May 30, 1933. H. J. GAISMAN 1,911,996

SAFETY RAZOR

Filed March 16, 1931

Fig. 1.

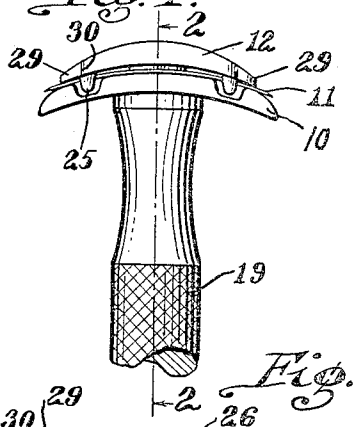


Fig. 2.

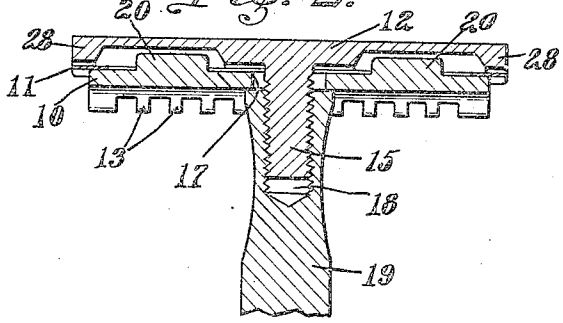


Fig. 4.

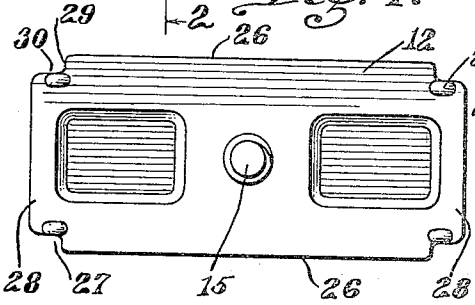


Fig. 3.

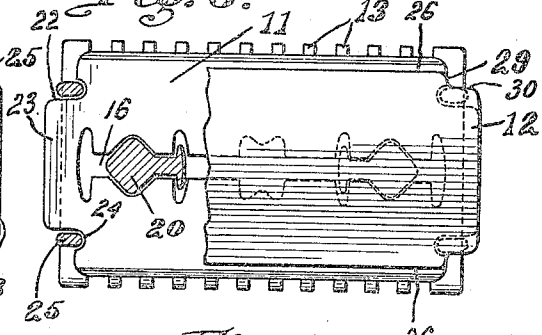


Fig. 6.

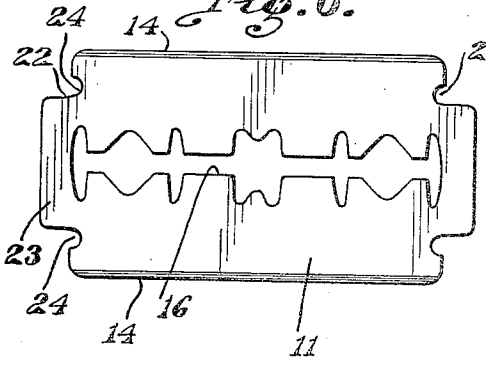
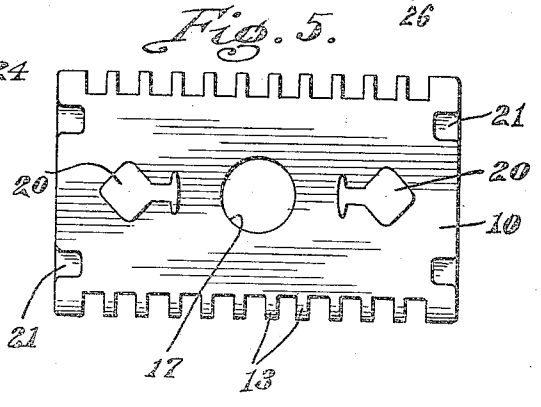


Fig. 5.



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UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed March 16, 1931, Serial No. 522,893, and in Great Britain April 3, 1930.

The present invention relates to that class of safety razors in which two clamping members, a guard member and a blade-backing member, are provided, and a thin flexible blade is clamped between the guard and backing members to retain the cutting edges of the blade in shaving relation to the guard teeth. In razors of this type it is of great importance to preserve the blade-shaping edges of the backing member against distortion, as any departure from the original shape of the said edges produces a corresponding variation in the amount of edge exposure which is likely to impair the shaving qualities of the razor or render it dangerous to the user. Furthermore, a deformed backing member corner has a tendency and often does crack the blade when the razor elements are clamped together for shaving.

The main object of the present invention is to improve the construction of safety razors of the type mentioned by rendering the blade-backing member less liable to distortion in the critical edges thereof, and to protect and guard these edges by providing contact, shield or fender portions of relatively rugged construction.

The invention pertains more particularly to a safety razor designed to accommodate a blade having its corners shaped or cut away to avoid the possibility of corner pressure by a damaged or distorted blade-backing member, and in one of its aspects the invention consists in the novel combination of a flexible blade having cut-out corners with a blade-backing member recessed at its corners to conform substantially to the contour of the blade. By removing the corners of the blade-backing member, a centrally disposed elongated portion is defined in the said member of sufficient thickness to resist deformation due to dropping or striking the razor in ordinary use.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter described, pointed out in the appended claim and illustrated in the accompanying drawing, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claim without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawing, in which:—

Figure 1 is an end view of a razor constructed in accordance with the present invention; Fig. 2 is a section taken on line 2—2 of Fig. 1; Fig. 3 is a plan view of the razor, parts of the blade-backing member being broken away to more clearly illustrate the construction; Fig. 4 is a bottom plan view of the blade-backing member of the construction; Fig. 5 is a top plan view of the guard member of the improved razor; and Fig. 6 is a plan view of a blade of suitable shape for use in the illustrated razor.

For purposes of illustration, the invention is disclosed as applied to a safety razor of the type described in U. S. Letters Patent No. 1,633,739 granted to me on June 28, 1927, but it will be readily understood that the invention is applicable to all razors of the type above referred to.

Referring now to the drawing, the numeral 10 indicates the guard member, the numeral 11 the blade, and the number 12 the blade-backing member of the razor, so organized that the said blade may be clamped between said members. The guard member is shown of the variety having guard teeth 13 in its opposite longitudinal edges, along which the cutting edges 14 of the blade extend in an ordinary way for shaving. Any suitable means may be provided for causing the blade to be clamped between the guard and backing members. In the example illustrated in the drawing, the backing member is provided with a screw-threaded spindle 15, which is adapted to pass through an aperture 16 in the blade and through an opening 17 in the guard member, and to engage a screw-threaded socket 18 in a handle 19, to clamp the parts together for shav-

ing. The opening 17 is of a size and configuration that the spindle 15 is adapted to pass therethrough without positioning the backing member in relation to the guard member.

From the blade contacting surface of the guard member project positioning studs 20 which are adapted to be extended through the aperture 16 in the blade, so as to position the latter on the guard member. In the case illustrated in the drawing this aperture is in the form of a medial longitudinal slot, but it is obvious that any other aperture or apertures may be provided in the blade, according to the requirements, without departing from the invention. The positioning studs may also be of any suitable configuration, the form herein disclosed being shown only for purposes of illustration. In the blade contacting surface of the guard member are furthermore provided cavities 21, two adjacent each transverse edge of the said guard member, for a purpose hereinafter to be described.

The blade is of the thin flexible type and has in each of its corners formed a recess 22, the said recesses defining a centrally disposed unsharpened elongated portion 23 at each end of the blade. Each of the recesses terminates adjacent the unsharpened portion 23 in a notch 24. In these notches are adapted to be seated lugs 25 on the blade-backing member 12, said lugs fitting snugly the said notches, whereby the blade is adapted to be positioned on the said backing member. When the elements of the razor are assembled, the said lugs extend into the cavities 21 in the transverse edges of the guard member. These cavities are, however, of a size that the said lugs do not contact with the edges thereof, so that the lugs do not connect the blade-backing member with guard member.

The blade-backing member is of maximum thickness along its longitudinal axis and tapers gradually outward toward the blade-shaping edges 26 thereof, having its minimum thickness in the said blade-shaping edges as is usual in safety razors of this type. The blade-backing member is provided in each of its corners with a recess 27, the said recesses defining at each end of the cap an elongated centrally disposed end portion 28 and causing the longitudinal blade-shaping edges of the cap to terminate in shoulders 29, which are set back or within the end boundaries of the blade-backing member. It will be observed that, on account of the transverse tapering contour of the blade-backing member, the shoulders 30 of the end portions 28 of the said member are considerably thicker and more rugged in their construction than the shoulders 13 which terminate the blade-shaping edges of the blade-backing member. The projecting end portions 28 are relatively wide as compared to the whole width of the blade backing member or cap and therefore extend in close proximity to the blade over-lying corners thereof and in such position as to protect them against accidental damage or distortion. The lugs 25 are provided adjacent the shoulders 30 of the blade-backing member, the outer surface of each lug coinciding substantially with the respective longitudinal shoulders 30 of each blade-backing member recess. These lugs, therefore, serve to some extent as reinforcing means for the blade-backing member.

When the parts are to be assembled for use, the blade is first placed upon the guard member in such manner that the positioning studs 20 extend through the blade aperture, whereby the blade is positioned in proper relation to the said guard member. The backing member 12 is then applied to the blade so that its clamping spindle 15 passes through the blade aperture and the lugs 25 enter the notches 24 in the blade, whereby the backing member is properly positioned, by means of the blade, with respect to the guard member. When the handle is then screwed upon the clamping spindle the elements of the razor are firmly clamped together for shaving. As appears from the drawing, the configuration of the blade-clamping member follows the contour of the blade, the recesses in the corners of one of these elements overlying the recesses in the corners of the other element. If the assembled razor or the backing member alone is accidentally dropped, the ends of the blade-shaping edges 26 of the blade-backing member are, by the projecting end portions 28 of the said member, protected against distortion. If the said ends were distorted, they would, when the elements of the razor are clamped together for shaving, have a tendency to crack the blade or cause uneven exposure of the cutting edges of the blade. The projecting end portions 28, even if they become distorted, do not influence the shape or position of the blade in the assembly, because they are disposed beyond the cutting edges of the blade. There is little likelihood of these projecting portions 28 being distorted, by reason of their rugged construction and also because they are reinforced by the lugs 25 above described. From the foregoing it appears that the projecting end portions 28 of the blade-backing member act as shields, fenders or bumpers for the blade-shaping edges 26 thereof, they extending outwardly from the said edges, which are critical in determining the shape and exposure of the blade.

As pointed out above, the invention lies mainly in the provision of means located beyond the blade-shaping longitudinal edges of the blade-backing member for preventing breakage or distortion of the latter, and it

is obvious that this means may be applied to blade-backing members of any suitable type.

I claim:

A safety razor comprising a guard member, a blade-backing member, and a flexible blade with recessed corners adapted to be clamped between said members, said blade-backing member having thin parallel longitudinal blade-flexing edges, and being recessed at each corner of its periphery at the extremities of said blade-flexing edges to provide relatively thick projecting fender portions extending above the ends of the blade and disposed adjacent to the ends of the blade-flexing edges in position to protect them and a blade positioning lug on said backing member adjacent to each corner recess.

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