June 21, 1938. J. W. ANDERSON 2,121,000

SAFETY RAZOR

Filed Jan. 27, 1932

Fig. 1.

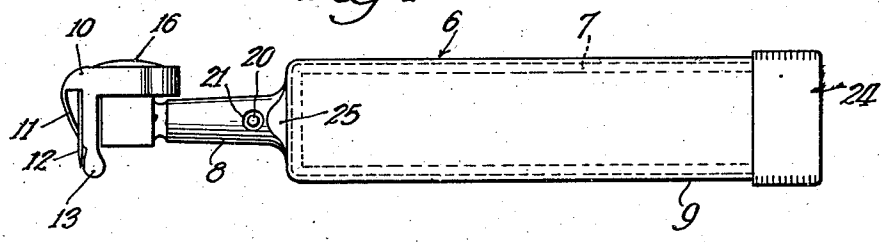


Fig. 2.

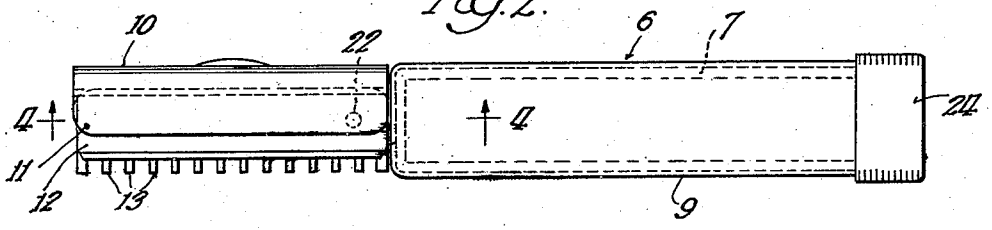


Fig. 3.

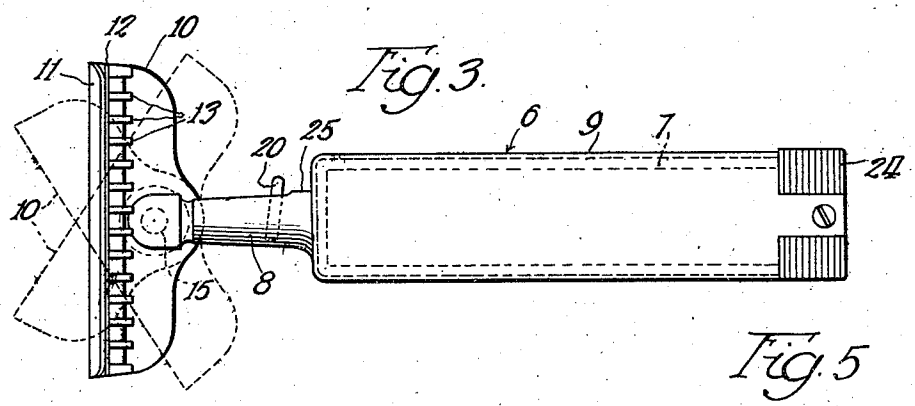


Fig. 5

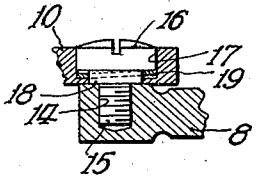
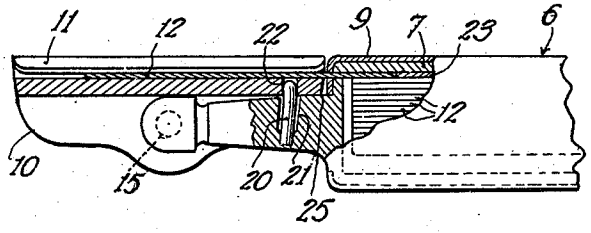


Fig. 4.



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SAFETY RAZOR

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Application January 27, 1932, Serial No. 589,143

4 Claims. (Cl. 30—87)

This invention relates to razors, and particularly to the type commonly known as safety razors, wherein the blade holder is usually provided with a guard adjacent the cutting edge of the blade, and with a handle positioned substantially at right angles to the holder.

Present practice in the art is to provide a blade holder substantially fixed or rigid with relation to the handle or supporting member. Under such circumstances, the user must endeavor manually to vary the position of the blade to conform to the surface or contour of the body. The resultant tendency is a non-uniform pressure along the length of the blade on the body of the user, with consequent irregular shaving results. One end of the blade usually shaves too close for comfort, while the other end does not shave close enough. The present invention permits the blade and holder to freely adjust themselves and conform readily to the surface or contour of the body, without effort or attention from the user, so that a smoother and more uniform and comfortable shave is obtained with fewer strokes and in less time.

One object, therefore, of the present invention is to provide a device of the character described wherein the blade holder is pivotally mounted with respect to the handle or supporting member in a manner to permit the holder to assume various angular positions with respect to the handle at opposite sides thereof.

Another object of the invention is to provide a structure wherein the pivotally mounted blade holder is frictionally related to its supporting member, and wherein the frictional relationship is such as to permit the holder to readily adjust or align itself longitudinally of its length with respect to the body of a user when brought into contact therewith, regardless of the position of the handle or supporting member.

Another object of the invention is to provide a structure wherein the pivotally mounted blade holder may be releasably maintained in relatively fixed position with respect to its supporting member or handle.

A further object of the invention is to provide a structure wherein resilient securing means are employed and operatively related to the blade holder for yieldingly maintaining the holder in substantially parallel relationship with respect to its supporting member.

A still further object of the invention is to improve devices of the character described in sundry details hereinafter referred to and particularly pointed out in the appended claims.

One embodiment of the present invention is shown for illustrative purposes in the accompanying drawing in which

Fig. 1 is a side elevational view of a safety razor embodying features of the present invention, and showing the blade holder positioned substantially transversely to the longitudinal line of its supporting member or handle;

Fig. 2 is a side view of the structure illustrated in Fig. 1, and showing the blade holder positioned in substantially parallel relationship with respect to the supporting member or handle;

Fig. 3 is a front view of the device showing the blade holder positioned substantially transversely to the line of the supporting member or handle as shown in Fig. 1, and illustrating, by dotted lines, two of the numerous angular positions which the blade holder may assume with respect to its supporting member at opposite sides thereof;

Fig. 4 is a fragmentary elevational view partly in section of the device illustrating my improved means for releasably maintaining the blade holder in relatively fixed position with respect to its supporting member, the line on which the sectional portion of Fig. 4 is taken being indicated by the line 4—4 of Fig. 2; and

Fig. 5 is an enlarged fragmentary sectional view through the pivotal connection between the blade holder and its supporting member, and illustrating the manner of positioning a spring washer to provide the desired frictional relationship between the blade holder and the supporting member.

The present invention is shown for illustrative purposes in conjunction with a safety razor having a handle indicated as a whole by the numeral 6, and comprising a hand grip or body portion 7 and a supporting member 8 carried thereby, and shown, in the present instance, as formed integral therewith, the portion 7 being shown, in the present instance, as covered by a casing member 9 as clearly shown in Fig. 4.

Pivotally mounted on the outer end of the supporting member 8 in a manner to occupy various angular positions with respect thereto and at opposite sides thereof is a blade holder 10 having a spring clip 11 associated therewith for frictionally securing a blade 12 in desired position on the holder, a plurality of guard fingers 13 being provided adjacent the cutting edge of the blade to act as guides and a protecting guard as is common practice in razors of the "safety" type.

For pivotally securing the blade holder 10 on

the supporting member 8, the member 8 is provided with a threaded recess 14 (Fig. 5) adapted to receive the threaded shank portion 15 of a bolt, the head 16 of which is adapted to fit into a counter-bore 17 formed in the blade holder 10 preferably adjacent the central portion thereof, the said bolt being provided with a shoulder 18 adapted to extend through an aperture formed in the blade holder concentric with the counter-bore 17, and into engagement with the adjacent face of the supporting member 8 to prevent binding between the blade holder and supporting member when the bolt is screwed down.

For providing a frictional engagement between adjacent faces of the blade holder 10 and supporting member 8, a yielding member shown, in the present instance, as a spring washer 19 is positioned between the inner face of the head 16 and the bottom of the counter-bore 17 as clearly shown in Fig. 5, thereby providing a degree of frictional relationship between the holder 10 and member 8 of such a character as to prevent a loose uncontrolled flopping of the blade holder about its pivot, and at the same time, provide a frictional contact which will permit the blade holder to readily adjust or align itself longitudinally of its length with respect to the body of a user when brought into contact therewith, regardless of the position of the hand grip portion 7 and supporting member 8 with reference to the blade holder.

It will be observed from the foregoing description and by reference to Figs. 3 and 5 that the blade holder 10 may be readily moved about its pivotal connection with the supporting member 8 in a manner to occupy various angular positions with respect to the supporting member and at opposite sides thereof as clearly shown by dotted lines in Fig. 3.

For releasably securing the blade holder 10 in relatively fixed position with respect to its supporting member 8 and the hand grip portion 7, the member 8 is provided with resilient means shown, in the present instance, as a spring finger 20 (Fig. 4), having one of its end portions rigidly secured in the supporting member 8 adjacent one side thereof, and extending outwardly through a counter-bore 21 to beyond the opposite side of the member 8 in a manner to enter an aperture or recess 22 formed in the holder 10 preferably adjacent one end thereof when the holder is moved to a position in substantially parallel relationship with respect to the supporting member 8, as shown in Figs. 2 and 4.

The spring pin 20 normally occupies a straight line position as shown in Fig. 3, and the aperture 22 is so positioned in the blade holder 10 that when the blade holder approaches the position shown in Fig. 4, one edge of the aperture will engage the rounded free end of the pin 20 and force it laterally, in the present instance, toward the pivotal connection, thereby causing the pin to slip into the aperture, in which position, by reason of its resiliency, the pin will bind on one side of the aperture, as clearly shown in Fig. 4. If desired, the aperture 22 may be tapered slightly to serve as a latch to more positively resist withdrawal of the pin 20 from the aperture.

Referring to Fig. 4, it will be observed that the type of razor in connection with which the present invention is disclosed, is adapted to contain a plurality of extra blades mounted in its body portion 7, and having an ejector slide 23 provided with a grip portion 24 adapted to move the uppermost blade into the blade holder in the manner shown in Fig. 4, and that by moving the blade holder into engagement with a stop portion 25 formed on the supporting member 8, the blade holder will be releasably secured in relatively fixed position by the spring pin 20, and retained in proper alignment with the ejector slide 23 in a manner to receive the new blade being moved from the body portion 7 of the razor into operative position in the blade holder, the entering of the new blade into the holder serving to eject the old blade therefrom.

In the types of magazine razors such as shown in Fig. 4, some difficulty has been experienced in maintaining the blade holder in fixed registry with the incoming blade when a new blade is to be inserted. The locking device here shown secures the respective parts in registry and prevents jamming of the blades and injury thereto as they are being inserted in the blade holder. It also holds the parts in alignment for convenience in storing or packing when the razor is not in use.

It will be observed from the foregoing description that the present invention also provides resilient means for releasably maintaining the blade holder in relatively fixed position with respect to its supporting member, preferably in substantially parallel relationship with respect thereto, an arrangement most desirable for releasably maintaining the blade holder in inoperative position when not in use, and when the present invention is employed in conjunction with the particular type of razor shown, the securing means serves to yieldingly maintain the blade holder in proper alignment with the ejector slide for receiving a new blade being ejected from the supply of blades contained in the hand grip portion of the razor.

Obviously, the present invention is not limited to the precise construction and arrangement shown and described, as the same may be variously modified. Moreover, all the features of the invention need not be used conjointly, as the same may be used to advantage in variously different combinations and sub-combinations.

What I claim as new and desire to cover by Letters Patent is:

1. In a safety razor, the combination with a handle having a supporting member carried thereby, of a blade holder having an aperture formed therein adjacent one of its end portions, said holder being pivotally connected intermediate its end portions to said member and adapted to occupy various angular positions with respect to the supporting member at opposite sides thereof, a spring washer adjacent the pivotal connection between said holder and supporting member for producing a frictional relationship between the holder and member, said frictional relationship being such as to permit said blade holder to readily adjust itself longitudinally with respect to the body of a user when brought into contact therewith, a spring finger mounted on the side of said supporting member and engageable with said aperture in a manner to contact a side thereof for releasably maintaining the holder in substantially parallel relatively fixed position with respect to said supporting member at one side thereof.

2. A safety razor, a handle, a blade carrying holder carried by and readily movable with respect to said handle about a pivot extending transversely to the longitudinal center line of said handle to readily align itself longitudinally with the body of the user when brought into

contact therewith to provide a uniform distribution of pressure throughout the entire cutting edge of the blade upon said body.

3. A safety razor, a handle, a blade carrying holder carried by and readily movable with respect to said handle about a pivot extending transversely to the longitudinal center lines of said handle and holder to readily align itself longitudinally with the body of a user when brought into contact therewith to provide a uniform distribution of pressure throughout the entire cutting edge of the blade upon said body.

4. A safety razor, a handle, a blade carrying holder carried by and readily movable with respect to said handle about a pivot extending transversely to the longitudinal center lines of said handle and holder, said holder being freely movable in a direction substantially parallel to the center line of the handle to readily align itself longitudinally with the body of a user when brought into contact therewith to provide a uniform distribution of pressure throughout the entire cutting edge of the blade upon said body.

JOHN W. ANDERSON.