July 18, 1933. F. W. MERRICK 1,918,856

SAFETY RAZOR

Filed Jan. 22, 1932

Fig. 1.

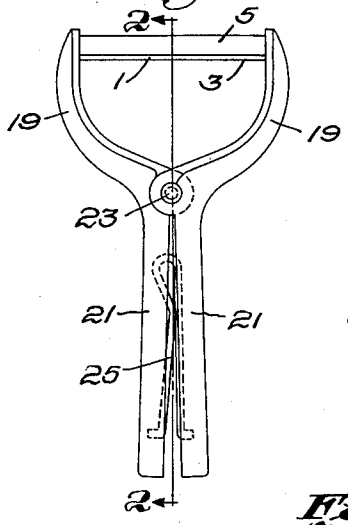


Fig. 2.

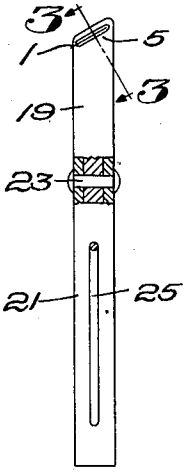


Fig. 3.

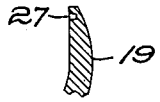


Fig. 4.

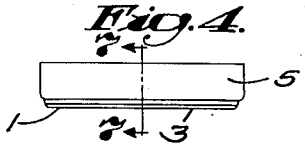


Fig. 5.

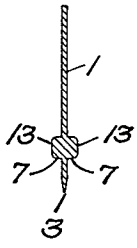


Fig. 6.

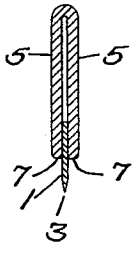


Fig. 7.

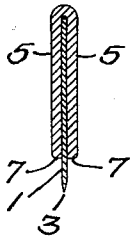


Fig. 8.

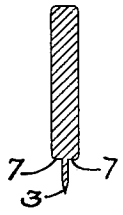


Fig. 9.

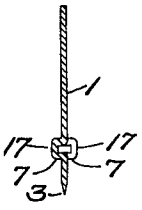


Fig. 10.

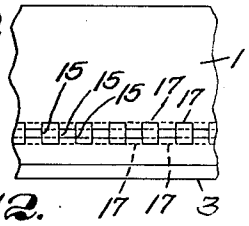


Fig. 11.

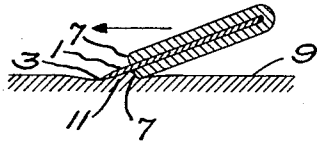
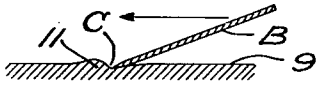


Fig. 12.



Inventor:
Frank W. Merrick,
by Cowen Both Farley & Townsend
Attys

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UNITED STATES PATENT OFFICE

FRANK W. MERRICK, OF BOSTON, MASSACHUSETTS

SAFETY RAZOR

Application filed January 22, 1932. Serial No. 588,091.

My invention, which relates to safety razors, and has among its objects the provision of a unitary blade structure providing a cutting edge and a guard therefor, will be best understood from the following description when read in the light of the accompanying drawing of several forms of the invention, the scope of which latter will be more particularly pointed out in the appended claims.

In the drawing:—

Fig. 1 is an elevation of a safety razor constructed according to the invention;

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

Fig. 3 is a fragmentary view corresponding to a section on the line 3—3 of Fig. 2;

Fig. 4 is a plan of one form of blade;

Figs. 5 to 9 inclusive are transverse sections on an enlarged scale of different forms of blades constructed according to the invention, Fig. 7 being a section on the line 7—7 of Fig. 4, and Figs. 5, 6, 8 and 9 being corresponding sections of modified forms of blades;

Fig. 10 is a plan of a fragment on an enlarged scale of a razor blade constructed according to Fig. 9; and

Figs. 11 and 12 are diagrams.

Referring particularly to Figs. 4 and 7, which show the preferred form of the blade, the latter may consist of a thin strip of sheet metal 1, one longitudinal edge of which is formed to constitute the cutting edge 3. Folded over the opposite edge of the blade is a relatively thick strip of sheet metal 5 pressed firmly against the sides of the strip 1 so as rigidly to secure the parts together and thus form a unitary or substantially integral structure. As shown, the opposite edges of the sheet 5 form shoulders 7 projecting laterally of the blade and lying slightly back of and paralleling the cutting edge 3.

It has been found, that by suitably proportioning the parts, the razor blade shown by Figs. 4 and 7 can be employed with safety without the provision of a guard in advance of the cutting edge, the shoulders 7, 7 in the present construction in effect serving as a guard. As an explanation of the effect produced by the razor blade so constructed it is believed, that when the blade is pressed against the surface 9 (Fig. 11) of the skin and is moved in the direction of the arrow in the normal shaving operation, the shoulder 7 forces up a ripple 11 of the skin beneath that portion of the blade which is in front of said shoulder so as to cause the surface of the skin at the cutting edge 3 to be roughly tangent thereto, as distinguished from the effect produced if it were attempted to perform the shaving operation with a thin blade B (Fig. 12) in the absence of a guard, in which case the blade would force up the ripple 11 in front of the cutting edge C, said ripple so positioned relative to the cutting edge that in the absence of extreme care the skin would be cut. This explanation of the operation of applicant's blade in performing the shaving operation, as distinguished from the action of the ordinary safety razor blade, is advanced merely for the purpose of attempting to clarify the invention, and is not intended as a limitation to the particular operation described. It is a fact, however, that applicant's blade may be employed without a guard in advance of the blade without using any more care to prevent cutting of the skin than is the case when employing the ordinary safety razor.

The proportions of the blade may vary widely, but with a strip 1 having a thickness of 0.006 of an inch satisfactory results have been secured with a shoulder 7 the height of which is about two and one-half times this thickness, and with the portion of the strip 1 in front of this shoulder equal in width to about seven or eight times this thickness.

Figs. 5, 6, 7 and 8 illustrate modified forms of the blade. In Fig. 5 the strip 1 is formed on one or both sides with integral ribs 13 the forward faces of which form the guard shoulders 7. The blade shown in Fig. 6 is like that shown in Fig. 7 except that the strip 1 is much narrower. The blade shown in Fig. 8 is similar to that shown in Fig. 7 except that the parts are integrally formed. The blade shown in Figs. 9 and 11 is similar to that heretofore described except that the longitudinally extending shoulders 7 are formed by providing the strip 1 with a series of slits 15 and pressing outward the material between the slits alternately in opposite directions to form at each side of the strip a series of projections 17.

Any convenient form of holder may be employed for the blade, that preferably used comprising a spring yoke having the arms 19 each of which is integrally formed with the half 21 of a longitudinally extending

handle. As shown, the arms are pivoted at 23, while between the halves of the handle is a spring 25 which urges the arms of the yoke toward each other about their pivotal connection at 23. As shown, the end portions of the arms are formed with notches 27 of length equal to the end portions of the blade, which notches receive these ends. For ready cooperation with the notches 27 the blade constructed according to Figs. 4 and 7 conveniently is so formed that the ends of the folded strip 5 extend beyond the ends of the strip 1, and the blades according to Figs. 6 and 7 may be similarly constructed.

As shown, the notches 27 are inclined relative to the longitudinally extending handle of the holder so as to hold the blade in an inclined position, which causes the blade when the handle is held in the hand of the user to be presented to the face at the proper shaving angle.

It will be understood that wide deviations may be made from the forms of the invention shown without departing from the spirit of said invention.

I claim:

1. A safety razor blade having a longitudinally extending cutting edge, and means slightly back of said cutting edge forming a guard for the latter, said means constituting a unitary part of said blade and adapted to contact with the skin during the normal shaving operation.

2. A safety razor blade having a longitudinally extending cutting edge, and means slightly back of said cutting edge in fixed parallel relation thereto forming a rigid, laterally projecting shoulder acting as a guard for said edge, said means constituting a unitary part of said blade and adapted to contact with the skin during the normal shaving operation.

3. A safety razor blade comprising a unitary structure formed with an elongated relatively thin part having a cutting edge, and, as part of said unitary structure, a laterally projecting, longitudinally extending, rigid shoulder portion paralleling said cutting edge in closely adjacent relation thereto and adapted to contact with the skin during the normal shaving operation, said shoulder portion being of sufficient height relative to its distance from said edge to form a guard for said blade.

4. A safety razor blade comprising a unitary structure formed with an elongated relatively thin part of narrow width, one longitudinal edge of which latter constitutes a cutting edge, said blade at the opposite longitudinal edge of said part formed to provide a laterally projecting, longitudinally extending, rigid shoulder adapted to contact with the skin during the normal shaving operation, and said shoulder being of sufficient height relative to its distance from said edge to form a guard for said blade.

5. A safety razor blade comprising a thin metallic sheet a longitudinal edge of which constitutes the cutting edge, and reinforcing means fixedly carried by said sheet comprising a relatively thick, rigid sheet having an edge slightly back of and paralleling said cutting edge, said edge of said relatively thick sheet adapted to contact with the skin during the normal shaving operation, the thickness of said thick sheet being such that said edge thereof constitutes a guard for said cutting edge.

6. A safety razor blade comprising a thin metallic sheet one longitudinal edge of which constitutes the cutting edge, a thick rigid sheet folded to embrace said thin sheet and having opposite edges slightly back of and paralleling said cutting edge, one or the other of said edges of said thick sheet adapted to contact with the skin during the normal shaving operation, the thickness of said thick sheet being such that said edge thereof constitutes a guard for said cutting edge.

7. A safety razor blade having, in combination, a blade having a longitudinally extending, relatively thin part having a cutting edge, and means cooperating with said edge forming a rigid guard therefor adapted to contact with the skin during the normal shaving operation comprising a part forming a shoulder slightly behind said cutting edge in parallel relation thereto, the height of said shoulder being sufficient to cause said shoulder to constitute a guard for said cutting edge.

8. A safety razor having, in combination, a blade holder having a longitudinally extending handle, a blade having a longitudinally extending, relatively thin part having a cutting edge, said blade being operatively carried by said holder in inclined relation to said handle, and means forming a longitudinally extending, rigid shoulder paralleling said cutting edge behind the latter in laterally spaced, closely adjacent relation thereto, the height of said shoulder being sufficient to cause said shoulder to constitute a guard for said cutting edge.

9. A safety razor having, in combination, a blade holder having a longitudinally extending handle, a blade having a longitudinally extending, relatively thin part having a cutting edge, said blade being operatively carried by said holder in inclined relation to said handle, and means forming a longitudinally extending, rigid shoulder paralleling said cutting edge behind the latter in laterally spaced, closely adjacent relation thereto, said means forming a unitary part of said blade and said shoulder being of such height as to constitute a guard for said cutting edge.

FRANK W. MERRICK.