

April 20, 1954

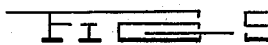
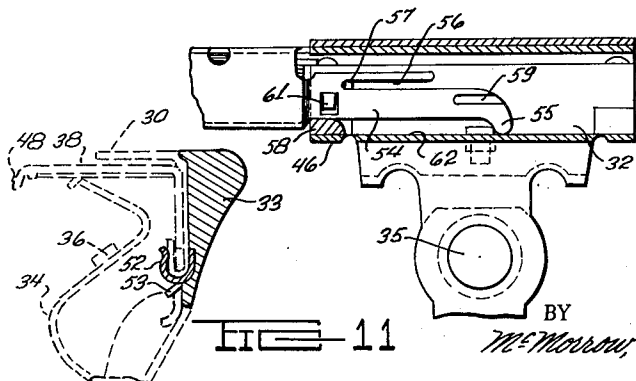
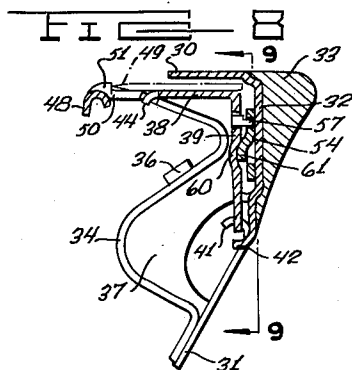
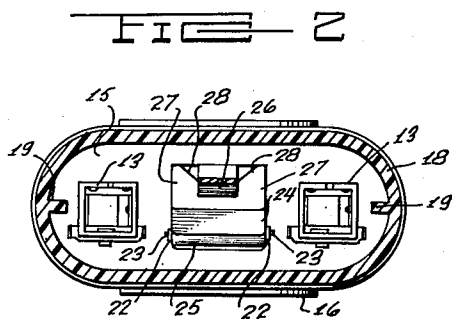
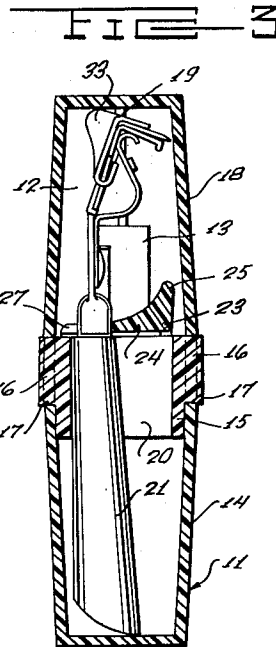
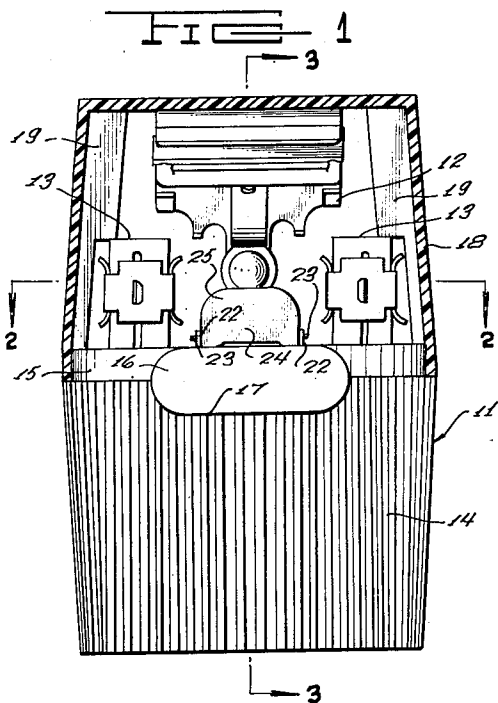
K. B. PETERSON

2,675,613

KEY INJECTOR AND RAZOR

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2 Sheets-Sheet 1



INVENTOR
KENNETH B. PETERSON

BY
McMorrow, Bertram + Davidson
ATTORNEYS

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K. B. PETERSON

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2 Sheets-Sheet 2

FIG-4

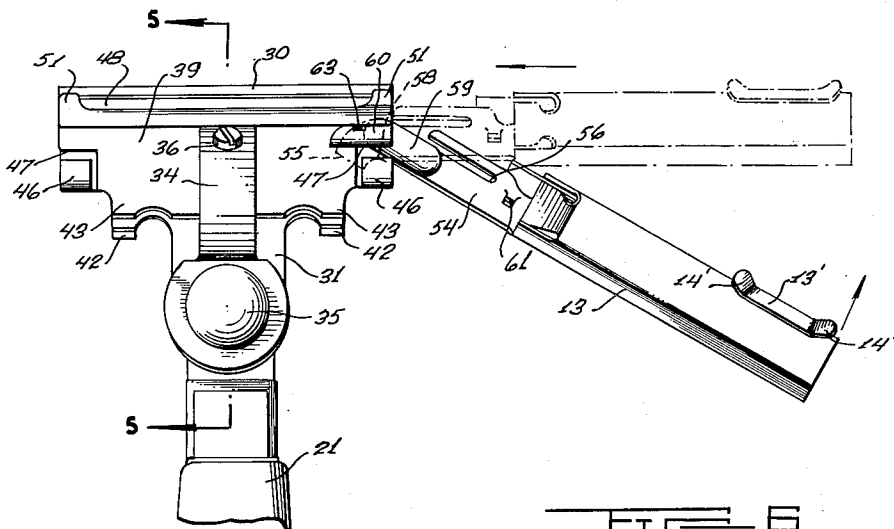


FIG-6

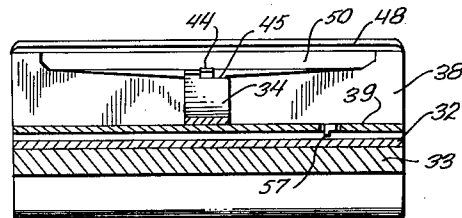


FIG-5

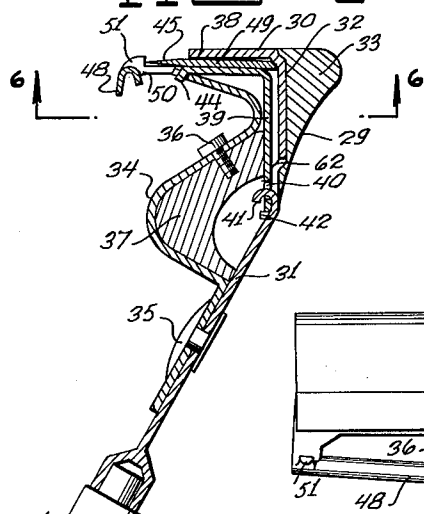


FIG-7

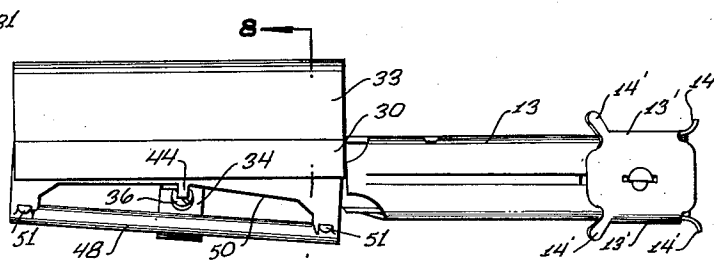
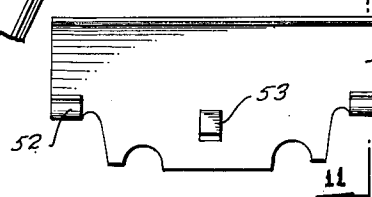


FIG-10



INVENTOR
KENNETH B. PETERSON

BY
McMorrow, Bertram & Davidson
ATTORNEYS

UNITED STATES PATENT OFFICE

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KEY INJECTOR AND RAZOR

Kenneth B. Peterson, Brooklyn, N. Y.

Application April 14, 1950, Serial No. 155,971

4 Claims. (Cl. 30-40)

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This invention relates to razors of the magazine type, and more particularly to razors in which a physically separate magazine is employed which is engageable with the razor and aligned with the head of the razor when it is desired to insert a fresh blade into the razor head.

A main object of the invention is to provide a novel and improved razor of the injector type, the razor having improved features whereby a blade may be more easily and accurately inserted in the razor head than in the injector razors of the prior art, and whereby access is more easily provided to the interior of the razor head for removing the blade and for cleaning the razor head.

A further object of the invention is to provide an improved razor of the injector type wherein the balance of the razor during shaving is superior to the injector razors of the prior art, and wherein improved means for accurately aligning the magazine with the razor head during the insertion of a fresh blade is provided.

A still further object of the invention is to provide an improved magazine for use with an injector razor, said magazine being provided with means for positively aligning the magazine with the razor head during the insertion of a fresh blade into the razor, and the razor being arranged so that the clamping element thereof may be readily moved to an inoperative position, allowing the blade to be easily removed and providing access to the interior of the razor head for cleaning.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a front elevational view of an improved container for an injector razor and a pair of magazines according to the present invention, the cover of the container being shown in cross-section;

Figure 2 is a horizontal cross-sectional view taken on line 2-2 of Figure 1;

Figure 3 is a vertical cross-sectional view taken on line 3-3 of Figure 1;

Figure 4 is an enlarged, front elevational, detail view of the upper portion of an improved injector razor according to the present invention, showing the magazine engaged therewith and illustrating the manner in which the magazine is interlocked with the head of the razor to properly align the magazine with the razor head for the insertion of a fresh blade into the razor;

Figure 5 is a cross-sectional detail view taken on line 5-5 of Figure 4;

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Figure 6 is a cross-sectional detail view taken on line 6-6 of Figure 5;

Figure 7 is a top view of the structure shown in Figure 4;

Figure 8 is a cross-sectional detail view taken on line 8-8 of Figure 7;

Figure 9 is a cross-sectional detail view taken on line 9-9 of Figure 8;

Figure 10 is an elevational detail view of a modified form of rear weighting member for the razor of the present invention, said rear weighting member being detachable from the razor head and being adapted to be clamped to said razor head;

Figure 11 is a cross-sectional detail view taken on line 11-11 of Figure 10, but showing the weighting member secured to a portion of the razor head, the razor head portion being shown in dotted view.

Referring to the drawings, and more particularly to Figures 1 to 3, 11 generally designates a plastic carrying case for an injector razor, shown at 12, and for a pair of blade magazines, shown at 13, 13. As shown in Figure 3, the case 11 comprises a bottom housing 14, in the top portion of which is secured a thick block member 15, said block member 15 being formed with opposing, enlarged, oval bosses 16, 16 received in recesses 17, 17 formed in the rim of the housing 14 at opposite sides of the housing. The remainder of the block member 15 projects above the plane of said rim and serves as a frictional engaging means for the rim of a cover 18, the cover rim being formed with recesses adapted to receive the oval bosses 16, 16, when the cover is fitted on the block member 15 in the manner shown in Figures 1 and 3. As shown in Figure 1, the cover 18 is formed with shouldered, inwardly projecting, side ribs 19, 19 adapted to engage the top ends of the magazines 13, 13. The block member 15 is formed with an intermediate aperture 20 in which the handle 21 of the razor is adapted to be received, and is formed with similar apertures on opposite sides of aperture 20 in which the magazines 13, 13 are adapted to be received. When the cover 18 is in place on the housing, as shown in Figures 1 and 3, the shouldered ribs 19 engage the top ends of the magazines 13, 13, and the top wall of the cover engages the top of the razor head, preventing displacement or rattling of the razor and magazines in the case when the case is moved or inverted. The structure thus far described is conventional.

The cover 18 may be made of transparent plastic material, so that the contents of the case

will be visible when the cover is in place on the bottom housing 14.

The blade magazines 13, 13 are provided with injector slide saddles 13', said saddles 13' being formed with relatively large, upwardly bent, corner prongs 14', providing a means for readily operating the injector slide when changing blades. The slide saddles are shaped to receive the thumb or finger of the user in a secure manner, whereby operation of the injector slide may be easily accomplished, even while the user's fingers are damp or slippery.

The rear marginal portion of block member 15 is provided with a pair of upstanding lugs 22, 22 spaced on opposite sides of the aperture 20. Pivoted between said lugs by pins 23, 23 is a plastic plate member 24 formed with a read upstanding rib 25 and formed at its forward margin with a notch 26 defining spaced fingers 27, 27. When the plate member 24 is in a horizontal position, as shown in Figure 3, the neck portion of the razor is clamped between the fingers 27, 27, said fingers being slightly resilient to provide a spring clamping action on said neck portion. The inner corner portions of the fingers 27, 27 are arcuately beveled, as shown at 28, 28 to facilitate the wedging engagement of the clamping fingers with the razor neck portion when the plate member 24 is rotated. The user may manipulate the plate member 24 by holding the housing 14 in one hand and employing the thumb of said hand to apply force to the upstanding rib 25. When the neck of the razor is clamped between the fingers 27, 27, the razor is locked in its aperture 20. In this position, the head of the razor overlies the magazines 13, 13. Therefore, with the cover 18 removed, neither the razor nor the magazines will fall out of the housing 14 when the housing is accidentally inverted.

Referring now to Figures 4 to 9, it will be seen that the improved razor 12 comprises a head 29 consisting of an angular rear clamp 30 carried on a stem portion 31, to the lower end of which the handle 21 is secured. Molded on the rear surface of the vertical arm 32 of clamp 30 is an enlarged rib 33 of heavy metal serving as a weighting means.

Designated at 34 is a generally Z-shaped clamping spring which is pivotally secured at its lower end to the stem portion 31 by a rivet 35, as shown in Figure 5. Secured in the lower bend of spring 34 by a screw 36 is a mass of heavy metal 37 serving as an additional weighting means. Designated at 38 is the angular front clamp, the vertical arm 39 of said front clamp being formed at its lower intermediate marginal portion with an aperture 40 which receives a hooked lug 41 carried by the lower portion of the vertical arm 32 of rear clamp 30, as shown in Figure 5. The arm 32 is formed at opposite sides of hooked lug 41 with depending, forwardly bent fingers 42, 42 which are engaged by corner lugs 43, 43 formed at the lower corners of arm 39 of the front clamp.

The top arm of front clamp 38 is formed with a downwardly turned lug, as shown at 44, said lug being engageable in a notch 45 formed in the top edge of spring 34, the notch being formed to interlock resiliently with said lug to lock the spring in tensed position, as shown in Figures 4, 5 and 6, exerting upward force on the top arm of front clamp 38. The vertical arm 32 of the rear clamp 30 is formed with lugs 46, 46 on opposite sides thereof engaged in respective notches 47, 47 formed in the vertical arm 39 of

front clamp 38 to restrain the front clamp against lateral movement. The forward margin of the top arm of front clamp 38 is formed with a downwardly turned flange 48 and is longitudinally slotted at 50 adjacent said flange. The blade, shown at 49, is receivable between the top arms of the front and rear clamps and engages corner lugs 51 provided on the top arm of the front clamp.

Instead of making the weight 33 unitary with the rear clamp, a detachable weighting member 33' may be employed, as shown in Figures 10 and 11. Said weighting member 33' is provided with spring hooks 52, 52 engageable around the lugs 46, 46 of a conventional rear clamp and is formed with a downwardly and forwardly projecting intermediate lug 53 lockingly engageable in an aperture formed in the vertical arm of said rear clamp.

Referring again to Figures 4, 5 and 6, it will be seen that by rotating the spring 34 laterally, the clamping pressure on front clamp 38 will be released, and said front clamp may be swung downwardly, pivoting around the hook 41 and around the fulcrum lugs 42, 42, and may be detached from hook 41, allowing the blade 49 to be removed, and allowing the interior surfaces of the razor head to be cleaned.

Referring now to Figures 4, 6, 7, 8 and 9, it will be seen that each magazine 13 is formed with a forwardly projecting pilot finger 54 engageable between the vertical arms of the front and rear clamps, said pilot finger being formed at its end with a depending lug 55 and with a longitudinal, open-ended slot 56. The vertical arm 39 carries a projection 57 slidably engageable in slot 56, to accurately align the finger 54 when it is inserted between arms 32 and 39. The lug 46 at the left side of the razor head, as viewed in Figure 9, is provided with an internal shoulder 58 over which lug 55 is hooked initially in inserting the finger 54. The finger 54 is pressed outwardly at its forward portion to define a longitudinal rib 59 which is engageable in a longitudinal channel 60 formed in arm 39, as shown in Figure 8. At its rear portion, finger 54 is formed with an outwardly struck stop lug 61 receivable in the channel 60 and coacting with a lug 63 in the inner end of said channel to limit inward movement of the finger 54 between the arms 32 and 39. The vertical arm 32 of the rear clamp is formed at its lower portion with a longitudinal shoulder 62. It will be seen from Figure 9 that when finger 54 is inserted between arms 32 and 39, the lug 55 is first hooked over shoulder 58, as shown in full line view in Figure 4, and then the magazine is rotated into substantial alignment with the razor head, as shown in dotted view in said figure. This brings lug 55 into engagement with shoulder 62 and allows the magazine to be moved inwardly, whereupon the lug 57 enters the slot 56 in the magazine finger 54. At the same time, the rib 59 engages in the channel 60. As the finger is moved further inwardly, the rib 59 emerges from channel 60 and spreads the members 39 and 32 apart. Finally, the lug 61 engages the lug 63 and the lug 57 enters the slot 56 in the magazine finger 54. At the same time, the rib 59 engages in the channel 60. As the finger is moved further inwardly, the rib 59 emerges from channel 60 and spreads the members 39 and 32 apart. Finally, the lug 61 engages the lug 63 and the lug 57 engages the end of the slot 56, whereby the finger 54 is in its fully inserted position, shown in Figure 9. The

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magazine is now accurately aligned with the razor head and the blade may be injected between the top arms of the front and rear clamps in the usual manner. After the blade has been injected into the razor head, the finger 54 is retracted from between the arms 32 and 39 and unhooked by withdrawing same over the shoulder 53, whereby the razor is ready for shaving.

The weighting elements 33 and 37 provide an improved balance when the razor is held for shaving, the head portion of the razor being much heavier than the head of the conventional injector razor, whereby a more reliable shaving stroke is obtained.

The razor blade may be readily removed by holding handle 21 in one hand and rotating spring 34 laterally with the thumb of said hand, releasing the front clamp 38, as previously described.

While certain specific embodiments of an improved injector-type razor and a case therefor have been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In combination, an injector razor comprising a shank, a rear clamping member secured to said shank, a front clamping member movably secured to said shank forwardly adjacent said rear clamping member, a spring carried by said shank forwardly of and engaging said front clamping member to urge the front clamping member toward the rear clamping member, said front clamping member being formed with an internal longitudinal groove at one side thereof and with a projection adjacent said groove, a shoulder on said front clamping member adjacent said groove, a second shoulder on the rear clamping member coextensive with said rear clamping member, a blade magazine, a finger projecting from one end of the magazine insertable between the front and rear clamping members, and a longitudinal rib on said finger slidably engageable in said longitudinal groove, said finger being formed with an open-ended, longitudinal slot slidably receiving said projection, and a downwardly depending hook element carried at the end of said finger engageable over said first named shoulder and in sliding engagement with said second shoulder.

2. In combination, an injector razor comprising a shank, a rear clamping member secured to said shank, a front clamping member movably secured to said shank forwardly adjacent said rear clamping member, a spring carried by said shank forwardly of and engaging said front clamping member to urge the front clamping member toward the rear clamping member, one of said clamping members being formed with an internal longitudinal groove at one side thereof and with a projection adjacent said groove, a shoulder provided on one of the clamping members adjacent said groove, a blade magazine, a finger projecting from one end of the magazine insertable between the front and rear clamping members, a longitudinal rib on said finger slidably engageable in said longitudinal groove, said finger being formed with an open-ended longitudinal slot slidably receiving said projection, a hook element carried at the end of the finger engageable over said shoulder, and a second

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shoulder on the other of said clamping members slidably engaged by said hook element.

3. In combination, an injector razor comprising a shank, a rear clamping member secured to said shank, a front clamping member movably secured to said shank forwardly adjacent said rear clamping member, a spring carried by said shank forwardly of and engaging said front clamping member to urge the front clamping member toward the rear clamping member, said front clamping member being formed with an internal longitudinal groove at one side thereof and with a projection adjacent said groove, a shoulder on said front clamping member adjacent said groove, a second shoulder on the rear clamping member co-extensive with said rear clamping member, a blade magazine, a finger projecting from one end of the magazine insertable between the front and rear clamping members, a longitudinal rib on said finger slidably engageable in said longitudinal groove, said finger being formed with an open ended, longitudinal slot slidably receiving said projection, a downwardly depending hook element carried at the end of said finger engageable over said first named shoulder and in sliding engagement with said second shoulder, and a rearwardly projecting weight carried on the exterior surface of said rear clamping member and so-extensive therewith, said weight complementing the contours of said rear clamping member and being smoothly fared thereinto.

4. In combination, an injector razor comprising a shank, a rear clamping member secured to said shank, a front clamping member movably secured to said shank forwardly adjacent said rear clamping member, a spring carried by said shank forwardly of and engaging said front clamping member to urge the front clamping member toward the rear clamping member, said front clamping member being formed with an internal longitudinal groove at one side thereof and with a projection adjacent said groove, a shoulder on said first clamping member adjacent said groove, a second shoulder on the rear clamping member co-extensive with said rear clamping member, a blade magazine, a finger projecting from one end of the magazine insertable between the front and rear clamping members, a longitudinal rib on said finger slidably engageable in said longitudinal groove, said finger being formed with an open ended, longitudinal slot slidably receiving said projection, a downwardly depending hook element carried at the end of said finger engageable over said first named shoulder and in sliding engagement with said second shoulder, a rearwardly projecting weight carried by said rear clamping member, and an additional weight secured to said leaf spring interiorly of said arcuately spaced portion thereof.

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