engages only the top blade as it is no thicker than a blade and has a tendency to spring away from the stack and has an additional safeguard in a slightly rounded lower edge 36. If, during this forward feeding of the blade there is any reason for pulling the blade back, as in case the shaving head is not aligned with the handle the blade can be pulled back as the enlarged end 34 of tongue 33 is in the recess 35. It will thus be seen that the slide and each blade having co-operating means for preventing longitudinal separation of any blade and the slide until the blade is fully seated in the shaving head, that is, until the blade is completely ejected. The release of the blade is automatic as the clearance under the spring plate 19 of the shaving head and any necessary clearance in the enlarged part 37 of the restricted passage 38 of the handle allows

the tongue 33 to snap out of the plane of the blade 20 and thus out of the recess 35. When the slide is pulled back to pick up the next blade it is free of the blade 20 and when it reaches the inner end of the passage 38 it is in the plane of the top wall of the slide 31.

The edge or shoulder 31^a of the slide is in advance of the shoulder 39 on the other side of the tongue. This causes the blade to be pushed on its outer edge and the tendency is to push the blade with a slight backward inclination along the guiding edge 40 of the head. This seats the blade parallel with the guard when the feeding of the blade is completed.

Various forms of recesses and tongues for connecting the slide and blade can be used and other means of release can be employed to separate the blade and slide when the blade has been delivered into the shaving head.

The head 11 can be tilted readily as the head is cut away at 41 to allow it to pass the projecting tongue 34. The blades are of the wafer type and the recesses and tongues employed are small with the result that the tongue that normally projects from the handle is hardly noticeable.

In Figures 10 to 14 a modification is shown. In this form the spring tongue 33 has a tendency to bend toward the stack, or inwardly. This necessitates the placing of the clearance or cut-away portion of the passage 38 on the inner face shown at 39 in Figure 11. In this construction the tongue is held in the plane of the slide which in turn is held in place by the spring 26. When the tongue in either of the above constructions is pulled all the way back, as in Figures 4, 5 and 10 the spring 26 forces the stack with sufficient energy to insure the seating of the tongue 34 of the slide in the recess 35 of the top blade.

In case the slide is made of material with no spring to it the tongue can be made as in Figure 14. In this form the tongue projects from a small plate 42 and this in turn is welded or otherwise secured in a cut-away part of the slide 31.

Various changes can be made in the form and proportions of parts of the device without departing from the scope of the invention.

I claim:

1. A razor of the magazine type that contains a stack of blades and includes a shaving head into which the blades are projected one at a time, said razor including a means for positively feeding a blade from the stack, said means having an engaging portion to hold a blade when moved forward or backward, said magazine having means to automatically release a blade when the blade arrives in the shaving head.

2. In a magazine razor having a restricted blade passage, a blade feeding means comprising a slide adapted to have its end engage

the end of a blade, a blade with its end constructed to interlock with the end of the slide to prevent their separation in a longitudinal direction and means for causing the separation of said blade and slide when the blade has been ejected.

3. In a magazine razor having a restricted blade passage, a blade feeding means comprising a slide adapted to have its end engage the end of a blade, a blade with its end constructed to interlock with the end of the slide to prevent their separation in a longitudinal direction, said restricted passage having a recessed part at its end, said end of the slide having a spring action laterally relative to the plane of the blade whereby its arrival at the recessed part of the passage automatically allows said end of the slide to disengage from the end of the blade.

4. A razor comprising a magazine of blades, a slide for projecting a blade at a time from the magazine, said slide having a projecting tongue movable laterally relative to the plane of the slide, in combination with a blade having a recess shaped to receive the tongue.

5. A razor comprising a magazine of blades, a slide for projecting a blade at a time from the magazine, said slide having a projecting tongue movable laterally relative to the plane of the slide, the tongue having an enlarged end, in combination with a blade having a recess shaped to receive the tongue, the razor having a recessed part to allow such lateral movement of the tongue on the delivery of the blade from the magazine.

6. In a blade delivery device comprising a magazine of blades with a restricted passage for a single blade, said passage having a recessed edge at its outlet, a slide having a shoulder at the end and a headed tongue projecting beyond the shoulder and having a natural spring tendency to lie in a position with its head out of the plane of the slide and held in said plane by the restricted passage, in combination with a blade having its end arranged to engage the shoulder and having a recess to receive the tongue and its head, whereby the blade is controlled by the slide and is automatically released when the tongue reaches the recessed outlet of the passage.

7. A razor of the magazine type comprising a magazine for a stack of blades, a slide for ejecting blades, said slide including a tongue with a spring tendency to move it out of the plane of the slide, the razor having a passage for holding the tongue in the plane of the slide when the tongue is inside the magazine.

8. A magazine razor comprising a magazine, a slide movable in the magazine and including a tongue projecting beyond the end of the slide and disposed so as to be held in the plane of the slide when within the maga-

zine and having a spring tendency whereby it moves out of the plane of the slide when projected from the magazine.

9. In a blade delivery device, a slide having spring tongue projecting from its end, said tongue having a normal tendency to project from the plane of the slide, the slide being recessed to allow the tongue to lie in the plane of the slide.

In testimony whereof he affixes his signature.

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