

Oct. 27, 1936.

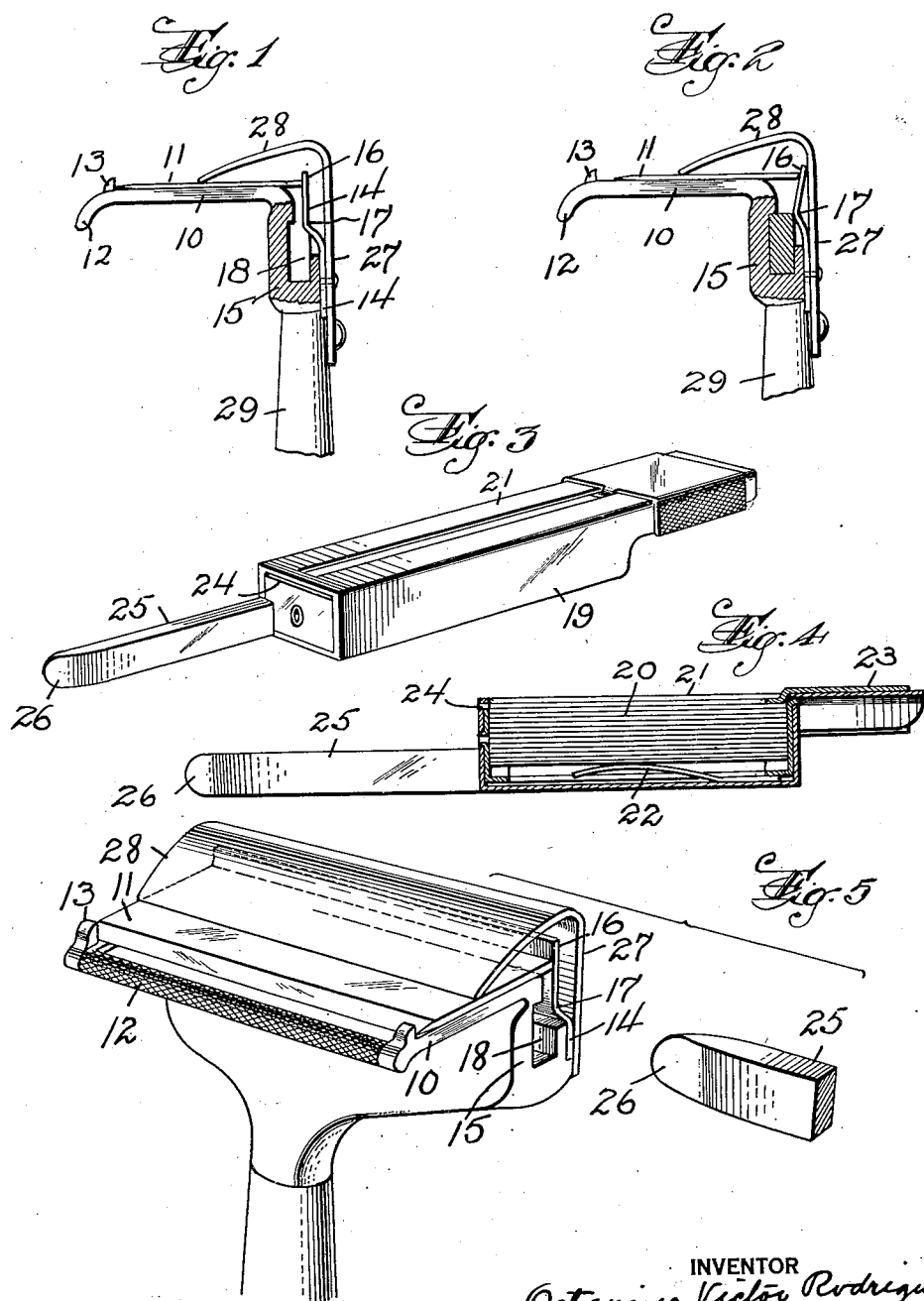
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2,058,633

SAFETY RAZOR

Filed May 23, 1935

2 Sheets-Sheet 1



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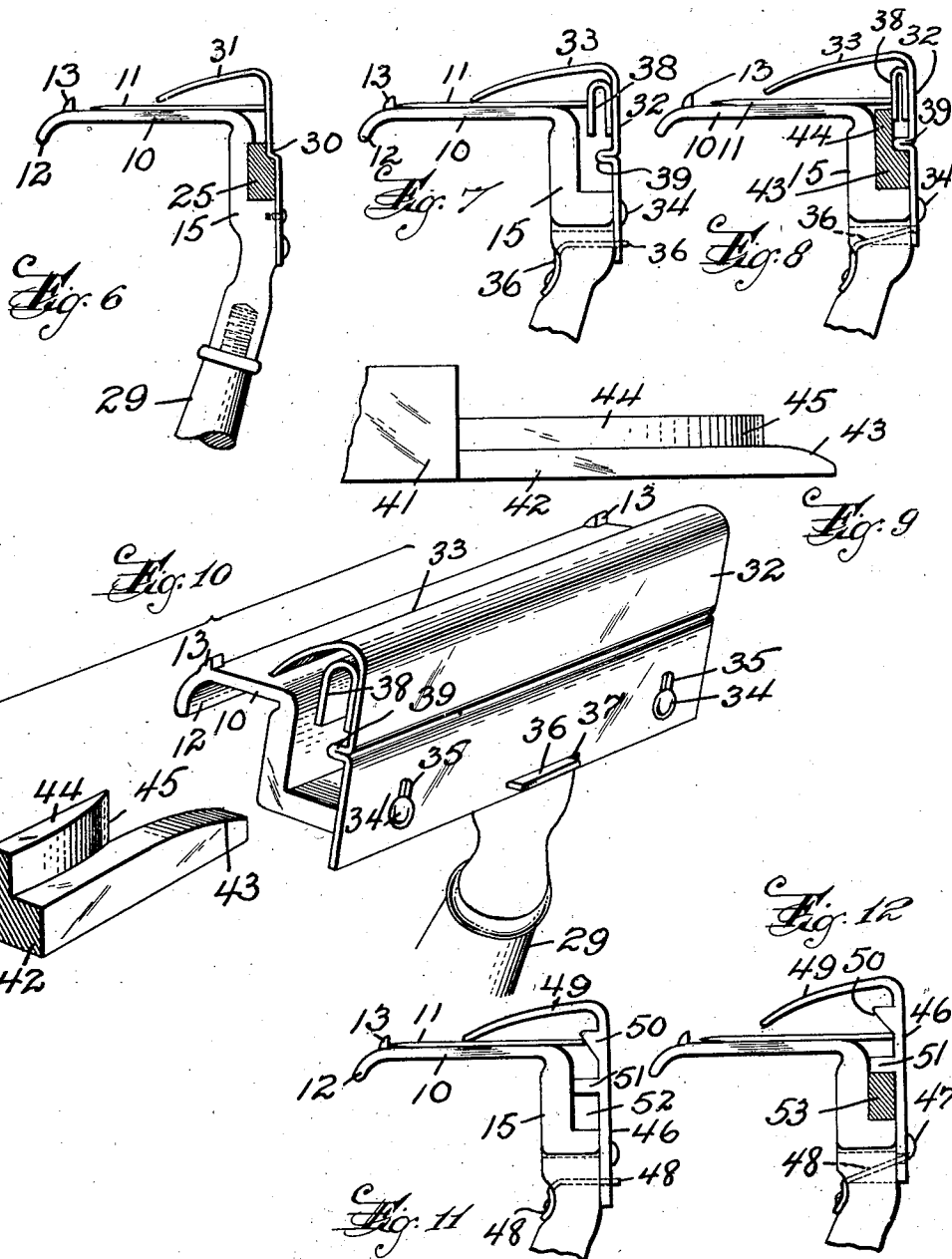
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UNITED STATES PATENT OFFICE

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SAFETY RAZOR

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to Magazine Repeating Razor Company, New
York, N. Y.

Application May 23, 1935, Serial No. 22,939

3 Claims. (Cl. 30—40)

This invention relates to an improved safety razor which is combined with a blade magazine for the purpose of feeding a blade into the razor. The razor and blade are readily separable as the razor is used independent of the magazine. This type of razor is shown in my Patent No. 1,969,945, issued August 14, 1934.

In the present invention I employ means for positioning the magazine on the razor which means also causes the retreat of the back plate or a part thereof to allow the feeding of a blade in rear of its shaving position. The said means can also operate to raise a top plate that normally rests on the top face of a blade in the razor. All these parts resume their normal grasping positions on the withdrawal of the magazine. In cases where the top plate is relieved to press lightly or not at all on the top face of the blade, the blade is moved to position before the top plate is allowed to clamp the blade. This insures easy positioning of the blade and a firm top plate can be used. The blade platform in this form of razor is stiff relative to the other blade-clamping parts.

The invention is illustrated in the accompanying drawings, in which Figure 1 is an end view, partly in section, with a blade in shaving position. Figure 2 is a similar view with a blade after injection into the razor and in rear of its shaving position with the finger of a blade magazine shown in section. Figure 3 is a perspective view of the blade magazine. Figure 4 is a longitudinal section of the blade magazine. Figure 5 is a perspective view of a razor shown in Figures 1 and 2 and also showing the extreme end of the finger of the magazine. Figure 6 is an end view of a modified form of razor with the finger of the magazine in section in the razor. Figure 7 is an end view of still another modification with the blade in shaving position. Figure 8 is a similar view but with a blade in rear of its shaving position and showing the finger of the magazine in section. Figure 9 is a top view of one end of the magazine and the finger. Figure 10 is a perspective view of the razor shown in Figures 7 and 8 and showing the end of the finger of the magazine. Figure 11 is an end view of a modification employing a cam for positioning the razor blade with the blade in position. Figure 12 is a view similar to Figure 11 with the cam raised along with the top plate and with the finger of the magazine in section.

In the form of razor shown in Figures 1, 2 and 5, the blade platform 10 is adapted to receive a blade 11 endwise and support it in shaving posi-

tion, that is, with its cutting edge at the proper distance from the guard 12. The stops 13 may be installed for preventing the blade from advancing too far but the stops are not essential if the blades are all of the same width.

In this type of razor a fresh blade is passed into the razor, from a magazine, in rear of its shaving position. A spring actuated piece is moved out of the path of the fresh blade when the magazine and razor are temporarily joined. When the magazine is withdrawn from the razor the spring-actuated piece is freed and pushes the blade forward into shaving position relative to the guard.

In the razor shown in Figure 2 the spring actuated piece is a plate 14 of spring metal which is secured to the base 15 of the blade platform. The spring 14 has its upper end 16 in rear of the top face of the blade platform and a part 17 that projects into a recess or slot 18 in the base 15. The slot or recess 18 is for the reception of a finger on the magazine. The magazine 19 is of the conventional type as shown in my patent mentioned above. The magazine receives a stack 20 of blades held against the slotted top 21 of the magazine by a spring 22.

A slide 23 ejects the blades, one at a time, through a slit 24 in the front wall of the magazine. The finger 25 projects from the front of the magazine and is preferably tapered as at 26 for easy entrance. A back plate 27 is secured to the base 15 and is bent over to form a spring top plate 28 that rests on the top of the blade 11.

When a fresh blade is needed, the finger 25 is slid into the recess 18. This holds the part in alignment and pushes back the spring plate 14 as in Figure 2. This spring 14 acts as a guide to the rear edge of the blade 11 fed into the razor by sliding the slide 23. When the blade is inside the razor the magazine finger 25 is withdrawn and the spring is then free and it pushes the blade into shaving position as shown in Figure 1.

This form of razor is firm as the blade platform 10 is made relatively stiff and the spring therefore moves positively when it is pushed back or released. A suitable handle 29 is provided for the manipulation of the razor and for holding it when the magazine is attached and operated. In Figure 6 I show a modification in which the back plate 30 and the top plate 31 are used as the spring member. This form utilizes the spring action of the back plate without the interposition of an additional spring member. The operation by the finger 25 is the same as in the razor above described but in this form the

pressure by the top plate 31 on the blade, is relieved when the back plate 30 is pushed back by the finger 25.

In Figures 7 to 10, I show a form in which the back of the blade is released but after the top plate is raised and when a fresh blade is inserted and the finger of the magazine withdrawn the operations are so timed that the spring member engages and positions the blade forwardly before the top plate clamps the blade in place. This insures a relatively free blade during the positioning operation and also insures a positive clamping of the blade by the top plate. In this form of razor the blade platform 10 and the guard 12 and the stops 11 are substantially the same. The back plate 32 has the overhanging of the top plate 33 for engaging the top face of the blade 11. The back plate has a limited vertical movement. The pins 34 on the base 15 projecting through slots 35 in the back plate show one form of a sliding connection. The back plate is held in lowered normal position by a suitable spring. One form is shown by the spring 36 secured to the base 15, extending through the base, and resting in a slit 37 in the back. On the front face of the back plate I show a spring 38 for engaging the back of the blade. This spring is relatively light. The back plate has a suitable stop, such as the bent over part 39 which stop is projected into a recess 40 in the base 15, this recess receiving the finger of the magazine. The magazine 41 has the finger 42 which has the front end tapered as at 43 which taper is positioned to engage and raise the stop 39 and thus lift the back plate and top plate. The finger also has a flange 44 with a laterally tapered front end 45 for engaging the positioning spring 38. The projection of the part 43 beyond the flange 44 insures the raising of the back plate before the blade positioning spring is retreated to the positions shown in Figure 8.

For the same reason, when the finger 42 is withdrawn the flange 44 releases the spring 38 when it clears the spring and the spring when so released pushes the blade 11 forwardly into shaving position. The back plate 32 is still held up however by the part 43 of the finger 42 and when the back plate is finally released the blade is in position. The back plate is pushed down by the spring 36 and the top plate engages the blade only after the blade is positioned and there is no frictional interference with the blade when it is pushed forward by the spring 38.

Another form for positioning the blade while it is practically free is shown in Figures 11 and 12. This form comprises a movable back plate 46 mounted on the back of the base 15 of the blade platform. The back plate has slots which receive the studs 47 and is yieldingly held down by a spring 48 which acts in the same manner as the spring 36 in Figures 7 and 8. The back plate

includes a top plate 49 which is bent over to engage the top face of the blade, a cam portion 50 which is adapted to engage and position the blade in the razor, and a stop 51 which projects toward the base 15 and forms the top wall of the recess 52. The finger of the magazine is represented at 53 in Figure 12. It will be evident that when the finger 53 raises the back plate it automatically raises the top plate 49 and the cam 50. After a blade is in place and the finger 53 is withdrawn the spring pulls the back plate down and the cam 50 pushes the blade 11 forwardly after which the top plate 49 engages the blade to hold it down against chattering in the shaving operation.

Various changes may be made in the form and proportion of the parts without departing from the scope of the invention as set forth in the claims.

I claim:—

1. A safety razor comprising a blade platform for supporting a blade, a spring member having a back plate for engaging the back edge of the blade and a spring top plate for bearing on the top face of the blade, a magazine having a finger for sliding engagement with the razor for holding the magazine in position on the razor, said finger having a surface to engage the spring member for moving both the back plate and the top plate out of normal position while the razor and magazine are assembled, said finger being so formed that the back plate is returned to normal position prior to the return of the top plate.

2. A safety razor comprising a relatively stiff blade platform, a back plate for resiliently engaging the edge of a blade on the platform, in combination with a magazine for blades, a finger on the magazine for sliding engagement between the blade platform and the back plate whereby the back plate is moved out of its normal position, a stop on the back plate, a top plate extending from the back plate and engaging the top face of the blade, and a surface on the finger for engaging the stop whereby the back plate is raised to relieve the pressure of the top plate on the blade, said stop engaging surface extending on the finger beyond the part that engages the back plate in order to position the blade before the top plate clamps the blade on the withdrawal of the finger.

3. A safety razor comprising a base having a longitudinal recess therein, a blade platform extending laterally from the top of the base, a back plate secured to the base and having a top plate bent over therefrom to grasp a blade on the blade platform, and a spring secured so as to extend normally across part of the recess and with its end adapted to engage a blade on the platform.

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