April 17, 1951 R. EISENBERG ET AL 2,548,959

SAFETY RAZOR GUARD

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FIG. 1

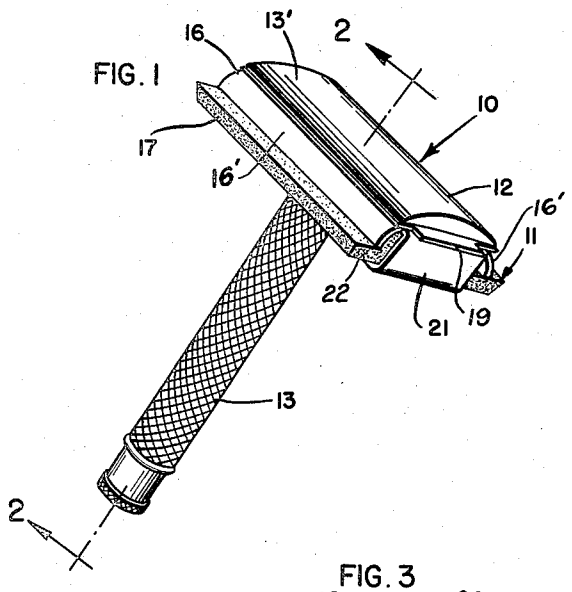


FIG. 2

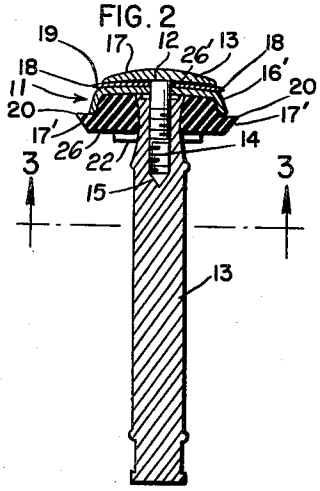


FIG. 3

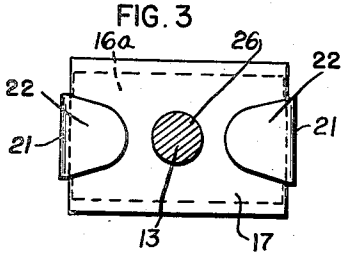


FIG. 4

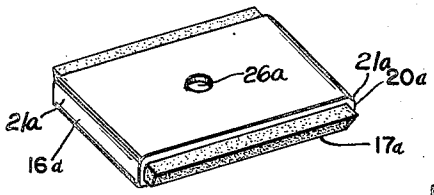


FIG. 5

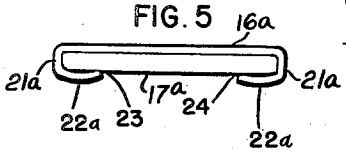


FIG. 6

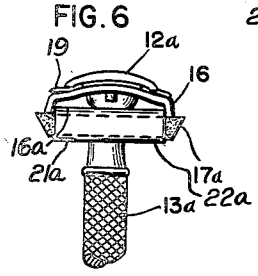


FIG. 7

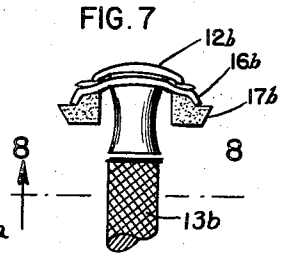
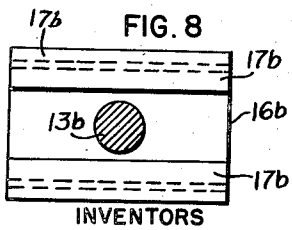


FIG. 8



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SAFETY RAZOR GUARD

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3 Claims. (Cl. 30—34)

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This invention relates to safety razors and particularly to the types which are designed with metal guards projecting beyond the edges of the safety razor blade. More particularly, this invention relates to improvements in such guards.

Heretofore razor guards have been constructed in various shapes and forms, but with metal edges or teeth which projected beyond the edge of the blade. This construction was intended to serve a twofold purpose, viz. to minimize the cutting hazard of the razor and further to prepare the hair for cutting by the blade which followed immediately after the guard.

Unquestionably the first mentioned function is quite satisfactorily accomplished by this construction since the effective cutting angle of the blade is considerably limited by this arrangement. The second function, although not so successful is admittedly partially so since the guard edge does lift at least some of the hairs to a vertical and hence more accessible cutting position.

However, to accomplish this purpose the metal edge must be drawn over the skin in extremely close proximity therewith. In fact, to obtain a "close shave," the metal edge of the guard in passing over the skin in such intimate relationship therewith, often tends to abrade, irritate, break and tear the skin. In many cases dermatologists have determined that many skin infections, rashes and the like are directly or indirectly attributable to this skin irritation. Thus, although the safety razor has undoubtedly enjoyed great commercial success, it has never been universally adopted, especially among people with thin or "tender" skins. In fact, in recent years, this type of razor has been supplanted to a large extent by other less irritating razors, such as for example, the electric type.

It is therefore a primary object of this invention to provide a device of the character described which will overcome all of the disadvantages set forth above.

A further object of this invention is to afford a razor which will prepare the face hairs for more effective cutting by the razor blade.

Still another object is to provide a safety razor which will permit the cutting of face hair closer to its root and thus enable smoother or closer shaving.

Yet a further object is to afford a safety razor which will more readily adapt itself to the individual face contour of the user.

A further object is to provide a safety razor

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which may be used as often as necessary, but yet will not irritate, abrade, tear or break the skin. A related object is to minimize the danger of infection and eliminate rashes, allergies and the like.

Another object is to afford a safety razor guard which will insulate the skin from the metal guard while simultaneously limiting the danger of cutting the face by the razor blade.

Yet a further object is to provide a safety razor guard which may be used with an ordinary safety razor, but which will afford the protection to the face as stated above.

A further object is to afford a safety razor having a resilient, non-irritating, replaceable guard.

Still another object is to afford a safety razor and/or safety razor guard of simple and inexpensive construction, but yet effective in carrying out the objects of this invention.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of our invention, we have illustrated in the accompanying drawings preferred embodiments thereof, from an inspection of which, when considered in connection with the following description, our invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a perspective view of a safety razor constructed in accordance with the principles of this invention.

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1 and in the direction indicated.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2 and in the direction indicated.

Fig. 4 is a perspective view of a modification of this invention.

Fig. 5 is a front elevation of the modification illustrated in Fig. 4.

Fig. 6 is an end view of a safety razor of usual construction and having associated therewith the modified form of our invention illustrated in Figs. 4 and 5.

Fig. 7 is an end view of a further modification of our invention, and

Fig. 8 is a sectional view taken on line 8—8 of Fig. 7 and in the direction indicated.

Referring more specifically to the drawings, reference numeral 10 designates generally a safety razor or the double edge type, but incorporating therein a guard 11 which is constructed in accordance with the principles of our invention. The razor comprises a cap 12, the guard 11 and a handle 13 which is used as the finger grasping portion of the razor. The cap 12 is in turn constructed of a slightly arcuate head portion 13' having a depending threaded bolt member 14 affixed at the center to the under face of head 13' and whose vertical plane is at right angles to the general horizontal plane or the head portion 13'.

The handle 13 is formed with a complementary screw threaded opening or socket 15 in the center of the top portion thereof, and is intended for association with the bolt 14 for ready assembly and disassembly of the entire razor.

The guard member 11 consists of a metal blade supporting section 16, having a convex surface over which the blade may be flexed by the cap 12 when the razor is assembled. The lower portion of the guard 11 consists of a block 17 having side edge portions 17' of reduced thickness which protrude beyond the blade supporting section 16 as well as beyond the cutting edges 18 of razor blade 19. This block is constructed of a resilient non-irritating material such as live rubber which may in turn be synthetic, natural or combinations of the two. The side edges thereof are shaped to form knife edge portions 20. It will be seen, by examination of Fig. 2, that the entire guard 11 thus comprises an inverted, cup-shaped, blade supporting section 16 between the side flanges 16' thereof and a rubber block 17 fitted into the cup of 16 and having reduced side edge portions 17' protruding outwardly therefrom.

The distance that edge portions 17' protrude beyond the edge of the blade supporting member 16 is limited by the resilence of the material. Hence, the distance must not be greater than that to which the edge can be compressed so that it will not project much beyond the edge of the cup shaped member when normal pressure is exerted during the shaving operation. This is for the purpose of making the blade edge readily accessible to the face hairs and at the same time allow the protruding side edge portions of the rubber block to have such rubbing engagement with the skin that the block serves as a skin stretcher and smoother. On the other hand, the distance must be such that upon compression thereof, edge 20 will not recede behind the metal edge of the cup-shaped member 16. Such excessive distortion would defeat the purpose of the invention by permitting the metal guard to contact the skin. The metal plate 16 and the rubber block 17 thus cooperate to form a combined guard and skin stretcher.

To utilize the maximum resilience of the rubber, the construction we prefer is illustrated in Figs. 1 and 3 of the drawings. Thus, it will be noted that ends 21 of the blade supporting member 16 are formed of a length sufficient to permit their being bent angularly around the ends of the rubber mass 17 to form tongues 22 positioned beneath the resilient guard member 17. These tongues 22 bear against the rubber portion 17 only at the tips thereof. This permits utilization of the resilience of the entire rubber mass and also permits ready replacement of the rubber members.

Block 17 is formed with a centrally located hole 26 therethrough to permit the insertion therethrough of the handle 13 and the blade support 16 is formed with an opening 26' to receive the bolt 14. Hence, the ready assembly of the razor is in no way diminished by this construction.

Although we have illustrated and described a certain safety razor construction, we do not wish to be bound by such construction since our invention may be employed in any razor of the usual construction.

In Figs. 4, 5 and 6 a modification of this invention is illustrated which comprises a skin stretcher which may be used with an ordinary razor. Similar parts are designated by like numerals with an added suffix "*a*." In these figures, the oblong block of soft rubber 17*a* is of an even thickness throughout its area, this thickness corresponding to the thickness of the side edge portions 17' of the block 17. The upper and lower faces of the block are flat and unobstructed and its side edge faces are beveled so that these edge portions are quite flexible. A metal plate 16*a* fits flat against the upper surface of the rubber block and is of such width that it covers the block for the major portion of the width thereof, the block having side edge portions protruding from the opposite side edges of the plate and corresponding to the portions 17'.

End portions of the metal strip are bent to form arms 21*a* which bear against the ends of the rubber block and carry fingers 22*a* that are disposed inwardly of the arms in overlapping and gripping engagement with the block at 23 and 24. An opening 26*a* is formed through the plate 16*a* centrally thereof and registers with a similarly located opening formed through the block.

When this embodiment of the invention is in use, it is applied to a safety razor as shown in Fig. 6. This razor has a handle 13*a*, a guard 11*a* and a cap 12*a*, the cap carrying a bolt which passes through the blade 19 and the guard and is secured into the upper end portion of the handle. Before the bolt is screwed into the handle, it is passed through the aligned openings of the plate 16*a* and the rubber block 17*a*. The handle is then turned until sufficient tight. The width of the plate 16*a* is such that it fits between the side flanges of the guard 11*a*, and upon referring to Fig. 6, it will be seen that as the handle is turned to tighten the bolt, pressure is exerted between the flanges and the protruding side edge portions of the block. It will thus be seen that this device may be applied to a safety razor of conventional formation and that it may be easily removed when cleaning is necessary.

Figs. 7 and 8 illustrate yet another modification of this invention in which similar parts are again designated by like numerals with the added suffix "*b*."

In this construction rubber skin-stretching members 17*b* are directly affixed to the underside of a blade supporting metal guard 16*b* by adhering the same to said under-surface with a suitable adhesive.

From the foregoing description and drawings, it should be apparent that our invention affords

a resilient non-irritating device which serves to insulate the metal portions of the razor blade from the face as well as serving to stretch the skin of a person's face during the shaving operation. This permits close shaving, but prevents the irritation of the skin as heretofore occasioned by the metal guards of such razors.

It is believed that our invention, its mode of construction and assembly, and many of its advangtages should be readily understood from the foregoing without further description, and it should also be manifest that while preferred embodiments of the invention have been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of our invention as defined in the appended claims.

What we claim and desire to secure by Letters Patent of the United States is:

1. A safety razor comprising a rigid guard, a cap for holding a blade against said guard, said cap carrying a bolt passing through said guard, a handle having its upper end screwed upon said bolt and drawing the cap downwardly when tightened, and a resilient skin stretcher under the guard removably fitting about the bolt and the upper end of the handle and comprising a resilient pad having side edge portions protruding from the opposite side edges of the guard.

2. The structure of claim 1, wherein the skin stretcher comprises a block of soft rubber of a width greater than the width of the guard of the safety razor and having protruding side edge portions beveled to form feathered edges, and a strip of stiff metal disposed against the upper surface of said block and having end portions bent to form arms bearing against the edge faces at opposite ends of said block and terminating in

fingers extending inwardly from the arms in overlapping and gripping engagement with the end portions of the lower surface of the block, said block and said strip being formed with registering handle-receiving openings, and said strip being of a width adapting it to fit snugly between the opposite side edges of the guard.

3. The structure of claim 1, wherein the skin stretcher comprises a block of soft rubber formed along opposite sides with sharp edges and being of even thickness throughout its area, and a strip of stiff metal disposed flat against the upper surface of said block and having arms at its ends extending around opposite ends of said block and bent to form fingers extending longitudinally of the block in overlapping engagement with the opposite end portions of the lower surface of the block, said plate having opposite side edges in abutting contact with the side edge portions of the guard and thereby preventing turning of the skin stretcher about the handle.

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