

Oct. 29, 1935.

S. J. DURITZA

2,019,122

RAZOR BLADE

Filed Nov. 29, 1930

Fig. 1.

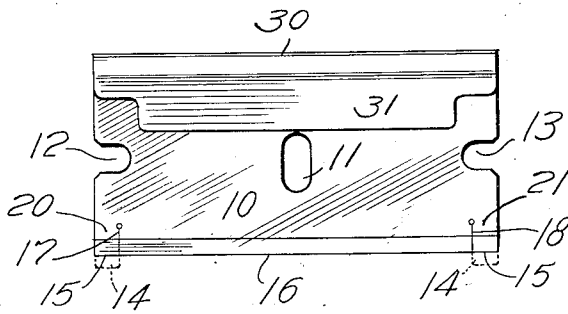


Fig. 2.

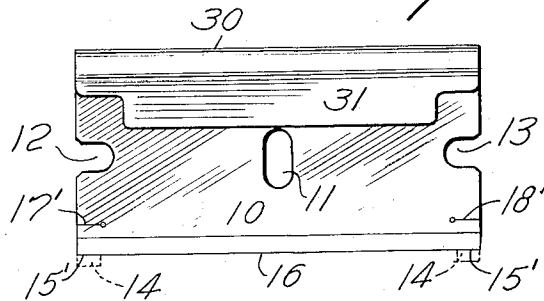


Fig. 4.

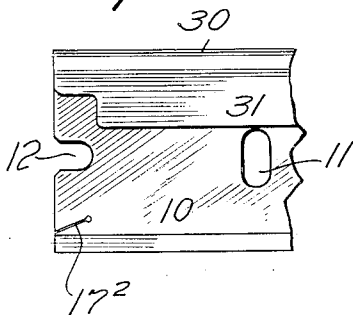
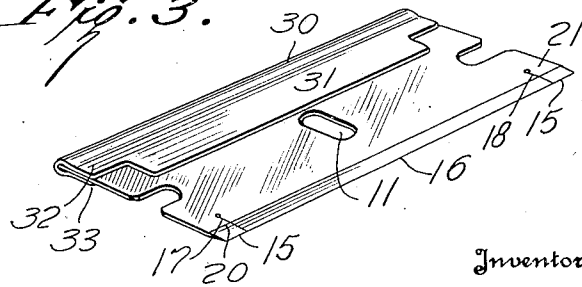


Fig. 3.



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2,019,122

RAZOR BLADE

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Application November 29, 1930, Serial No. 498,927

4 Claims. (Cl. 30—12)

My present invention relates generally to razor blades and more particularly to the type of razor in which the shaving edge of the blade is to be received against front aligning stops to give such edge its predetermined position or relationship. Example of such type of razors are those known today as the "Gem" and the "Ever-Ready".

Where razors of this character are dropped on the floor or brought suddenly against a hard surface, it is generally the corners either of the blade seat or of the clamping cover where such clamping cover is employed, which receives the force of the impact, and may result in the bending of such corners. Where such bent corners engage the blade either at or adjacent to the shaving edge there may be the tendency in such a case for the shaving edge to be distorted from its true straight alignment for its most efficient shaving.

It is one of the objects of my invention to so arrange, treat or construct sections of the blade that this tendency to distortion under these conditions will be minimized or wholly eliminated.

I will, for purposes of convenience illustrate and describe my invention as embodied in a blade of the type employed for the Ever-Ready and the Gem razors. In this type of razor, the blade is received upon a seat or saddle which presents along its front edge, guard teeth of the conventional character and upstanding lugs at each side of the guard edge which serves as front stops for engaging the extreme ends of the shaving edge of the blade. Associated with the seat or saddle is a clamping member in the form of a cover which, in the aforementioned type of razor, is pivoted to the razor seat or saddle. To assemble the blade with the razor it is generally the practice to place the blade on the saddle in an advanced position so that the opposite corners of the shaving edge engage with and abut against these front stops at the guard edge, which stops thus serve to give the shaving edge a definite shaving position. As a result of this arrangement, the opposite ends or extreme portions of the shaving edge of the blade serve no shaving function and the active shaving edge is that portion between these extreme corners.

It is another object of my invention to so arrange, treat or construct the material adjacent those portions of the shaving edge which do not function, namely those portions which abut against the front stops, that any distortion of either or both corners of the saddle will not be transmitted to the active shaving edge.

In the type of razor aforementioned, in which, as stated, a cover clamping member is employed, the effect of any bending or distortion of either or both of the corners of the cover member also will be minimized or counter-acted by the character given to the above mentioned corner portions of the shaving edge.

Blades hitherto received in the razors known as the "Gem" and the "Ever-Ready", have only a single shaving edge and have about the opposite edge a reinforcing back, the purpose of which among others is to give to the blade as a whole, added rigidity, and to increase the ease with which the blade can be handled.

It is another object of my invention to so arrange this reinforcing back as to increase the rigidity of that portion of the shaving edge which has above been pointed out as functioning in the process of shaving.

It is another object of my invention to combine with the feature of blade sections especially arranged for compensating for distortion of the razor parts, of a reinforcing back of the character referred to which will co-act specifically therewith to maintain the active portion of the shaving edge undistorted.

For the attainment of these objects and such other objects as may hereinafter appear or be pointed out, I have illustrated embodiments of my invention in the drawing wherein—

Figure 1 is a plan view of a blade made in accordance with my invention;

Figure 2 is a view similar to Figure 1 of another embodiment;

Figure 3 is a perspective view of the blade of Figure 1; and

Figure 4 is a fragmentary plane view of another embodiment.

For purpose of convenience of illustration, I have shown my invention as embodied in a blade of the type shown in U. S. Patent No. 1,739,280. As disclosed in the aforementioned patent, the blade 10 is herein also illustrated as provided with the central slot 11, and the side slots 12 and 13 although it will be understood, of course, that my invention does not necessarily call for all of these features.

The blade 10, is intended to be advanced against front stops 14 associated with the razor guard, by means engaging the lower walls of the slots 12 and 13, all as set forth in the aforementioned patent, although it will be understood that where the slots 12 and 13 are dispensed with, the advancing action of the blade can be effected by means engaging the rear edge thereof.

Upon viewing Figure 1 of the drawing, it will be observed that those portions of the shaving edge which are in registration with and are brought into abutting relation to the front stops 14 do not function during the actual shaving operation and I have applied the reference character 15 to these portions of the shaving edge and will hereinafter refer to such portions as non-functioning portions of the shaving edge. The portion of the shaving edge between and inside of the front stops 14 is the active portion which actually does the shaving and to this portion I have applied the reference character 16 and will hereinafter refer to it as the active or functioning portion of the shaving edge. At a point that approximates the inner ends of the non-functioning portions 15 of the shaving edge, I show the blade of Figure 1 as provided with slits or cuts 17 and 18 directed generally inwardly from the shaving edge. While I have shown in the drawing these slits or cuts 17 and 18 as substantially at right angles to the shaving edge it will be understood that this angle can be increased or decreased as the case may be to meet any problems or any particular situations that may arise. These cuts are shown as extended inwardly for a substantial distance so as to provide blade sections 20 and 21 each of which is defined on one end by a non-functioning portion of the shaving edge 15; on one side by a portion of the side of the blade and on the opposite side by the cut 17 or 18 as the case may be.

Where a razor of the type herein referred to, drops, it is a well established fact that it will fall either on one of the corners of the guard edge or on one of the corners of the clamping cover and either on or adjacent one of the front stops 14. If this fall results in a deformation of one of the aforementioned parts, this deformation would tend ordinarily to distort the non-functioning section of the shaving edge opposite thereto and this distortion would be transmitted to the active shaving edge. By providing the cuts 17 and 18 as hereinabove explained, the distortion will be taken up by the blade sections 20 or 21 as the case may be and will not be transmitted to the active shaving edge 16.

In the modification of Figure 2 I show the slits 17' and 18' as directed inwardly from the side and in this case the non-functioning blade section 15' will be defined at one end by the non-functioning section of the shaving edge at the opposite end by a slit 17' or 18', as the case may be, and on one side by a portion of the side of the blade.

The slits 17, 17', 18 and 18' of Figures 1 and 2 can be formed by shearing through the metal before the tempering or hardening process.

In Figure 4 of the drawing I show a slight modification in which the slits 17² are formed by an operation similar to a sawing operation so as to provide slots of rather small width and I further show these slits as angled upwardly from the side walls. Thereby it will be obvious that flexure of the tongues so formed, due to stresses at their ends becomes more uniform, so that breakage is avoided. In all other respects the embodiment of Figure 4 corresponds to those of Figures 1 and 2.

In each of the aforementioned embodiments, I show a back 30 for the blade generally of the type now employed in the "Gem" and "Ever-Ready" razors. This back is a piece of relatively heavy metal bent about the back or non-shaving

edge of the blade. Upon viewing the various figures, it will be observed that this back 30 is provided on its opposite faces with the extensions 31 which are shorter than the width of the blade, that is than the dimension of the blade parallel to the shaving edge. These narrow portions 31 are each defined on its sides by the walls 32 and 33. These projections or extensions, it will be observed, project forwardly toward the shaving edge and fall within the lines defined by the slits when extended. This narrowed extension 31 will serve to give added rigidity to that portion of the shaving edge between the slits and which portion has hereinbefore been referred to as the functioning shaving edge. In other words, just as the sections 20 and 21 serve to prevent the transmission to the functioning shaving edge of any distortion so also the sections 31 of the reinforced back cooperate with the functioning portion 16 of the blade edge to maintain it flat.

It will be understood that the reinforcing member 30 can have the extensions function as set forth, even though it varies generally from the type now employed in the aforementioned types of razor, and without the presence in the blade of the slits 17, or 17' or 17² or their equivalents.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is—

1. A blade defined by a substantially straight shaving edge along one end and side walls at an angle thereto to provide corner portions at each end of the shaving edge, and slits extending obliquely from said side walls and in inward diverging relation to said shaving edge and spaced from said shaving edge, thereby forming tongue-like corner portions one side of which is formed by the shaving edge, said corner portions being of greater resiliency than the portion of the shaving edge therebetween so as to form impact or shock absorbing areas.

2. A wafer type safety razor blade of rectangular shape having a cutting edge formed along one edge thereof, reinforcing means for rendering the middle portion of said shaving edge relatively rigid and a slit in the blade positioned adjacent each end of the shaving edge for rendering the end portions of said shaving edge relatively flexible, each of said slits terminating at a side of the blade adjacent one end of the shaving edge, and being spaced from the shaving edge, and disposed at an angle to the shaving edge, whereby the tongue formed therebetween and the shaving edge is of progressively increasing width from its free end portion to its base and whereby flexing of the tongue due to deforming stresses on its end will be more nearly uniform throughout the length of the tongue.

3. A blade provided with a shaving edge at one end and intended to have its end portions engage front stops of a razor and a reinforcing member on the end of the blade opposite the shaving edge, said reinforcing member having a portion thereof positioned substantially symmetrically of the length of the shaving edge and of less length than the shaving edge whereby that portion of the shaving edge intermediate the end portions thereof will have its rigidity increased, the end portions of the shaving edge being so arranged and constructed as not to transmit any distortion thereof to the portion of the shaving edge therebetween and said end portions of the shaving edge being located on portions of the blade separated from the body of said blade by slits spaced

from the shaving edge and extending inwardly from the side edges of the blade.

4. A safety razor blade of the wafer type of substantially rectangular shape and having a shaving edge on one of the longitudinal edges thereof and a rigid backing applied to the opposite edge to rigidify the rear portion of the blade, and also having a plurality of slits extending inwardly from each of the sides thereof so as to divide the portions of the blade adjacent said

sides into at least three tongues, and said backing having portions thereof extending into certain of said tongues, and said backing, where it extends into said tongues, having portions cut away so as to reduce the rigidifying effect of said backing on said tongue, whereby a blade will be provided having a relatively rigid middle portion and side portions relatively flexible throughout a substantial portion of their extent.

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