Nov. 6, 1962 J. FJERAN 3,061,926

SAFETY RAZOR WITH RELATIVELY SLIDABLE GRIPPING AND OPERATING MEANS

Filed Jan. 28, 1960 2 Sheets-Sheet 1

FIG. 1.

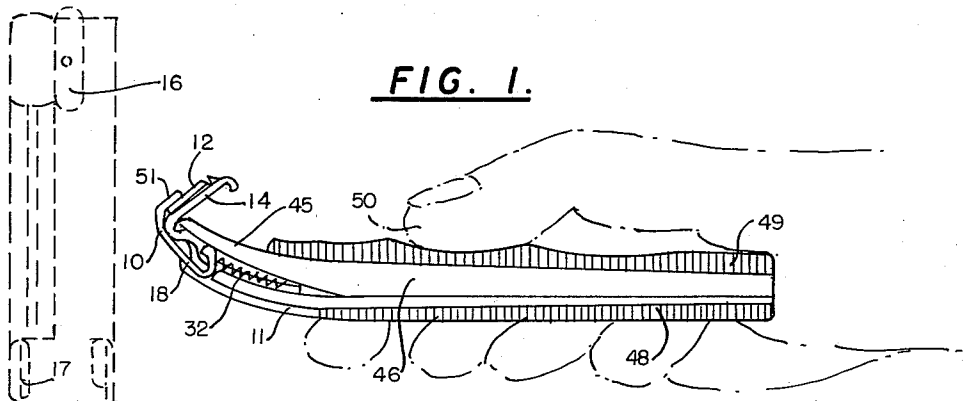


FIG. 2.

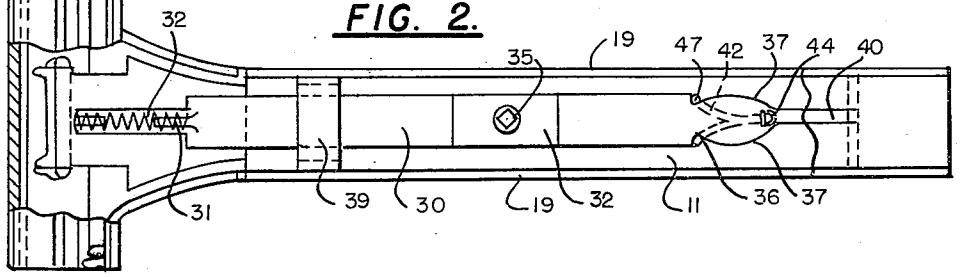


FIG. 3.

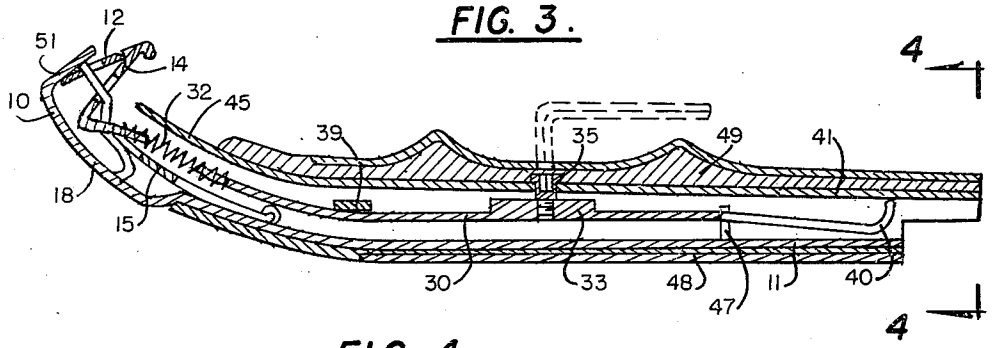
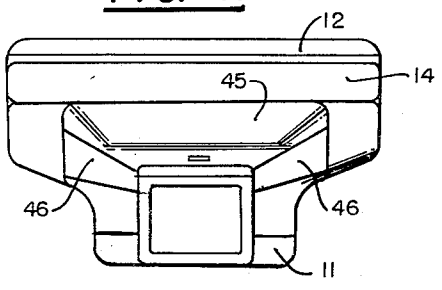


FIG. 4.



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Nov. 6, 1962 J. FJERAN 3,061,926

SAFETY RAZOR WITH RELATIVELY SLIDABLE GRIPPING AND OPERATING MEANS

Filed Jan. 28, 1960 2 Sheets-Sheet 2

FIG. 5.

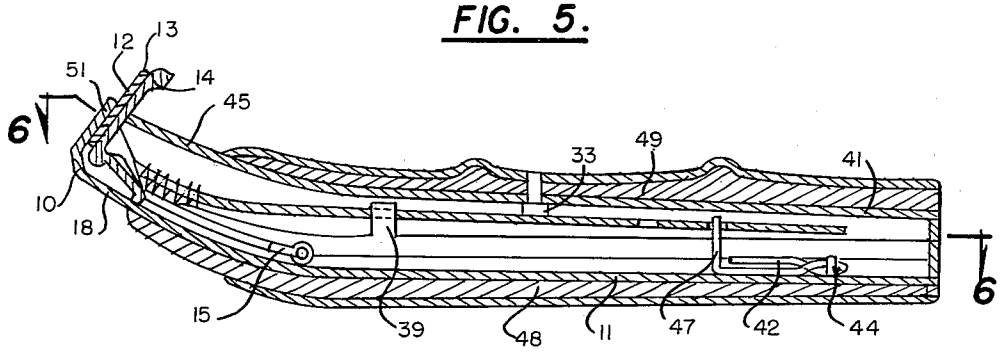


FIG. 6.

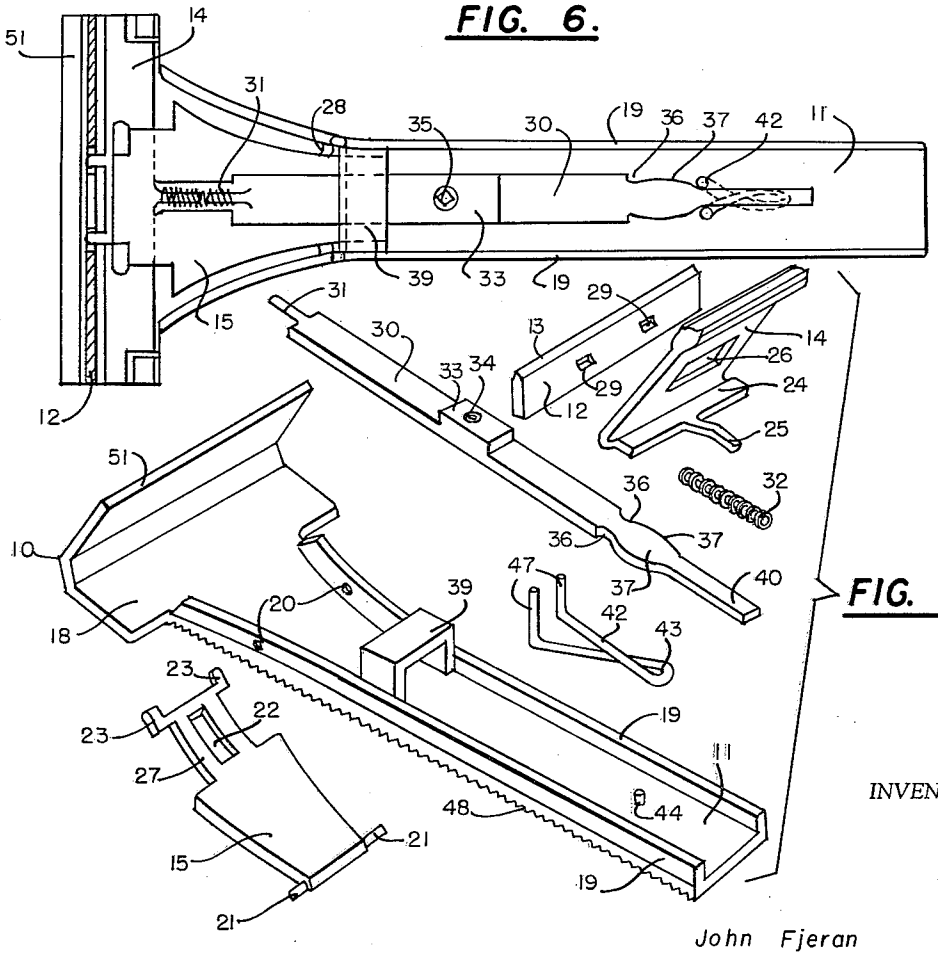


FIG. 7.

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United States Patent Office

3,061,926
Patented Nov. 6, 1962

3,061,926

SAFETY RAZOR WITH RELATIVELY SLIDABLE GRIPPING AND OPERATING MEANS

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Filed Jan. 28, 1960, Ser. No. 5,235
3 Claims. (Cl. 30—51)

This invention relates to razors, and more specifically to improvements in operating mechanism for the injector type single blade razor.

Many improvements have been made to safety type razors during recent years. One such improvement enables blades to be replaced within the holder without need for releasing the blade by some releasing operation. Such razors are provided with an opening into which a blade may be introduced by enlarging the opening in the plane of the blade with a manually operated blade injector and magazine. This convenience has tended to encourage the user to operate his razor without opening it for proper cleaning and rinsing between shaves or during shaves. Such thorough rinsing is only practical by the operation of a snap type catch which tends to be stiff and inconvenient. As a result, it is common practice to only partially rinse the razor after use and permit the razor and blade to dry in a closed position resulting in unhygienic conditions, and the opportunity for rust to form causing rapid deterioration of the razor.

This invention pertains to an improved method of opening and closing such razors in a manner which is simple and convenient, such that proper care can be given to cleanliness without involving time consuming steps.

It is therefore a primary object of this invention to provide a mechanism for simply opening and closing the retaining components of a blade for the described class of razor without moving the fingers from the normal stance for shaving with the razor.

It is a further object of this invention to provide a mechanism of the above class for opening and closing the retaining components of the razor blade such that more effective cleaning and drying may be accomplished without involving extra time consuming operational movements.

It is a still further object of this invention to provide a mechanism of the above class which is robust and efficient in operation and which may be economically incorporated in the manufacture of the type of razor concerned.

A full understanding of the details of the invention, together with further advantages, will become apparent by reference to the following detailed description of a preferred embodiment thereof, taken in conjunction with the attached drawings wherein:

FIG. 1 is a side view of a razor equipped with the improvement of my invention, operatively held within a hand for shaving or opening the retaining components of the blade.

FIG. 2 is an underside view of the razor showing part of the razor guard and one side of the handle portion removed.

FIG. 3 is a cross sectional side elevation of the razor in an open state for rinsing.

FIG. 4 is an end elevation taken along the line 4—4 of FIG. 3.

FIG. 5 is a cross sectional side elevation of the razor shown in a closed operative position.

FIG. 6 is an underside view of the razor with the sliding handle portion removed.

FIG. 7 is a perspective view of the several parts of the razor which combine to form the improved razor of my invention.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring now to the drawings in detail, the numeral 10 represents an outer blade shield which is rigidly secured to an elongated fixed handle portion 11. A razor blade 12 having a single blade edge 13 is releasably retained against the shield 10 by a blade clamp or guard member 14. The blade is further retained within the razor, while in an open condition. by a pivotal member 15 which operates the opening and closing of the guard member 14. A magazine 16 and attached injector 17 are shown in FIG. 3 located for changing the blade in the razor.

The above related parts, the construction of which will be apparent to those skilled in the art, will be described more fully so that the operative relation and function of the invention may be more readily understood. The blade shield 10 has a blade engaging cap or plate 51 disposed in an angular relation with a top plate 18. The top plate terminates with an extending fixed handle portion 11 which is formed in the shape of a channel having upstanding side walls 19. Two holes 20 are disposed transversely of the forward portion of the handle through the side walls 19, and pivotally receive small lugs 21 projecting from one end of pivoted member 15. The pivoted member 15 has a longitudinally disposed slot 22 and forwardly projecting spigots 23 adapted to locate in slots 29 formed in the blade 12. The spigots slidingly engage against the rear face of the blade engaging plate 51 when the razor is in the open position. The blade guard 14 has a lower bent portion 24 having a spigot 25 projecting outwardly therefrom. A slot 26 is formed in the centre of the guard 14 which is adapted to loosely locate over the narrowed portion 27 of the pivoted member 15. A leaf spring 28 is located beneath the pivoted member 15 to urge the pivoted member upwardly about the lugs 21 and out of tight engagement with the blade 12.

The invention consists of an improved mechanism for operating the above described inter-related parts.

A sliding bar 30 has a projecting spigot 31 adapted to receive one end of a compressed spring 32 and engage with the spigot 25 of guard member 14. The bar has a centrally positioned pad 33 secured to the upper side thereof having a tapped hole 34 which receives a handle retaining screw 35. The other end of the bar is shaped symmetrically on each side to form shallow grooves 36 and cammed surfaces 37. The bar is located within the channeled side walls 19 of the fixed handle portion 11 and is retained therein in a longitudinal sliding relationship beneath a bridge 39. If desired, the extreme rear portion 40 of the bar may be bent upwardly to engage with the inner side of a sliding handle portion 41 as shown in FIG. 3.

The bar is urged to locate in a forward and rearward location by a spring 42. The spring, which may be formed of tempered wire, has a crossed eye portion 43 adapted to locate on a stud 44 projecting from the fixed handle 11. Each end of the spring is bent upwardly at 47, and adapted to springingly engage against the sides of the bar on the cammed surfaces 37.

A sliding handle portion 41 has a flared forward portion 45 adapted to shield the forward portion of the actuating mechanism. Portion 45 narrows to form a channel section having downwardly projecting side walls 46 adapted to locate in a sliding manner over the side walls 19 of the fixed handle portion 11. A hole is formed through the handle to receive a screw 35 which secures the handle to the pad 33 on the sliding bar 30. Suitable finger gripping forms 48 and 49 adapted to be engaged, respectively, by the fingers (at least by the forefinger) and the thumb

of the user are secured longitudinally of handle portions **11** and **41** respectively.

In operation, it will be apparent from the drawings that the opening and closing of the blade holding portions of the razor is accomplished by moving the sliding portion of the handle **41** longitudinaly of the fixed handle portion **11**, by means of a user's thumb **50**.

The open position shown in FIGS. 2 and 3 is accomplished by the movement of the handle portion **41** to the right (FIG. 1) away from the cap **51**, which causes the bar **30** to move to the right until the upwardly projecting spring ends **47** engage in the grooves **36**. In this position the spigot **31** is retracted from contact with the spigot **25** of the blade clamp or guard **14**. The blade **12** thus lies loosely mounted on the two spigots **23**, and the blade guard is pivotally forced away by the leaf spring **28**.

The closed or operative position of the razor is shown in FIGS. 5 and 6. The sliding handle portion **41** is now in a left-hand position together with the sliding bar **30** which is urged toward the blade section by the action of the spring **42** engaging on the cammed surfaces **37**. The spigot **31** now actively engages with the spigot **25** through the slot **22** formed in the pivotal member **15**. This leftward movement of the bar also depresses the left-hand portion of the pivotal member to bring the blade into its operating location.

I have thus created an effective mechanism for opening and closing the blade retaining portion of a razor of the above described type.

The mechanism, which comprises my invention, is operative without moving the fingers from the normal shaving attitude, and thus permits effective rinsing during and after shaving.

From the foregoing, it is believed that the construction, operation and advantages of this invention will be fully apparent. However, since numerous modifications will occur to those skilled in the art, it is not desired to limit the construction exactly to that shown and described, and accordingly, modifications and equivalents may be resorted to, falling within the scope of the appended claims.

I claim:

1. A safety razor comprising a cap, a guard movable with respect to said cap, a handle comprising one handle member having an elongated gripping surface and another handle member having an elongated gripping surface and slidable longitudinally of the first-mentioned handle member, means to mount said cap on said first-mentioned handle member, and means connecting said guard and said slidable handle member for movement of said guard in response to movements of said slidable handle member, said gripping surfaces being on opposite sides of said handle for engagement respectively by the forefinger and the thumb of a user, and said slidable handle member protruding laterally outwardly on one side thereof beyond the first-mentioned handle member along the major portion of the length of the first-mentioned handle member and providing its gripping surface along said side.

2. A safety razor comprising a cap, a handle member fixedly connected thereto and extending at an angle thereto and provided with an outer surface adapted to be engaged by the forefinger of the user, a blade clamp arranged to be moved toward the cap to engage a razor blade therebetween and to move away from the cap to facilitate washing of the blade, a longitudinally-extended slide member mounted on said handle member for longitudinal sliding movement and protruding at one side laterally outwardly exteriorly of said handle member along the major portion of the length of said handle member and providing an outer surface along said side and adapted to be engaged by the thumb of the user, while said outer surface of the handle member is gripped by the finger of the user, to impart thereto movement toward said cap to cause said seat to be moved into clamping relation with said cap and movement away from said cap for the release of said clamping relation, and means to prevent the blade from falling out of the razor when said slide member is moved away from said cap.

3. A safety razor comprising a cap, a blade clamp movable toward the cap to clamp a blade thereagainst and away from the cap out of clamping relation with the blade, a handle member fixed to the cap and provided with an outer gripping surface adapted to be engaged by the forefinger of the user, a member disposed at one side of said handle member and protruding at one side laterally outwardly of said handle member along the major portion of the length of said handle member and mounted for longitudinal sliding movement with respect to said handle member and providing an outer gripping surface along said side adapted to be engaged by the user's thumb when his finger grips the outer surface of the handle member to impart forward movement toward said cap to said sliding member to cause said clamp to be moved into clamping relation with said blade and to impart movement away from said cap to said sliding member for the release of said clamping relation, and means to prevent the blade from falling out of the razor regardless of the position of the latter when said sliding member is moved away from said cap.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,061,926 November 6, 1962

John Fjeran

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 39, strike out "forward".

Signed and sealed this 23rd day of April 1963.

(SEAL)
Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents