Nov. 27, 1934. J. U. KOREE 1,981,958

SAFETY RAZOR

Filed Dec. 15, 1930

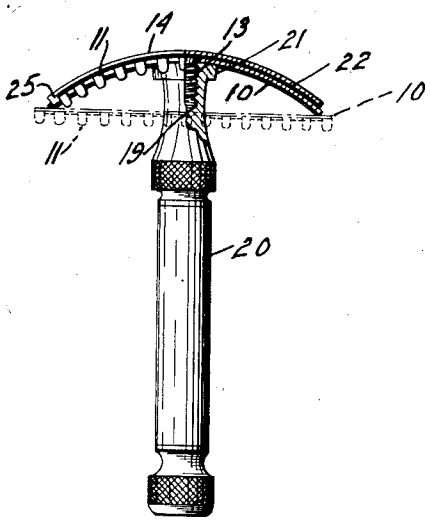


Fig. 1.

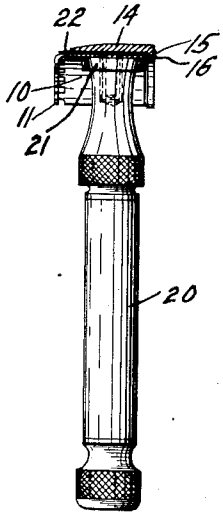


Fig. 2.

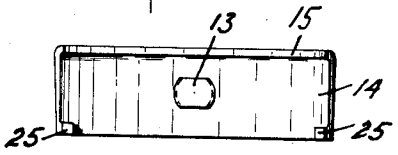


Fig. 3.

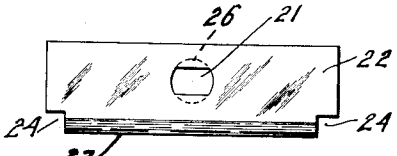


Fig. 7.

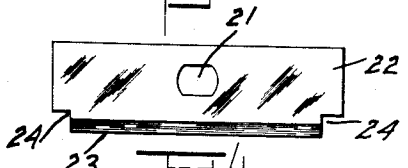


Fig. 4.

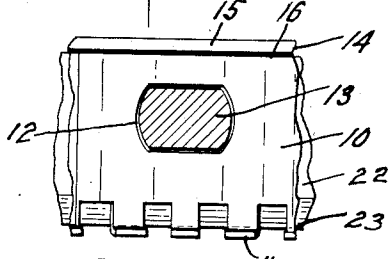


Fig. 6.

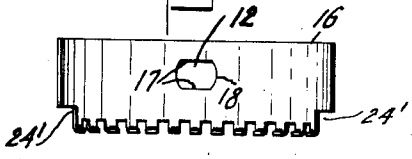


Fig. 5.

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UNITED STATES PATENT OFFICE

1,981,958

SAFETY RAZOR

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1 Claim. (Cl. 30—12)

The present invention relates to improvements in safety razors, and has for its main object to provide a device of this type which is of simple and inexpensive construction, and particularly designed for shaving such parts of the body which are not easily accessible, such as for instance, under the arms. The invention pertains more particularly to that type of safety razors which is described and claimed in an application for Letters Patent for improvements in Safety razors filed by me on January 15, 1930, Ser. No. 420,953. In the said application a safety razor is disclosed which includes a longitudinally curved backing member, a normally flat resilient guard member, a blade interposed between said backing and guard members, a handle abutting against the underface of said guard member having a screw-threaded socket, and a screw-threaded pin extending from said backing member into engagement with said handle, whereby, upon screwing home said handle, said blade and guard member are longitudinally flexed to assume substantially the shape of said backing member. Due to this arrangement the guard member conforms at all times to the shape of the blade, thereby performing its function in all positions thereof relative to the backing member of the razor.

The main object of the present invention is to improve the construction described in the said application for Letters Patent by providing means which efficiently guide and position the blade while it is being flexed and when clamped between the backing and guard members.

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 a front elevation, partly in section, of a razor constructed in accordance with the invention, the elements being shown in full lines in shaving positions, and in dotted lines before the blade is being flexed; Fig. 2 is a central transverse section taken through the elements, the handle being shown in elevation; Fig. 3 is a bottom plan view of the backing element; Fig. 4 is a plan view of the blade; Fig. 5 is a bottom plan view of the guard member in its curved state; Fig. 6 is a bottom plan view, on a larger scale, of portions of the backing and guard members, and the blade; and Fig. 7 is a plan view of the blade illustrating diagrammatically certain conditions hereinafter to be described.

In the drawing, the numeral 10 indicates a normally flat resilient guard member, provided with suitable guard teeth 11 along its front longitudinal edge, and with a hole 12 adapted to receive a screw-threaded pin 13 which extends from a rigid backing member 14. This backing member is longitudinally curved and carries on its rear longitudinal edge a downwardly projecting flange 15, which is adapted to engage the rear longitudinal edge 16 of the guard member 10. The hole 12 in the guard member is oblong in configuration, it being bounded by two longitudinal parallel straight edges 17, which are connected by oppositely disposed transverse curved edges 18, the latter forming each part of a circle, for a purpose hereinafter to be described.

The screw-threaded pin 13 on the backing member is flattened, as clearly appears from Figs. 3 and 6 of the drawing, its transverse cross-section corresponding to the configuration of the hole 12 in the guard member, it fitting snugly thereinto, as shown in Fig. 6 of the drawing. The screw-threaded pin 13 is adapted to engage with a screw-threaded socket 19 in a handle 20, for the well known purpose. The said pin is adapted to pass through an aperture 21 in a thin flexible blade 22, having a single cutting edge 23. The opposite longitudinal edge of said blade abuts against the flange 15, when mounted upon the razor. The configuration of the aperture 21 corresponds to that of the hole 12 in the guard member, as appears from Figs. 4 to 6, inclusive, of the drawing. The blade is furthermore provided at each corner thereof adjacent the cutting edge 23 with a re-entrant recess 24, which is adapted to receive a lug 25 at the front edge of the blade backing member.

In assembling the elements of the razor, they first occupy the positions shown in dotted lines in Fig. 1 of the drawing, in which the resilient guard member is in its normal flat state. The rear edge 16 of the said guard member abuts then against the flange 15 but only at its ends. The rear edge of the blade is similarly disposed. Consequently, the said guard member and blade

would not be properly guided as the blade and guard member are being flexed, as will hereinafter be described, notwithstanding the fact that the lugs 25 on the blade backing member are disposed in the re-entrant recesses 24 in the blade and in the re-entrant recesses 24' in the guard member, the latter recesses being in alignment with the recesses 24 in the blade. However, inasmuch as the guard member and blade are provided each with an oblong hole, into which the flattened pin 13 on the blade backing member is fitted, proper guiding and blade positioning means are provided. When the handle is turned in the proper direction to flex the blade, it is obvious that both the blade and the said guard are flexed longitudinally by reason of the fact that the transverse edges of the rigid backing member rest upon the blade. The blade and guard have a tendency to flex, when the handle is screwed home, so as to assume the shape of the rigid backing member, that is to say to be curved longitudinally. In the shaving positions of the elements, shown in full lines in Fig. 1 of the drawing, both the blade and guard assume the exact shape of the said backing member, and in any intermediate position the blade assumes the shape of the guard so that in all positions the longitudinally curved cutting edge of the blade is fully protected by the guard teeth. Owing to the fact that the cutting edge of the blade, in shaving position, is longitudinally curved, curved surfaces of the body may be readily shaved, for instance the arm pits.

As appears from Figs. 4 and 7 of the drawing, the aperture 21 in the blade is placed close to the rear longitudinal edge of the blade. A circle which may be circumscribed the aperture 21, shown in dotted lines and indicated by the numeral 26 in Fig. 7 of the drawing, is thus located in close proximity of the rear edge of the blade. The purpose of this arrangement is as follows: Assuming that some one were to design a blade to fit the razor herein described, the aperture in the blade would have to be circular as shown in dotted lines in Fig. 7 of the drawing in order to accommodate the pin 13. If such aperture were cut into the blade, it would weaken the latter to such an extent that it would crack adjacent its rear edge when being flexed. Unauthorized blade manufacturers could, therefore, not produce and sell blades to fit the razor construction herein described, provided that the specific location and configuration of the blade aperture herein described could be protected by Letters Patent.

As appears from Figs. 1 and 2 of the drawing, the screw-threaded portion of the handle 20 is provided with a laterally extending flange 21, which bears against the underface of the guard member. The purpose of this extended surface is to cause the guard member and the blade to flex on a large radius when the handle is screwed home on the pin 13.

What I claim is:

In combination, a flexible blade, a blade holder comprising a rigid longitudinally curved back member and a flexible guard, said blade and guard having each an oblong hole therein, a pin on the back member conforming in shape and size to the holes and adapted to fit in the holes to hold and align the blade and the guard, and means on the pin engaging the guard to hold the blade and the guard against the back member and cause the blade and guard to bend longitudinally to assume any form from a straight line to the curvature of the back member.

JEAN U. KORÉE.