Nov. 29, 1932. E. W. ERICSSON 1,889,401

SAFETY RAZOR

Filed Jan. 26, 1931

Fig. 1.

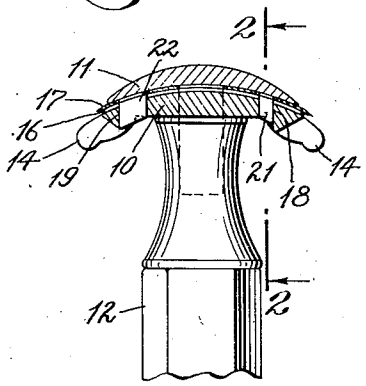



Fig. 2.

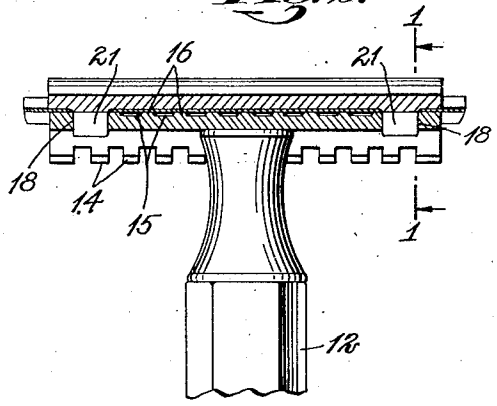



Fig. 3.

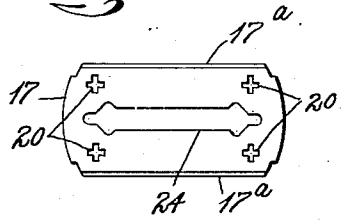



Fig. 4.

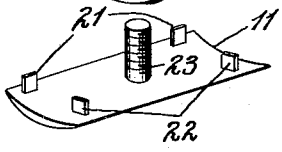



Fig. 7.

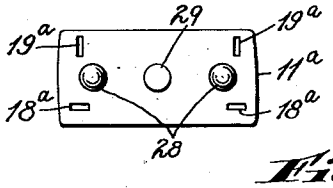



Fig. 5.

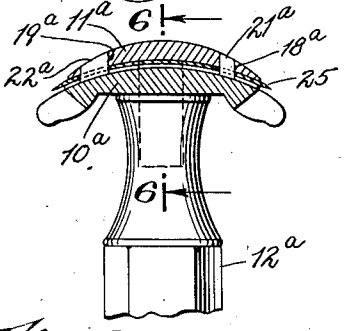



Fig. 8.

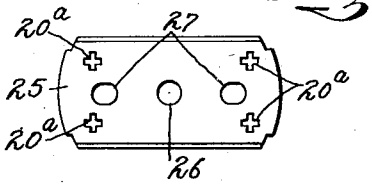



Fig. 9.

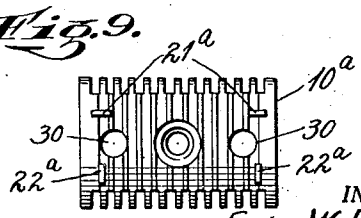
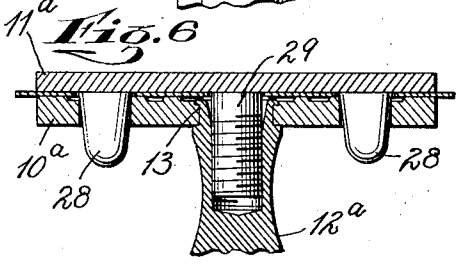



Fig. 6




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Patented Nov. 29, 1932 1,889,401

# UNITED STATES PATENT OFFICE

ERIC W. ERICSSON, OF BROOKLYN, NEW YORK

## SAFETY RAZOR

Application filed January 26, 1931. Serial No. 511,244.

This invention relates to safety razors and particularly to an improved type of guard plate and cap as well as to an improved type of blade used in conjunction therewith; and the object of the invention is to provide the blade holding portion of a razor with means disposed at the side edges thereof for distinguishing one cutting edge from the other of a double edged blade arranged in the holder whereby one edge may be used for the initial shaving strokes and the other edge for the finishing strokes; a further object being to provide the blade holding portions of the razor with members which in addition to the function above set out, also serve to key the blade in position within and between the sesparate parts of the holder; a further object being to provide the corner portions of the blade with cross-shaped apertures adapting the blade for universal mounting in the holder and to fit longitudinally and transversely arranged marking elements on one part of the holder; and with these and other objects in view, the invention consists in a device of the class and for the purpose specified, which is simple in construction, efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a transverse, sectional view of a razor made according to my invention with part of the construction broken away; the section being on the line 1—1 of Fig. 2.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of one form of blade which I employ.

Fig. 4 is a perspective view of the cap employed in the structure shown in Figs. 1 and 2 detached.

Fig. 5 is a view similar to Fig. 1, showing a modification.

Fig. 6 is a section on the line 6—6 of Fig. 5.

Fig. 7 is a bottom plan view of the cap shown in Figs. 5 and 6.

Fig. 8 is a plan view of the blade employed in the structure shown in Figs. 5 and 6; and,

Fig. 9 is a plan view of the guard plate shown in Figs. 5 and 6 detached.

In carrying my invention into effect, I provide a safety razor, the holder of which consists of a guard plate 10 and a cap 11 and a handle member 12 to which the guard plate 10 is attached by a swivel mounting as seen at 13, note Fig. 6 of the drawing. In Figs. 1 and 2, I have shown one form of guard plate and cap, and in Figs. 5 and 6 a slight modification. In the latter figures, the guard plate is indicated at 10*a* and the cap at 11*a*.

The guard plate 10 is arc-shaped in cross sectional form and terminates at its side edges in projecting guard fingers 14, the upper surface of the plate having transverse grooves 15 arranged in alinement with the fingers 14 and forming between the grooves ribs 16, upon which the blade 17 is supported so that the cutting edges 17*a* of the blade will be disposed above and in spaced relation to the projecting fingers 14. The guard plate 10 has two longitudinally arranged, comparatively narrow apertures 18 disposed adjacent the corners and one side edge thereof and other transverse, narrow apertures 19 adjacent the corner portions and other side edge thereof. The arrangement of the apertures 18—19 with respect to the guard plate is such that the center of the apertures 18 will correspond in position on the plate 10 with respect to the center of the apertures 19 so as to register with equally spaced, cross-shaped apertures 20 formed in the corner portions of the blade 17 so as to register with either pair of apertures 18—19 as well as corresponding projecting lugs 21—22 arranged on the under surface of the cap 11 as clearly seen in Fig. 4 of the drawing. It will be understood that the lugs 21 have their wide faces arranged longitudinally of the cap whereas the corresponding faces of the lugs 22 are arranged transversely of the cap.

Centrally of the cap 11 is a downwardly projecting threaded stud 23 in connection with which the handle 12 has a screw threaded engagement so as to clamp the blade 17 within and between the guard plate 10 and cap 11 and whereby the cap 11 may be de-

tached for the removal of the blade whenever desired. Arranged centrally and longitudinally of the blade is an elongated aperture 24 through which the stud 23 is adapted to pass and which is also adapted to receive the guide lugs employed on the cap as seen in the structure shown in Figs. 5 and 6 of the drawing, thus adapting the blade shown in Fig. 3 to both forms of holders shown.

The structure shown in Figs. 5 and 6 differs from that shown in Figs. 1 and 2 simply in the arrangement of the lugs and apertures employed for keying and alining the blade within the holder and to provide the means for distinguishing the different sides and the corresponding different edges of the blade. In these figures, the guard plate 10*a* instead of having the apertures 18—19, is provided with lugs 21*a*—22*a* and the cap 11*a* with apertures 18*a*—19*a* to receive said lugs. In this construction, it is also preferred that the outer faces of the lugs 21*a*—22*a* be curved to conform with the curvature on the outer face of the cap 11*a* when the blade 25 is arranged between the cap and plate so as to provide a smooth outer surface on said cap.

The blade 25 is similar in all respects to the blade 23 except that instead of providing the elongated aperture 24, three apertures are employed, namely a central aperture 26 and two apertures 27 arranged adjacent the ends of the blade and adapted to register with guide lugs 28 on the inner face of the cap 11*a*. Said cap has a central screw threaded stud 29 similar to the stud 23, which is in screw threaded engagement with the handle 12*a* as clearly seen in Fig. 6 of the drawing. The corner portions of the blade 25 have cross-shaped apertures 20*a* similar in all respects to the apertures 20 and adapted to register with the projecting lugs 21*a*—22*a* as will be apparent.

The guard plate 10*a* will also be provided with apertures 30 to receive guide lugs 28. At this time, it will be understood that the lugs 28 and apertures 30 may also be employed in the structure shown in Figs. 1 and 2. However, it is found that the arrangement of the apertures 20—20*a* upon the lugs 21—22 and 21*a*—22*a* is sufficient for the proper alinement of the blades 17—25 upon the respective holders. It will be apparent however, that in forming the apertures 20—20*a*, slight clearance will be provided to compensate for the flexure of the blade so as not to exert any force or pressure on the blade which would tend to crack or break the same.

By providing a razor blade of the class described and a holder with the lugs arranged in contrasting relation to each other on opposite sides of the holder, it is possible to designate to the user, the distinction of one cutting edge from the other so that in the process of shaving, one edge of the blade may be used for the first shaving strokes or in what might be termed the rough shaving, whereas the other edge may be used in the final shaving strokes to produce a clean, close shave. In this way, longer life of the blade will result.

This type of blade and holder construction is especially adaptable for use in holders of the class disclosed having the transverse grooves on the upper face of the guard plate which facilitate the cleaning of the razor to remove the lather therefrom by simply loosening the handle to a slight degree and placing the razor under a stream of water so as to pass through said grooves which form nozzle discharges facilitating the removal of the lather. In other words, it is not essential that the blade be detached from the holder between several shaving operations. In this way, the user will be certain at all times to know by virtue of the different lugs which constitute marking elements visible externally of the holder, just which cutting edge of the razor blade should be used first.

Another distinctive feature of my invention resides in the fact that by controlling the attachement of the cap to the guard plate in such manner that the cap is capable of mounting on the plate in one position only, it will be possible and in fact desirable to modify the contour or dimensions of the guard fingers at one side edge of the razor so as to control and regulate the spacing of the cutting edge of the blade with respect thereto to vary it as compared to that of the spacing of the opposite cutting edge with respect to its guard fingers. In this construction, and especially in using a characterizing means for distinguishing one side edge from the other, the user of the razor will know at all times the side edge of the razor to be used for the initial shaving strokes as compared with the finishing shaving strokes.

It will be understood that my invention is not necessarily limited to the particular type of razor blade holder herein shown and described, nor am I necessarily limited to the specific form and arrangement of the lugs herein disclosed and in like manner, the form of the apertures provided in the corner portions of the blade. Various other changes in and modifications of the construction herein disclosed may be made within the scope of the appended claims without departing from the spirit of my invention or sacrificing its advantages.

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

1. A razor of the class described comprising a guard plate, a cap adapted to be clamped on the upper face of the guard plate with a double edged blade disposed therebetween, the corner portions of said plate and

cap being provided one with elongated apertures and the other with projecting bar-like lugs adapted to pass through said apertures and exposed externally of the razor, the lugs in the corner portions of one side edge of the razor being arranged longitudinally of its cutting edge, and the lugs in the corner portions of the other side thereof being arranged transversely.

2. A razor of the class described comprising a guard plate, a cap detachable with respect to said plate and within and between which a razor blade is adapted to be clamped, and said plate being provided with projecting lugs having flat sides and said cap with elongated apertures to receive said lugs and through which said lugs are visible, said lugs and apertures being disposed adjacent the corner portions of the cap and plate, and the lugs at the corner portions of one side of the razor being disposed with their flat sides substantially parallel to the cutting edge and at the other side with their flat sides perpendicular to the cutting edge.

3. A razor of the class described comprising a guard plate, a cap detachable with respect to said plate and within and between which a razor blade is adapted to be clamped, and said plate being provided with projecting lugs having flat sides and said cap with elongated apertures to receive said lugs and through which said lugs are visible, said lugs and apertures being disposed adjacent the corner portions of the cap and plate, the lugs at the corner portions of one side of the razor being disposed with their flat sides substantially parallel to the cutting edge and at the other side with their flat sides perpendicular to the cutting edge, and a double edged blade adapted to be arranged between the plate and cap, said blade having cross-shaped apertures in the corner portions thereof suitable to receive the lugs disposed at both side edges of the razor.

4. A razor of the class described comprising a guard plate arc-shaped in cross sectional form and terminating at its side edges in projecting guard fingers spaced longitudinally of said edges, the upper face of said plate having transverse grooves arranged in alinement with said fingers and forming therebetween transverse ribs, the ends of which terminate inwardly of said guard fingers, a cap arc-shaped in cross sectional form and between which and said plate a double edged blade is adapted to be supported, the corner portions of said plate and cap being provided one with elongated apertures and the other with projecting bar-like lugs adapted to pass through said apertures and exposed externally of the razor and the apertures and lugs at one side edge of the razor being arranged longitudinally of said razor and the apertures and lugs at the other side edge of the razor being arranged transversely.

5. In razors of the class described an elongated double edged blade the corner portions of said blade adjacent the side edges thereof having within the boundary edges of the blade transverse apertures and centrally intersecting longitudinal apertures, the transverse apertures of one side edge of the blade being in alinement with those at the opposite side edge thereof and the longitudinal apertures at one end of the blade being in alinement with those at the other end thereof.

In testimony that I claim the foregoing as my invention I have signed my name this 16th day of January, 1931.

ERIC W. ERICSSON.