J. A. WILLIAMSON.

FINGER GRASPING SAFETY RAZOR.

APPLICATION FILED JULY 16, 1921.

1,417,437.

Patented May 23, 1922.

Fig. 1.

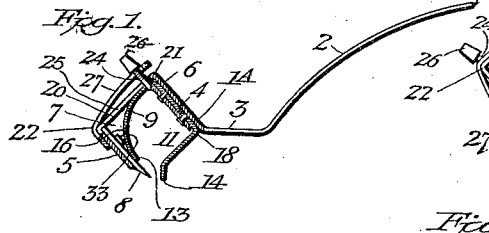


Fig. 2.

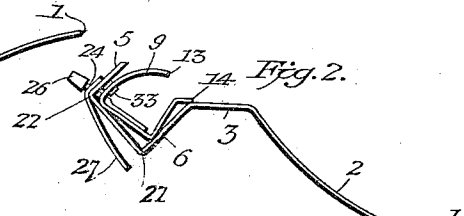


Fig. 3.

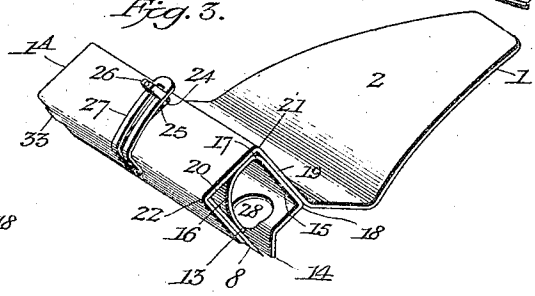


Fig. 4.

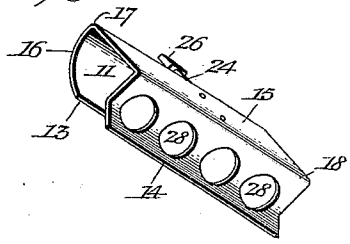


Fig. 5.

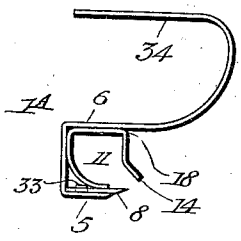


Fig. 6.

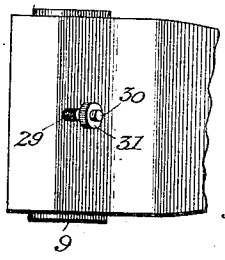
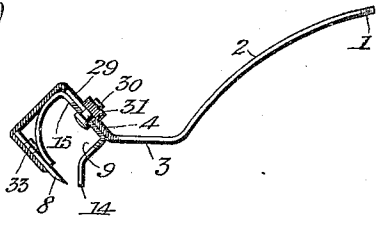


Fig. 7



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By

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UNITED STATES PATENT OFFICE.

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FINGER-GRASPING SAFETY RAZOR.

1,417,437. Specification of Letters Patent. Patented May 23, 1922.

Application filed July 16, 1921. Serial No. 485,392.

To all whom it may concern:

Be it known that I, JOHN A. WILLIAMSON, a citizen of the United States of America, residing at the city and county of Denver and State of Colorado, have invented a new and useful Finger-Grasping Safety Razor, of which the following is a specification.

My invention relates to a new and improved type of a finger grasping safety razor.

And the objects of my invention are:

First. To provide flat, thin, wide blade member adapted to be held between the thumb and the first two fingers, and that is provided beyond its finger grasping end with a razor blade receiving and supporting portion, in which a razor blade clamping member is secured.

Second. To provide a finger grasping razor blade holder in which a tilting member is arranged to clamp the razor blade and to form a safety guard for its cutting edge.

Third. To provide a thumb and finger grasping blade form of razor blade holder, in which a movable member is arranged to clamp and also to release the shaving blade and at the same time to form a safety guard when clamping the blade in the holder, but that moves away from the cutting edge of the blade when the movable member is moved to release the blade.

I attain these objects by the mechanism illustrated in the accompanying drawings in which:

Figure 1 is a sectional view through a razor blade holder, embodying the preferred form of construction and showing the holder in position for shaving downward.

Figure 2 is a side view of Fig. 1, and showing the holder in position for shaving upward, the locking member being turned to release the razor blade.

Figure 3 is a perspective view of the same.

Figure 4 is a detached, perspective view of the razor blade locking member.

Figure 5 is a side view of a blade holder having a hook form of grasping member, some of the elements shown in the foregoing figures being dispensed with in this arrangement.

Figures 6 and 7 show a plan and a sectional view, respectively, in which the blade clamping member is operated directly by the thumb and forefinger of the user, and is locked in blade clamping position by a nut and screw.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, the numeral 1, designates the finger grasping part of my razor holder; this finger grasping portion consists of a thin, flat piece of metal, preferably about two inches wide; but it may be made a little longer or shorter, as desired, and it forms a flat plate that preferably tapers from its widest part to a blunt, rounded end which extends into the hand of the user, but preferably to the center of the hand.

My finger grasping plate 1, is bent into reverse curves at 2, and 3, that allows the thumb and first two fingers to fit against it and hold it firmly, as shown in Figures 1, and 2, where, in Figure 1, it is held to shave with down and sidewise movements of the hand, and in Figure 2 is is illustrated to shave with upward and also sidewise movements.

My finger grasping safety razor extends a short distance beyond that portion 1 which is grasped by the fingers of the user, and that extended portion, 1^A, is of the form of an open ended channel-bar 4, that has the entrance to its open side placed at right angles to the general plane of the finger grasping member, and this channeled portion is preferably of the same length as the width of the finger grasping plate, and the channeled space 7, between its opposite walls 5, and 6, forms a recess in which the razor blade 8, and also a movable member 9. are placed and in which the razor blade is clamped and secured by the movable member.

My invention contemplates the use of duplicate-made thin, flat, changeable, removable and renewable razor blades of any predetermined length and form, and it also contemplates any means for inserting and for clamping and for releasing the razor blades from the recess in the channeled form of the extension portion of my finger grasping plate. I preferably, however, carry out this feature of my invention in the following manner:

The razor blade is placed up against the inside of the wall 5, of the channel bar 4, and within the space between the wall 5, and

the wall 6, of the channel bar I place a three-sided sleeve that is provided with free ends 13 and 14, that extend lengthwise of it, which are separated from each other by a space of from a quarter of an inch to above five-sixteenths of an inch apart, and they are arranged parallel to each other.

This sleeve consists of a three-sided tubular form of sleeve, except that it is provided with the open space 11, and with free ends 13 and 14. The side 15, of the sleeve, is arranged to bear against the inside of the wall 6, of the channel-bar portion of the razor blade holder. The side 16, is arranged when the sleeve is turned a partial revolution, to bear against the razor blade and its edge, and to fit with a resilient tension against the razor blade 8, close to its cutting edge. The edge 14, of the sleeve, is, however, turned upward and extends above the free cutting edge of the razor blade just far enough to form a safety guard and to best accomplish this purpose I make the terminal edge of this safety guard perfectly straight and smooth and entirely free from and wholly without the toothed form of safety guard used on some razors, and my straight edge guard is so relatively placed to the cutting edge of the razor that it acts to bend the hair of the beard over so that the razor has a chance to cut it close to the skin, while bearing on a smoothed surface. This guard is a very essential and important feature of my invention, as it enables a user to work rapidly without any danger of cutting himself. The co-operating action and relation of the guard to the cutting edge of the razor is as follows:

The guard flattens and draws and stretches the skin out smoothly between its edge and the cutting edge of the razor, as the razor is moved in shaving contact with and movement over the face, and the guard bends the hairs of the beard down under it as it engages them when moved against them, and then lets the hairs raise up just in front of the cutting edge of the razor which lies down flat and evenly on the stretched-out skin of the face.

The corners 17 and 18, of the razor blade clamping sleeve 9, are rounded and fit against the insides 19 and 20, of the channeled form of razor holding portion of my finger grasping safety razor, and the corner 17, of the sleeve, moves across the side 20, of the channel, from the corner 21, over to the corner 22, of the channel, when releasing a razor blade, as shown in Figure 2, and at the same time the corner 18, of the sleeve moves down from the corner 19, of the channel, to the corner 21, of the channel. When, however, the sleeve is moved to clamp a razor blade, the corner 18, of the sleeve, moves towards the upper edge 19, of the side 6, of the channel member, and the sleeve as it is turned to make the razor clamping movement, binds the razor blade against the inside wall 5, as its side is curved upwardly from its corner 17, and it is curved in such a form and it is also made of such a length from the corner 17, and also from the corner 21, of the channel, that it has a resilient bearing contact against the razor blade that clamps it with a resilient pressure against the inner wall of the side 5, of the channel member. This sleeve is held in place within the channel member by means of a finger-operating lever 24, which is secured to it centrally of its length to the inner side of its side member 15. This finger-operating lever projects through a slot 25, that is formed in the center of the length of the razor blade holding channel member of my finger grasping safety razor, and it has a head portion 26, that is broader than that portion of it that projects through the slot 25, and it is made enough wider than that portion of it that projects through the slot 25, to bear upon a spring member 27, which is secured to the outside surface of the side 5, of the channel member.

This spring member inclines upwardly from the position of this lever which it occupies when the razor blade is released, as shown in Figure 2, to a position in which the sleeve clamps the razor blade against the wall 5, of the channel, as shown in Figure 1, and the spring is made of such an upward, tapering incline that the underside of the head bears upon it and slides upon it as the head is pushed by the fingers of the operator across the side 20, of the channel, and the spring 27, holds this head 26, upwardly and at the same time pulls the sleeve down, so that its corner 17, fits tightly into and against the corner 21, of the channel, and at the same time forces the side 16 of the sleeve, to bear with a resilient pressure against the razor blade, thus holding it very firmly and securely in its correct position against wall 5, of the channel. Furthermore, whenever a razor blade is inserted between this curved clamping side of the sleeve and the wall 5, of the channel, and this lever 24, is moved to the top of the spring 27, and clamps it against the wall, it engages the side of the razor blade and forces the razor blade down so that the lower edge or heel of the razor blade rests down against the corner 22, of the channel and along the whole length of the channel member. It is then in position to be used to shave with and it does not require to be adjusted by the fingers, as the springing side 16, of the sleeve will draw the razor blade down in perfect aligning position with the edge 14, of the safety guard end of the sleeve, and the guard edge, when this sleeve is turned over to clamp the razor, comes into accurate safety guard position

to the cutting edge of the razor to prevent the user from cutting himself. Then, when it is desired to release and remove the blade from the channel, the head of the lever is moved down the inclined surface of the spring. This tilts the sleeve over in the channel member, and in doing so the blade is lifted up by the resilient side of the sleeve and the guard edge is thrown over back against the surface of the finger grasping portion of my finger grasping safety razor. I preferably provide the surface of the sleeve that is adjacent to its guard edge with a series of apertures 28, which allows the soap froth to escape from the space 11, within the sleeve, as it naturally collects more or less in the space of the sleeve between its sides when shaving.

In Figures 6 and 7, I illustrate a modification of the means used in the other figures of the drawing for tilting the razor blade clamping sleeve in this modification. A slot 29, is cut through the side 6, of the channel 1^A, through which passes the free end of a screw 30, which is secured to the side 15, of the sleeve 9. A thumb nut 31, is screwed upon the screw 30, and against the adjacent side of the channel-bar razor blade holder, to lock the member 9, in its razor blade holding position.

In this modification, the razor blade clamping sleeve 9, is made enough longer than the length of the channel-bar to project a short but an equal distance beyond its opposite ends, which distance is long enough to allow the clamping sleeve to be turned or tilted to either clamp or to release a razor blade by the thumb and a finger clasped against the opposite projecting ends of the sleeve; and when this tilting or turning movement of the sleeve is made, the screw 30, moves in through the slot 29, the nut 31, having first been removed.

In the preferred and also in the modification arrangements of my invention, I provide one end of the channel bar razor blade holder with an inwardly projecting tongue 33, against which one end of the razor blade is placed when it is inserted in the channel-bar, and thus the razor blades which are made of the same length as the channel-bar are placed quickly and evenly along its whole length.

In Figure 5 is shown a form of razor blade holder in which the grasping member 34, is bent up and over to extend above and parallel with the side 6, of the channel 1^A. This arrangement provides a hook form of grasping member, which can be inserted in a pocket of the user, to support the holder temporarily, during the shaving process. In this form, the operating pin 4, and spring 27, are also dispensed with.

The operation of shaving with my finger grasping safety razor enables the user to apply the razor blade to the face in natural and easy positions, without twisting or pulling the skin in different positions, and it thus prevents soreness and itching of the skin after shaving.

My invention provides a simple, easily and firmly handled interchangeable razor blade holder that safely guards the user against cutting himself, and it permits a user to shave himself in less time than with razors in general use. While I have illustrated and described the preferred construction and arrangement of my invention, I do not wish to be limited to it, as changes may be made in it without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A finger grasping safety razor, comprising a single finger grasping plate arranged to be held by the fingers in shaving position, said plate being provided with a support for interchangeable razor blades, means for releasably securing said razor blade in said support, and a movable safety guard for said razor blade, including a housing, for securing the razor blade against displacement therefrom; said support having a wall member, and means for clamping said razor blades against said wall member; said support consisting of a flat sided channeled member arranged to receive said razor blades against the inside portion wall of its outer side, and a tilting member secured in said channeled member, provided with free ends, one of which is arranged to clamp said razor blades against said channeled members outer side wall and the other is arranged to form a safety guard for the cutting edge of said razor blades.

2. A finger grasping safety razor, comprising a single finger grasping plate arranged to be held by the fingers in shaving position, said plate being provided with a support for interchangeable razor blades, means for releasably securing said razor blade in said support, and a movable safety guard for said razor blade, including a housing, for securing the razor blade against displacement therefrom; said support having a wall member, and means for clamping said razor blades against said wall member; said clamping means comprising a tilting sleeve secured to the razor supporting member; said sleeve having a resilient yielding side member and means for tilting said sleeve to cause its resiliently yielding side member to clamp a razor blade against the said wall of its supporting member.

3. A finger grasping safety razor, comprising a single finger grasping plate arranged to be held by the fingers in shaving position, said plate being provided with a support for interchangeable razor blades,

means for releasably securing said razor blade in said support, and a movable safety guard for said razor blade, including a housing for securing the razor blade against displacement therefrom; said support having a wall member, and means for clamping said razor blades against said wall member; said clamping means comprising a tilting sleeve secured to the razor supporting member; said sleeve having a resilient yielding side member and means for tilting said sleeve to cause its resiliently yielding side member to clamp a razor blade against the said wall of its supporting member; said tilting sleeve being provided with a straight, smooth edge portion, arranged to form a safety guard to the cutting edge of a razor blade clamped in its supporting member.

4. In a finger grasping safety razor, the combination of the finger grasping plate and its razor blade support, provided with a slot; the razor blade clamping and safety guard sleeve; and means, including a stem secured to said sleeve, and extending through said slot, for securing said sleeve in said razor blade support, and means for tilting said sleeve to clamp a razor blade in its support or to release a razor blade from it, and a stop at one end of said support to enable said razor blades to be placed centrally in said support.

5. In a finger grasping safety razor, the combination of the finger grasping plate and its razor blade support, provided with a slot; the razor blade clamping and safety guard sleeve; and means, including a stem secured to said sleeve, and extending through said slot, for securing said sleeve in said razor blade support, and means for tilting said sleeve to clamp a razor blade in its support or to release a razor blade from it, and a stop at one end of said support to enable said razor blades to be placed centrally in said support; said tilting means comprising a finger grasping head portion formed on said stem outside of said razor blade support end; an inclined spring secured to said razor blade support and arranged to move said tilting sleeve to clamp the razor blade to its support and to hold it against accidental displacement.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. WILLIAMSON.

Witnesses:
G. SARGENT ELLIOTT,
ELIZABETH SMITH.