

April 23, 1935.

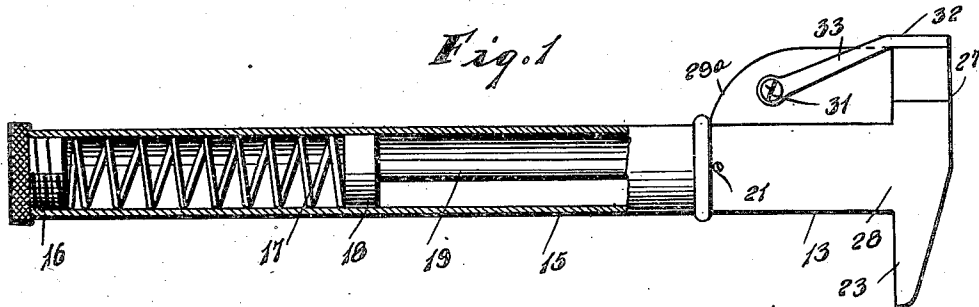
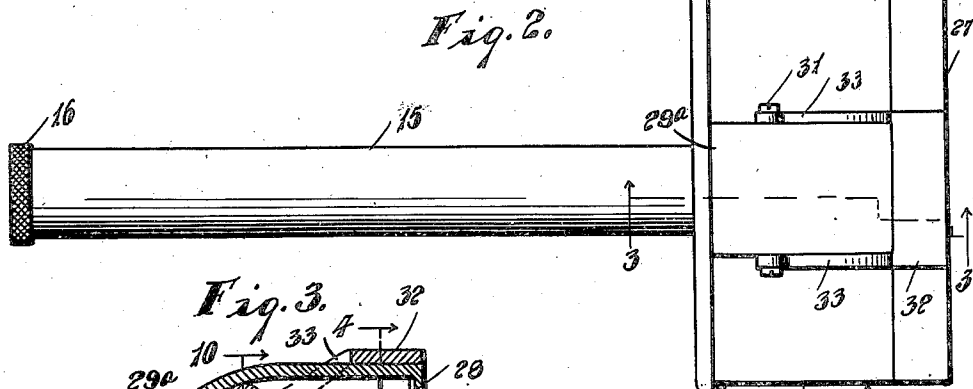
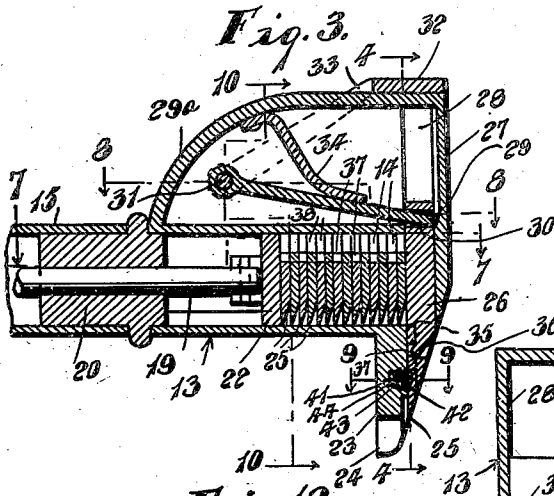
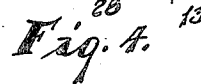
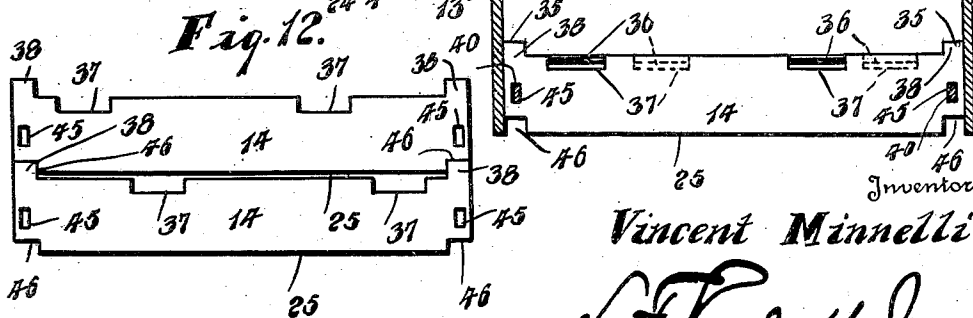
V. MINNELLI

1,999,129

MAGAZINE RAZOR BLADE HOLDER

Filed July 31, 1934

2 Sheets-Sheet 1



Inventor

Vincent Minnelli.

By *L. F. Kunkle Jr.*

Attorney

April 23, 1935.

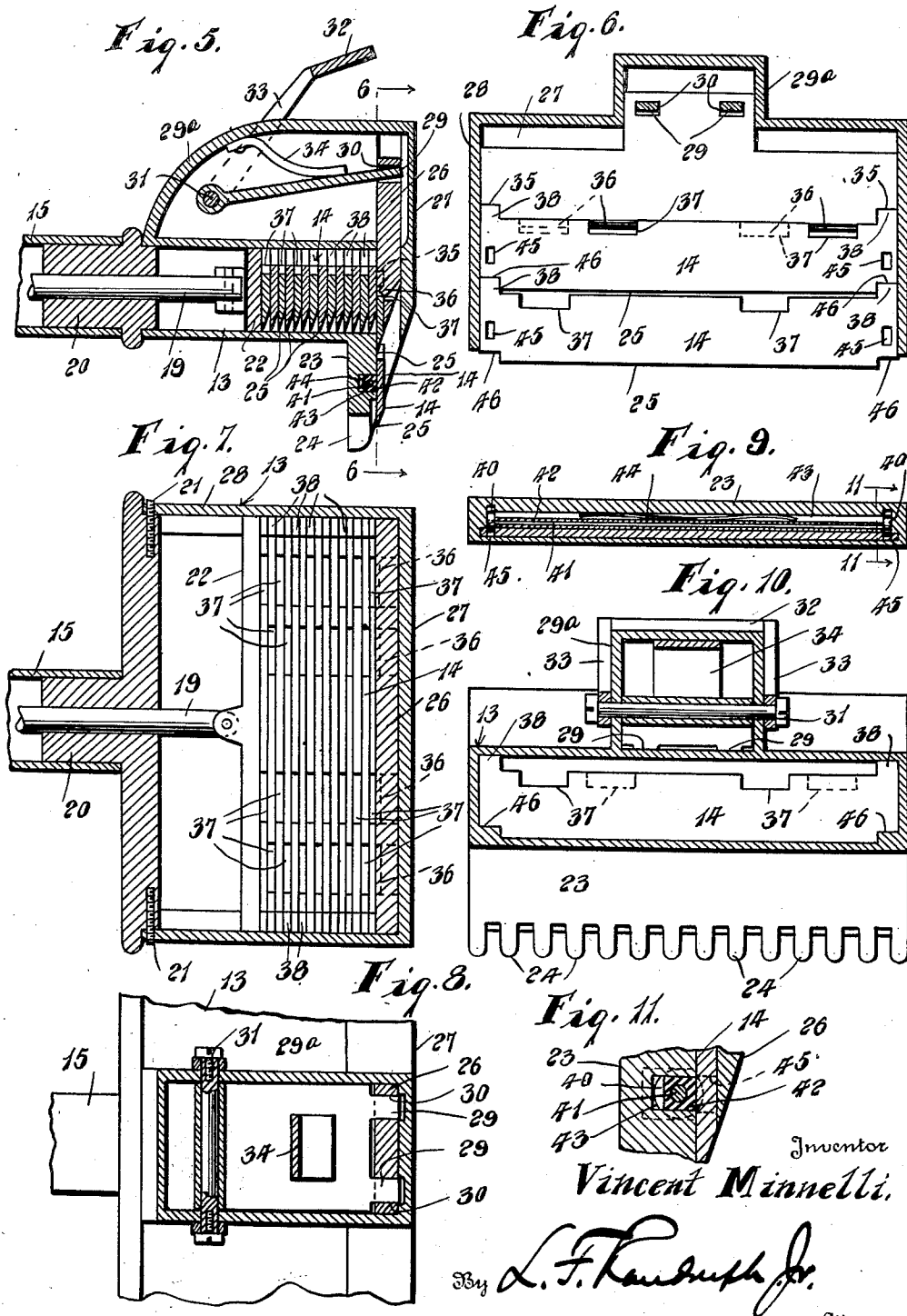
V. MINNELLI

1,999,129

MAGAZINE RAZOR BLADE HOLDER

Filed July 31, 1934

2 Sheets-Sheet 2



Inventor

Vincent Minnelli.

By *L. F. Randolph Jr.*

Attorney

UNITED STATES PATENT OFFICE

1,999,129

MAGAZINE RAZOR BLADE HOLDER

Vincent Minnelli, Pittston, Pa.

Application July 31, 1934, Serial No. 737,846

3 Claims. (Cl. 30-12)

This invention relates to a safety razor construction and it aims to provide a novel form having a magazine containing the safety razor blades which are through the instrumentality of novel means, adapted to be ejected when dull, and a new blade substituted, without manual engagement with the blade.

It is additionally aimed to provide a novel construction wherein the blade being substituted, is caused to move against and eject the used blade without danger of contact of its cutting edge with the used blade.

It is further aimed to provide novel means for holding a blade in operative position in combination with a slide, the latter being movable for blade ejecting and blade feeding operations.

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

Figure 1 is a view in side elevation of the improved razor construction or holder, the same partly being in section to disclose details;

Figure 2 is a top or plan view of the razor;

Figure 3 is a substantially central longitudinal sectional view through the razor, taken on the line 3—3 of Figure 2;

Figure 4 is a vertical sectional view taken on the line 4—4 of Figure 3;

Figure 5 is a vertical sectional view substantially similar to Figure 3, but showing a blade partially ejected and the new blade in the course of substitution therefor;

Figure 6 is a vertical sectional view taken on the line 6—6 of Figure 5;

Figure 7 is a horizontal sectional view taken on the line 7—7 of Figure 3;

Figure 8 is a cross sectional view taken on line 8—8 of Figure 3;

Figure 9 is a cross sectional view taken on the line 9—9 of Figure 3;

Figure 10 is a cross sectional view taken on the line 10—10 of Figure 3;

Figure 11 is a cross sectional view taken on the line 11—11 of Figure 9, and

Figure 12 is a view in front elevation of a pair of blades.

Referring specifically to the drawings, the holder has a magazine at 13 in which a plurality of razor blades 14 are vertically disposed or stacked as best shown in Figures 3, 5, and 7. Extending centrally from the rear side of the magazine is a tubular handle 15 closed at its free end prefer-

ably by a screw plug 16. Within the handle 15 is a compressed coil spring 17 bearing against a head 18 of a plunger rod 19 slidably mounted in a bearing 20, such bearing serving as a coupling to connect the magazine and handle, such parts being telescoped over the coupling or bearing 20 by means of screws or other fastenings 21 being detachably connected thereto.

At the forward end, the rod 19 carries a follower 22 which bears against the stack of razor blades 14 and urges them forwardly.

Integral with the magazine and depending from the lower forward edge thereof is a guard plate 23 toothed at its lower edge as at 24 and against which guard plate the blades 14, one at a time, are operatively positioned. Said blades are sharpened at their lower edges 25 preferably on a single bevel and from one side thereof as shown, corresponding with the bevel of all of the lower edges of the parts of the holder adjacent said blade as best shown in Figures 3 and 5.

Vertically slidable in the holder, forwardly of the magazine, is a holding and ejecting plate 26. Said plate 26 is positioned and guided between a front wall 27 of the magazine or holder and side walls 28, the structure being enlarged above the magazine to provide a hood 29 into which the slide 26 extends when retracted. Said slide or plate 26 has slots 30 to receive fingers 29, said fingers 29 being part of a bell crank lever completed by a shaft 31 journaled in the side walls of the hood, and exteriorly of the same having an arm 32 fixed thereto at bifurcated portions 33 of such arm. Preferably two of the fingers 29 are provided, being disposed in the hood 29 and extending into the aforesaid slot or slots 30 of the slide plate 26. Plate 26 is urged downwardly since a leaf spring 34 is disposed within the hood fastened to or engaging the upper wall thereof, and also serving to urge plate 26 by urging fingers 29.

In the lowered position of the plunger or plate 26, when the blade 14 is in operative position as in Figure 3, a shoulder 35 on the plate 26 engages the upper edge thereof and two of four spring or resilient lugs 36 on the plate 26 clip into a pair of notches 37 in the upper edge of the blade 14, lugs 38 being provided at the outer extremities of the upper edges, for direct engagement with said shoulder 35.

The blade is held in the operative position, as shown in Figure 3 partly by means of the pair of lugs 36 disposed in the notches 37, and is also held in operative position through the engage-

ment of a pair of rollers 40, rigid or journaled on a rod 41 surrounded by rubber tubing 42, such parts being housed in a groove or slot 43 in the guard 23, and being urged outwardly by a blade spring 44, said rollers or projections 40 being adapted to enter, under urgency of the spring 44, slots 45 provided through the blade at opposite ends thereof. The frictional action of the rubber 42 and its abutment with the blade 14 aids in maintaining the blade 14 operatively positioned. The rod 41, sleeve 42 and rollers 40 will readily yield against tension of the spring 44 when a blade 14 is ejected by downward movement.

15 When the blade 14 in operative position, as in Figure 3, is dull and is to be discarded, arm 32 is moved upwardly and rearwardly to its limit, thus raising the plate 26 above the magazine or until its shoulders are above the lugs 38 of the blade 20 in the magazine, whereupon through expansion of spring 17, the foremost blade in the magazine, is moved forwardly out of the magazine and beneath the shoulder 35. Thereupon the arm 32 is moved to its normal position, partial movement 25 being suggested in Figure 5, the blade 14 which is uppermost being urged by the plate 26, and by moving into contact with the lower blade 14 displaces the lower blade 14, and takes its place.

Attention is called to the fact that the lugs 30 38 of the blade in operative position are engaged by notched corners 46 of the blades above them, holding the cutting edge of the upper blade, spaced above the main portion of the upper edge of the lower blade, as suggested in Figure 12, to 35 prevent nicking or marring of such cutting edge.

Attention is also directed to the fact that the positions of the openings 37 of alternate blades in the stack of blades within the magazine, are different. Because of this fact, the pair of resilient 40 fingers 36 engaging the notches 37 of a blade cannot project inwardly past such notches and engage notches of the following blade, overcoming any possibility of the engagement and accidental 45 feeding of two blades at a time. It will be obvious that after one pair of fingers 36 engage one pair of slots 37, the other pair of fingers 36 will engage the pair of slots 37 of the next blade, which are differently positioned as stated.

The razor is used or handled in the usual or obvious manner.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. In a razor construction of the class described, a magazine to hold a plurality of blades, a guard, and a plate to operatively position a blade, said plate being slidable to disengage a blade and to enable one of the blades from the magazine to extend into its path of movement, the plate being slidable to move the last mentioned blade to operative position and to cause it to displace the operatively disposed blade, a hood above the magazine, a bell crank lever pivoted to the hood having a finger within the hood engaging said plate to move the same.

2. In a razor construction of the class described, a magazine to hold a plurality of blades, a guard, and a plate to operatively position a blade, said plate being slidable to disengage a blade and to enable one of the blades from the magazine to extend into its path of movement, the plate being slidable to move the last mentioned blade to operative position and to cause it to displace the operatively disposed blade, said guard having a groove therein, a shaft in said groove, a tube of friction material surrounding the shaft, projections on the shaft, slots in the blade, and spring means in said groove urging the shaft out of the same and against the blade with said projections occupying said slots.

3. In a razor construction of the class described, a magazine, a plurality of blades in said magazine, a guard, and a plate to operatively position a blade, said plate having two pairs of spring fingers and being slidable to disengage a blade and to enable one of the blades from the magazine to extend into its path of movement, the plate being slidable to move the last mentioned blade to operative position and to cause it to displace the operatively disposed blade, each blade in said magazine having a pair of notches therein, the notches in alternate blades being in different positions for coaction with the different pairs of spring fingers of the plate for the purpose specified.

VINCENT MINNELLI.