

Nov. 23, 1954

J. MUROS ET AL
MAGAZINE RAZOR

2,694,856

Filed Feb. 16, 1951

4 Sheets-Sheet 1

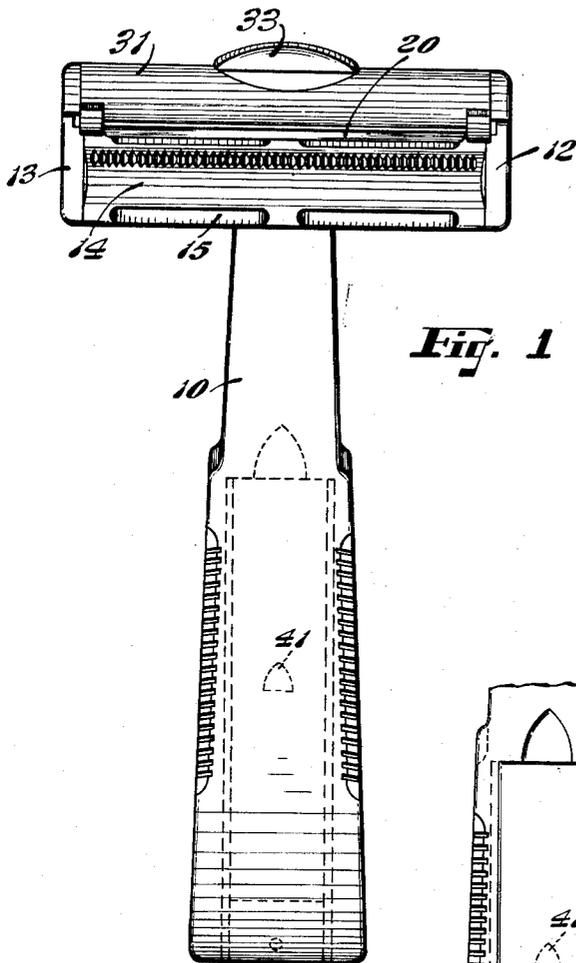


Fig. 1

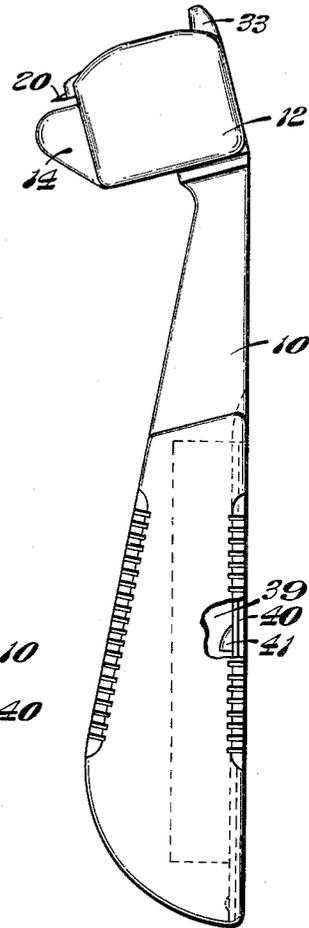


Fig. 2

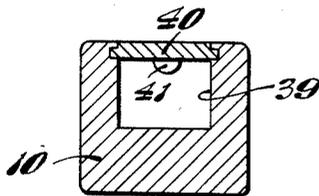


Fig. 4

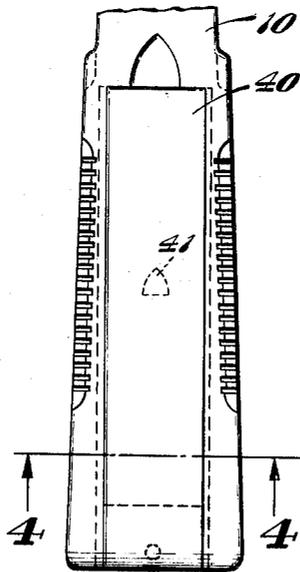


Fig. 3

Inventors
Joseph Muros and
Louis V. Nigro.
By *Attn: Conway City*

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Fig. 5

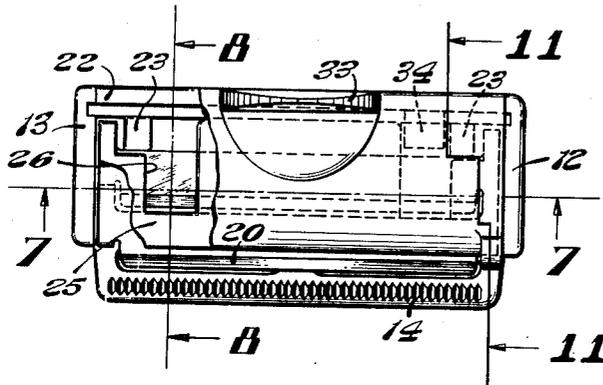
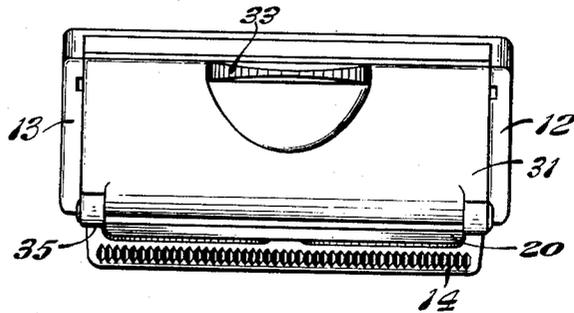


Fig. 6

Fig. 7

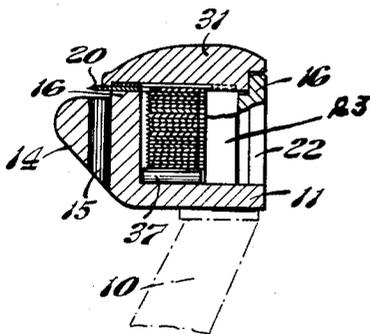
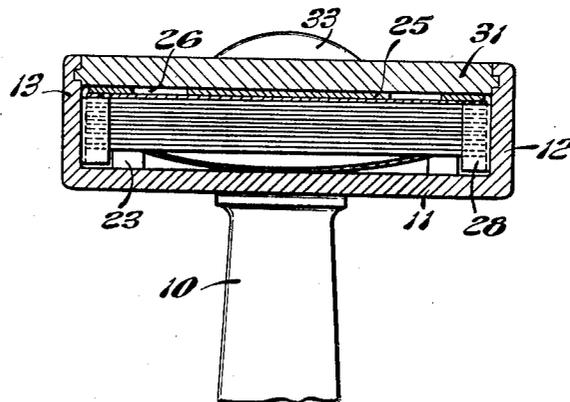


Fig. 8

Inventors
Joseph Muros and
Louis T. Nigro
BY H. W. Kenway Atty.

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Fig. 9

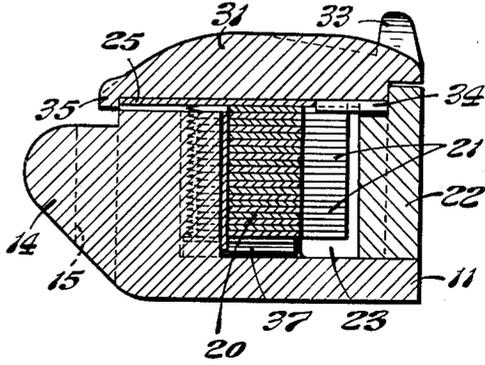


Fig. 10

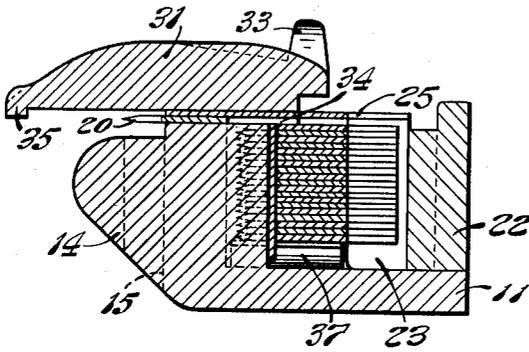


Fig. 11

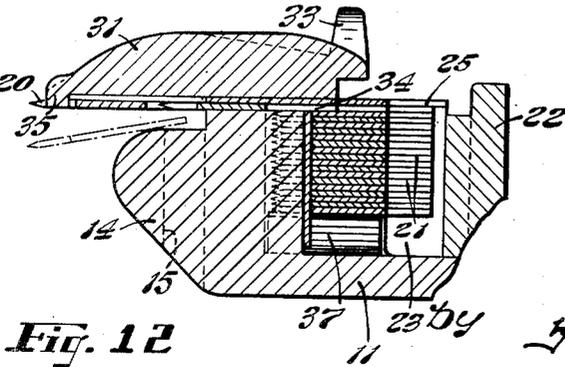
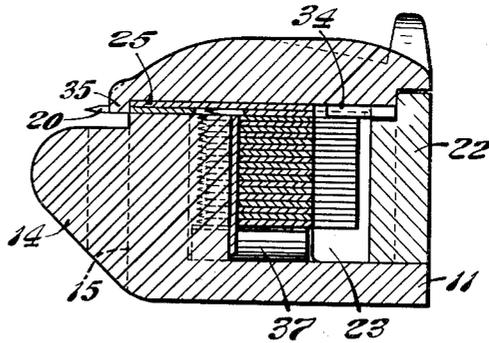


Fig. 12

inventors
Joseph Muros and
Louis V. Nigro.

By H. W. Kenway atty.

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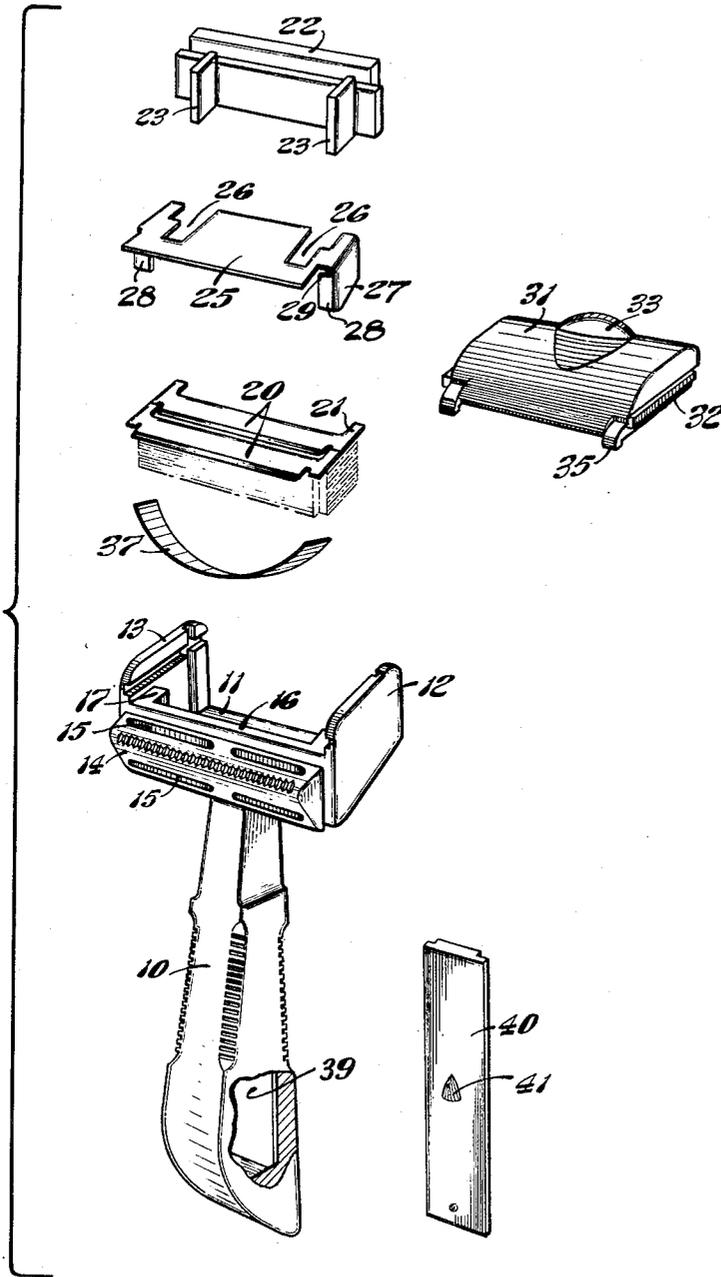


Fig. 13

INVENTORS
*Joseph Muros and
Louis V. Nigro.*
By H. W. Kenway atty.

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MAGAZINE RAZOR

Joseph Muros, Newtonville, and Louis V. Nigro, Chelsea, Mass., assignors to The Gillette Company, a corporation of Delaware

Application February 16, 1951, Serial No. 211,326

11 Claims. (Cl. 30—40)

This invention comprises a new and improved safety razor of the magazine type organized to maintain an ample supply of fresh sharp blades in completely protected condition and under the control of simple mechanism for bringing successive blades conveniently into shaving position as required by the user.

One object of the invention is to provide a magazine razor organized to handle blades containing a relatively small amount of steel although presenting a cutting edge entirely adequate for shaving purposes and one that may be produced economically and sharpened to a high degree of keenness. By employing such blades the razor itself may be made compact, light and easily handled, a substantial number of blades may be held in reserve in a small space, and the cost of the blades correspondingly reduced. All these factors contribute to the frequent replacement of blades by the user with increased shaving comfort.

Going more into detail, the magazine razor of our invention includes a head containing a chamber or compartment for a blade stack and having a front wall providing a blade seat at its upper edge. A friction plate overlies the blade seat and engages the blade thereon and a reciprocatory cap is mounted on the head and provided with feeding lugs projecting through apertures in the friction plate for advancing one blade after another from the stack to the blade seat. A complete reciprocation of this cap is all that is necessary in ejecting a used blade from the razor head and replacing it by a fresh blade.

As herein shown the razor is organized to handle thin flat single edged blades in which both the sharpened and unsharpened edges of the blade are offset with respect to the ends of the blade so as to permit one blade to be located by engagement with a second blade lying in the same plane while providing clearance for its sharpened edge.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings in which:

Figs. 1 and 2 are views in front and side elevation of the razor on an enlarged scale.

Fig. 3 is a fragmentary view of the razor handle.

Fig. 4 is a view in cross section on the line 4—4 of Fig. 3.

Fig. 5 is a plan view of the razor head.

Fig. 6 is a similar view with certain parts broken away.

Fig. 7 is a view in longitudinal section on the line 7—7 of Fig. 6.

Fig. 8 is a view in cross section on the line 8—8 of Fig. 6.

Figs. 9—12 are views of the razor head in cross section on the line 11—11 of Fig. 6 showing the cap in progressively different positions; and,

Fig. 13 is a view in perspective showing the parts of the razor in exploded relation.

As herein shown the handle and head of the razor are represented as molded in one piece of plastic material, but metal or any desired combination of metal and plastic material may be employed within the scope of this invention. The handle 10 is shown as substantially square in cross section and as tapering upwardly to the razor head which comprises a bottom plate 11, end walls 12 and 13, and a front wall 14. The end walls are provided with intersecting vertical and horizontal slots in their

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inner faces for receiving the cap and back wall as will presently be described. The front wall 14 is formed as a guard member and is inclined first outwardly and upwardly and then inwardly. The front wall is solid except for two longitudinal slots 15 which lighten the razor head and form escape passages for the shaving debris. The front wall terminates in a flat blade seat 16 upon which the operative blade rests. The front wall merges into internal front corner ribs 17 which are flush at their upper ends with the blade seat 16 and support the opposite rearwardly extending arms of the operative blade.

The blades themselves are best shown in Fig. 13. They are generally rectangular in shape with a single sharp edge, notched in both front corners and provided with rearwardly extending arms 21 at each side of sufficient length to fit into the notches of an adjacent blade lying in the same plane and providing a safe clearance between the sharp cutting edge of the rearmost blade and the unsharpened rear edge of the foremost blade. The front corner notches form sockets for receiving the ends of the arms 21. The head of the razor provides a compartment for a stack of these blades 20.

The blade compartment in the head of the razor is closed by removable rear wall 22 which has offset ribs at each end arranged to fit freely in the vertical slots of the end walls 12 and 13 of the razor head. The rear wall 22 of the razor head is also provided with spaced forwardly extending vertical rails or abutments 23. These are effective to back up the blade stack and maintain the individual members of the stack in vertical alignment spaced forwardly from the wall 22.

A friction plate 25 is constructed of thin sheet metal and is shaped to fit within the compartment of the razor head and partially to enclose the blade stack therein. It has a flat horizontal body adapted in its forward portion to overlie the blade seat 16 and to exert frictional pressure upon a blade thereon holding it firmly and yieldingly in place on the blade seat. The friction plate has a pair of spaced rectangular and shouldered slots 26 opening through its rear edge, extending over the blade stack and providing for the passage of the abutment rails 23 and blade-feeding lugs on the cap of the razor head. At each end the friction plate has a downwardly extending end wall 27, and these end walls merge into turned front walls 28 which are separated at their upper edges from the body of the friction plate by blade gates 29 of just sufficient width to permit the passage of a single blade at a time. When the friction plate is in place, the turned front walls 28 bear against the rear edges of the front corner ribs 17 already described and are themselves engaged in the notches at the ends of the blades in the stack.

The razor head has a reciprocatory cap 31 which is rigidly constructed and provided at each end with a rib 32 designed to slide in the horizontal slots of the end walls 12 and 13. For convenience in manipulating the cap, it is provided with an upstanding finger-piece 33. On its under face the cap is provided with a pair of feed lugs 34 which move freely in the slots 26 of the friction plate, and are so located as to engage and advance the uppermost blade 20 of the stack when the cap is moved from its initial position as shown in Fig. 9 to its forward position as shown in Fig. 10. The cap is also provided at its two front corners with hooked lugs 35 which are so located as to engage a blade in its two front corner notches and retract it into shaving position when the cap is moved from its forward position as shown in Fig. 10 back to its initial position as shown in Fig. 11. The cap backs up and supports the thin friction plate 25 by engaging it with its own underface.

A bowed spring 37 is placed in the blade compartment beneath the blade stack, operating at all times to elevate the stack and hold the uppermost blade therein against the under face of the friction plate 25 and in line with the blade gates 29.

The handle 10 of the razor is provided with an elongated receptacle 39 for the reception of used blades. This is normally closed by a cover slide 40 movable vertically in ways formed in the handle 10 and provided with an internal detent 41 which prevents disengagement of the slide from the handle.

The operation of the razor will be apparent from the

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foregoing description but may be summarized as follows. The razor is initially supplied to the user with its compartment fully charged with a stack of blades 20 held under upward pressure by the spring 37 and with the uppermost blade in the stack located as shown in Fig. 9. When the cap 31 is moved forwardly, the lugs 34 moving in the slots 26 of the friction plate advance the uppermost blade to the blade seat 16 and its place is subsequently, on the return movement of the cap, taken by the blade which had been second in the stack. This is the position of the parts shown in Fig. 11 and the position of the blades shown in Fig. 13. Now, when the cap is retracted, the lugs 35 of the cap engage in the corner notches of the foremost blade and retract it first into engagement with the blade now uppermost in the stack and then until the latter blade is positively arrested by the engagement of its rear edge with the abutment rails 23 of the rear wall of the razor head. When positioned in this manner, the foremost blade is located with extreme accuracy in the proper shaving position, and with exactly the required edge exposure in respect to the guard formed by the front wall 14 and the front edge of the cap 31. The vertical position of the blades is determined by the under face of the stationary friction plate and horizontal movements of the blades forwardly and rearwardly take place in sliding engagement with that face. The friction plate prevents the cap in its rearward movement from disturbing the blade at the top of the stack. It will be understood that when the foremost blade is retracted by the hooked lugs 35, the blade is securely guided between the blade seat 16 and the friction plate 25 until it and the rearmost blade are arrested in gauged position by the abutment rails 23.

When the shaving operation has been completed or whenever the user requires a fresh blade, the cap 31 is again advanced, and in this movement the rearmost blade of the two shown in Figs. 6 and 13 is moved ahead by the lugs 34 of the cap. The foremost blade is simultaneously advanced by its engagement with the cap-fed blade from the blade seat and out from beneath the friction plate 25 to a position in which it is free to drop as suggested in Fig. 12, thus being removed from the razor head and being immediately replaced by the blade behind it. That blade in turn is, on return movement of the cap, backed up by the blade previously uppermost in the stack and this cycle may be repeated until all the blades in the stack have been exhausted.

It is contemplated that the rear wall 22 may be permanently sealed in place and the whole razor discarded when its supply of blades has been exhausted, but if desired provision may be made for removing the rear wall and replenishing the stack. In one sense the present device may be considered to be a shaving dispenser, that is to say, a blade dispenser with which one can shave directly and repeatedly, and which can then be discarded when empty as is usually done with blade dispensers, rather than merely a razor in the usual sense of the word.

Having thus disclosed our invention and described in detail an illustrative embodiment thereof, we claim as new and desire to secure by Letters Patent:

1. A magazine razor having a head containing a compartment for a blade stack and provided with opposed end walls and a front wall having a blade seat at its upper edge, a thin sheet metal friction plate overlying said blade seat and engaging a blade thereon and having slots in its body portion, and reciprocatory cap of rigid construction mounted in guideways in the end walls of the head and having lugs projecting through the slots of the friction plate for advancing a blade from the stack to the blade seat while supporting the friction plate by contact with its own inner face.

2. A magazine razor as defined in claim 1 in which the friction plate has a downwardly extending wall at each end merging into an turned front wall wherein the blade gate is formed.

3. A magazine razor comprising a head having a blade chamber therein with spaced blade-locating ribs on its rear wall, a stack of blades having sharpened edges offset for clearance, spring means for elevating the blade stack in its chamber, and a reciprocatory cap having a blade-engaging face and being movable to advance the uppermost blade of the stack and another face for pressing a blade rearwardly until arrested in shaving position by said ribs.

4. A magazine razor having a head with a chamber for

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blades and a flat blade-receiving surface leading from the top of the chamber; a stack of blades therein having offset cutting edges, a top plate for the blade chamber, a cap on said head having a face for engaging the uppermost blade in the stack and advancing it in one operation to said blade-receiving surface, and a spring for lifting the blade stack to place a second blade at the level of the advanced blade, said cap having a second face for retracting both blades toward the rear of the head.

5. A magazine razor comprising a head having a chamber for blades, end walls with horizontal guideways therein and a front wall providing a blade seat with inturnd front corner ribs flush at their upper end with said seat for supporting the opposite rearwardly extending arms of a blade, a stack of blades located in the chamber and having rearwardly extending side arms shaped to overlie said ribs while the body of the blade rests on the blade seat, a spring tending always to elevate the uppermost blade of the stack to the level of the blade seat, and a cap mounted to reciprocate in said guideways for transferring a blade from the stack to the blade seat.

6. A magazine razor comprising a head having a chamber for blades and a flat blade seat at the front side, a fixed rear wall having forwardly extending abutment, a stack of blades in the chamber located between the blade seat and the back wall, a cap mounted for reciprocation in the head and having blade-feeding means for advancing a blade from the stack to the blade seat and blade-retracting means for retracting a blade on the blade seat to shaving position determined by the abutment of the said rear wall.

7. A magazine razor comprising a head having a blade seat at its front side and a fixed rear wall with a blade chamber between them, an abutment projecting forwardly from the rear wall, a stack of corner notched blades in the chamber, spring means for holding the uppermost blade of the stack at a predetermined level, and a cap mounted to reciprocate in the head and having a lug for advancing a blade from the stack to the blade seat and other lugs for retracting a blade thereon in engagement with the uppermost blade in the stack and the latter blade into contact with the abutment of the rear wall.

8. A magazine razor comprising a head having a blade chamber and a blade seat, a friction plate forming the top of said chamber, a stack of blades within the chamber, a spring holding the uppermost blade of the stack against said friction plate, and a cap mounted for reciprocation widthwise of the blades in the chamber and having a blade-feeding lug for advancing the uppermost blade of the stack forwardly in sliding engagement with the under face of the friction plate, and corner lugs for retracting two blades together in sliding engagement with the said face.

9. A magazine razor comprising a head having a blade compartment opening in front to a blade seat, a rear wall closing the compartment and having a recess in its upper edge and forwardly projecting ribs, a friction plate overlying the chamber and having spaced slots receiving said ribs, and a cap mounted in the head and having blade-feeding lugs extending below the inner face of the friction plate and into the recess of the rear wall.

10. A magazine razor comprising a head having a compartment for a blade stack and a forwardly extending blade seat, a friction plate overlying the blade seat, an abutment member below the rear edge of the friction plate, and a feed slide having a lug for advancing the uppermost blade of the stack forwardly between the blade seat and friction plate and lugs for retracting said blade while thus engaged until arrested in gauged position determined by the said abutment member.

11. A magazine razor comprising a head having a compartment for a blade stack with abutment rails extending along the rear wall thereof, a blade seat at the front of said compartment, a friction plate overlying the blade seat, a cap mounted to reciprocate in the head and having means for advancing the uppermost blade of the stack to the blade seat, a spring for lifting a second blade into position behind the blade which has been advanced, and means on the cap for retracting the foremost blade while yieldingly held by the friction plate until the second blade is arrested by contact with said abutment rails.

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Muros et al. -----	Nov. 23, 1943
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