June 2, 1942. S. W. FROST 2,285,155

RAZOR BLADE KNIFE

Filed Nov. 6, 1939

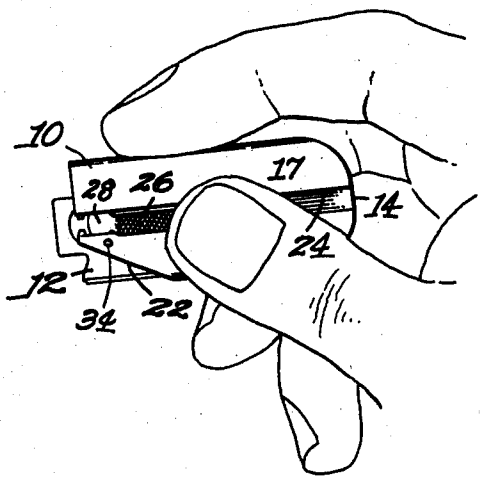


Fig. 1.

Fig. 2.

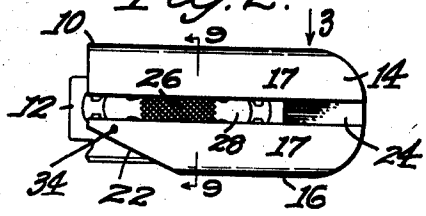


Fig. 4.

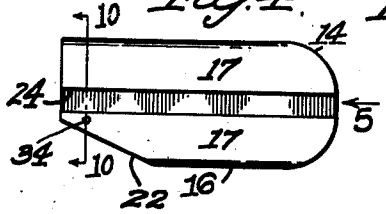
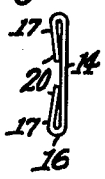


Fig. 5.



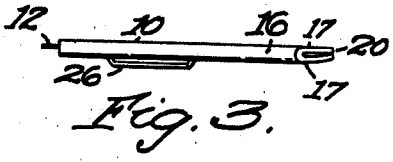


Fig. 3.

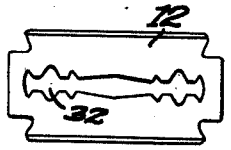


Fig. 6.

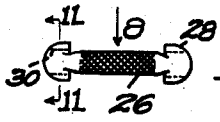


Fig. 7.

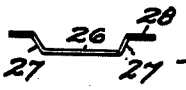


Fig. 8.

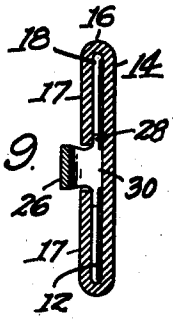


Fig. 9.

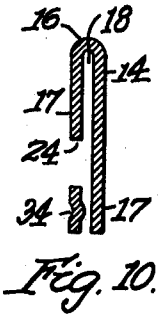


Fig. 10.

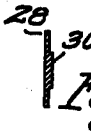


Fig. 11.

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Patented June 2, 1942 2,285,155

UNITED STATES PATENT OFFICE

2,285,155

RAZOR BLADE KNIFE

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Application November 6, 1939, Serial No. 302,940

17 Claims. (Cl. 30—162)

This invention relates to razor blade knives for pocket use and more particularly to holders for the conventional safety razor blade for use as a pocket knife for any purpose such as cutting or shearing of any material.

The objects of this invention include the provision of a holder of resilient material for a razor blade, the razor blade being contained therewithin, the means to slide the blade partially out at one end of the holder for use as a cutting edge; the provision of a razor blade holder having a cut-away portion at one side thereof to allow a part of the razor blade to extend therefrom, and a thumb piece for sliding said razor blade from the holder, said thumb piece holding the blade in position and extending from one side only of the holder; the provision of a razor blade holder as aforesaid having means to limit the extension of the razor blade whereby the blade may be used in a safe manner and the accidental cutting of the fingers is avoided.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which

Fig. 1 is a perspective view showing the manner in which the razor blade knife may be used;

Fig. 2 is a top plan view of the razor knife;

Fig. 3 is an edge view of the razor knife, looking in the direction of the arrow 3 in Fig. 2;

Fig. 4 is a top plan view of the holder for the blade;

Fig. 5 is an end view of the same, looking in the direction of the arrow 5 in Fig. 4;

Fig. 6 is a view of the razor blade;

Fig. 7 is a plan view of the slider or thumb piece;

Fig. 8 is a side view of the thumb piece, looking in the drection of the arrow 8 in Fig. 7;

Fig. 9 is an enlarged section on the line 9—9 of Fig. 2;

Fig. 10 is an enlarged section on the line 10—10 of Fig. 4; and

Fig. 11 is an enlarged section on the line 11—11 of Fig. 7.

In the drawing, the numeral 10 indicates generally the razor blade knife of the present invention and in Fig. 1 it is illustrated how the knife may be held to cut with the blade 12 without possibility of injury to the user.

The razor blade knife embodying the present invention is provided with a holder 14 of resilient material whose side edges are bent over upon themselves, as at 16, to produce side flanges 17 to form a blade holder longer than the length of the average razor blade 12, and having an interior guideway 18 slightly wider than the razor blade. One end of the holder has its sides bent towards each other, as at 20, in order to prevent the razor blade from falling out or being pushed out at this end. One side of the other end of the holder 14 is cut away, as at 22, to provide a slanting edge from which the blade may extend to useful position.

Referring to the flanges 17, it is seen that they do not meet but are spaced to form a channel 24. This channel provides for reception of a thumb piece 26 which is formed, as shown in Figs. 7 and 8, with a knurled surface adapted to be pressed by the thumb while the index finger presses upon one edge 16 of the holder and the second and third fingers complete the grasping action of the thumb on the reverse side of the holder.

The thumb piece 26 is bent at its ends at 27, as shown in Fig. 8, to provide for the offset and widened foot pieces 28 which are adapted to slidingly fit between the flanges 17 and the back of the holder, as shown in Fig. 9. The foot pieces are also provided on their bottom surfaces with shallow extensions 30 which are adapted to fit into the irregular shaped holes 32 in the conventional safety razor blade and thus hold the same in secured relation to the thumb piece. It will be obvious that any irregular shaped openings 32 may be engaged by the extensions 30. The bent portions 27 of the thumb piece are of a width to engage both edges of the channel 24, and thus it is clear that the thumb piece, while slidable longitudinally in the channel 24, may not be displaced sidewise of itself or transversely of the holder 14.

Having engaged the razor blade over the extensions 30 of the thumb piece 26, the thumb piece and razor blade are slid into the open end of the holder; and as seen in Fig. 9 the foot pieces 28 are of such a thickness as to just fit between flanges 17 and the blade 12 in the guideway 18, the extensions 30 engaging the back of the holder. Since the holder 14 is of resilient material, the tendency of this construction is to render the thumb piece lightly clamped and thus stationary at any point to which it is slid in the holder. However, in order to make sure that the blade 12 will not extend too far beyond the open end of the holder 14 so that the rear edge of the blade (which cannot be seen in Fig. 1) will be prevented from being in a position to cut the index finger of the hand shown in this figure, provision is made to limit the extension of

the blade to a desired point. This consists of a dent 34 located near one end of either or both of the flanges 17 and so arranged so as to impinge against the forward foot piece 28 of the slider 26 when the blade is extended. Thus it will be seen from Fig. 2 that the thumb piece and blade may be slid from the position shown to a position wherein the blade is entirely contained within the holder 14 but is not easily extended outwardly beyond the illustrated position.

When it becomes necessary to change the blade a more powerful sliding pressure on the thumb piece 26 may be utilized to push the thumb piece and the blade entirely out of the holder. Then a new blade is connected to the thumb piece by means of the extensions 30 fitting within the blade holes 32 and thus assembled the thumb piece and the blade are reinserted in the holder and may be slid beyond the dent 34 by the application of somewhat greater force than is necessary to merely slide the blade from entirely within the holder to useful position.

Thus it is seen that a very handy razor blade knife has been provided by this invention and this knife may be used with safety by anyone due to the fact that the blade cannot ordinarily be slid beyond the end of the holder 14 and only one cutting area is used, i. e., that shown in Fig. 2. However, when necessary the blade may be changed as above described. Also, it is to be noted that in no circumstance can the blade be extended out in the rear end of the holder, that no fastenings or clamping means are employed except the parts above enumerated; and all thumb screws, rivets and similar clamping devices are done away with, special reference being had to the fact that one side of the holder is completely clear of any protuberances and that the other side has extending therefrom nothing but the thumb piece 26. This results in a finished, smooth appearance of the knife and avoids objectionable screws or rivets which may catch on the pockets or clothing of the carrier of the knife.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. In an article of the class described, a plate of resilient material having two parallel side flanges bent back to positions parallel with and closely spaced from the plate, a space between the edges of said flanges, a rigid slider received in said space and extending therefrom to form a thumb piece, said slider having widened portions at each end to extend under said flanges, and means at each said portion for engagement with a blade, said means extending out from said widened portions in a direction opposite to said thumb piece.

2. In an article of the class described, a plate of resilient material having two parallel side flanges bent back to positions parallel to and narrowly spaced from said plate, a space between the edges of said bent flanges, a slider received in said space and having rigid widened portions at each end to extend under said flanges, integral means at each said portion for engagement with openings in a blade, whereby the blade is guided by said slider, and said portions being constructed and arranged to firmly bear against said flanges, said blade engaging means bearing against said plate.

3. In an article of the class described, a plate of resilient material having side flanges bent back over in closely spaced relation to the plate to form a guideway, there being a space between the free edges of said flanges, a sliding member located in and extending from said guideway thru the space, a widened foot on said sliding member within the guideway, said foot being thick enough to bear firmly both against the plate and at least one of the flanges, and said foot being undercut to provide a projection for receiving an aperture in a blade.

4. In an article of the class described, a plate of resilient material having side flanges bent back over and closely spaced from said plate so as to be parallel thereto but spaced slightly therefrom, said flanges being spaced from each other to form a slot therebetween, a thumb piece arranged to slide in and be guided by said slot, said thumb piece having extensions at each end thereof to lie between said plate and said flanges and being slidably guided thereby, and means on each of said extensions adjacent the plate for engagement with the conventional irregular apertures in a razor blade, said means comprising projections on said extensions, said projections being on the plate side of said extensions.

5. In an article of the class described, the combination of a casing of resilient material, said casing comprising a back having two side edge portions reversely bent over the back but slightly spaced therefrom, the opposed edges of said portions being spaced from each other to form a slot, said portions bearing against the back at one end of said casing, the other end of said casing being open; with a slidable member within the casing bearing against said back and said side portions, an element extending from said sliding member thru said slot and forming a thumb piece bearing against the sides of said slot, means on said sliding member to engage a blade, and one of said side portions having an inward projection near the open end of the casing to abut and thereby limit the sliding member in its sliding movement.

6. In an article of the class described, a plate of suitable material having overlying spaced parallel flanges, said flanges being spaced from said plate, a slider adapted to be received in the space between said flanges, said slider having a rigid foot element extending between and bearing against said plate and said flanges, and said element being formed to provide a projection for receiving an aperture in a blade.

7. An article of the class described as recited in claim 6, in which the projection on said element is adjacent said plate.

8. An article of the class described as recited in claim 6, in which the projection on said element faces said plate so that the blade is held between said plate and said element.

9. A slider for a razor blade knife comprising a generally straight, elongated thumb piece, at least one end of said thumb piece extending at an angle thereto, and a foot on said end generally parallel to said thumb piece.

10. A slider for a razor blade knife comprising an elongated narrow thumb piece, said thumb piece having at least one end thereof extending at an angle thereto, an extension on said end generally parallel to said thumb plate, and said extension having a projection thereon, providing a bearing element for said slider.

11. A razor blade knife comprising an enclosure for the blade, a slot in said enclosure, and a slider adapted to be received in said slot, said slider comprising a narrow element adapted to be

located outside of said enclosure and having an offset portion extending thru the slot, a foot on said offset portion within the enclosure, said foot being effective to engage and hold a razor blade and bearing against two opposite sides of said enclosure.

12. A razor blade knife comprising an enclosure having two generally parallel sides, a slot in one side, a slider, said slider comprising an elongated element, an offset portion on said element extending thru said slot, a rigid foot on said offset portion within the enclosure, said foot being adapted to engage a razor blade and bearing against both sides of said enclosure.

13. A razor blade knife as recited in claim 12, in which said foot is provided with an outstanding projection, said projection being effective to pass thru an aperture therein and thus hold the blade.

14. A razor blade knife as recited in claim 12, in which said foot is provided with a projection extending away from said narrow element, said projection being effective to pass thru an aperture in the blade and bear at its free end on one wall of the enclosure.

15. As an article of manufacture, a solid, continuous plate of rectangular form having flanges along its longer edges, said flanges extending toward each other generally parallel to and spaced from said plate to accommodate a flat blade, the opposed edges of said flanges forming a guideway, a member slidably guided in said guideway having a portion integral therewith and extending laterally thereof in a direction toward said plate, said portion being adapted to engage an opening in a razor blade of the safety razor type whereby said blade may be moved along said plate upon relative movement of the latter and said member.

16. An article as recited in claim 15 wherein said laterally extending portion is adapted to slidably bear on said plate.

17. A razor blade knife comprising a rectangular plate having inturned guide flanges along parallel sides of said plate, a slider adapted to be slidably guided on said flanges, a pair of spaced projections on said slider extending toward said plate, said projections being adapted to engage in apertures in a razor blade of the safety razor type, and stop means adjacent each end of said plate for engaging said projections to limit the sliding range of said slider, said stop means being spaced apart a distance greater than the distance between projections.

SHERMAN W. FROST.