May 17, 1932. J. W. ASHWORTH 1,858,260

SAFETY RAZOR

Filed Aug. 6, 1929

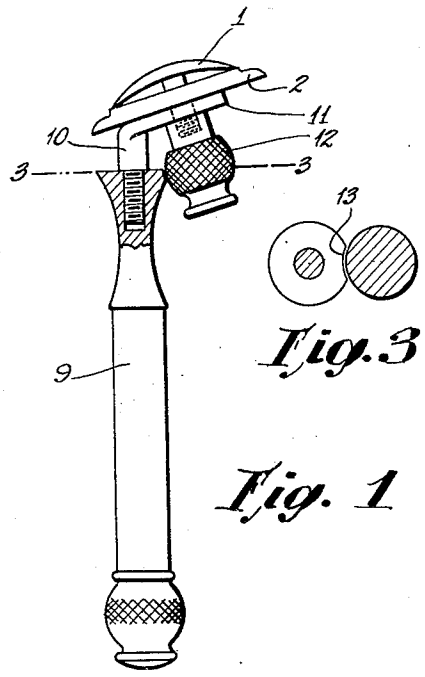


Fig. 3

Fig. 1

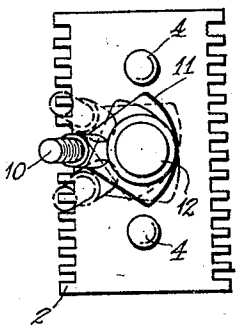


Fig. 2

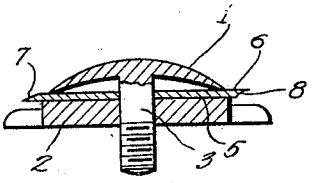


Fig. 4

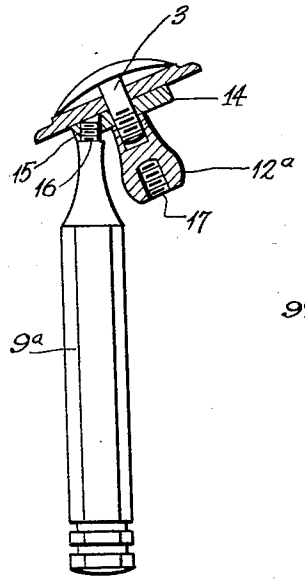


Fig. 5

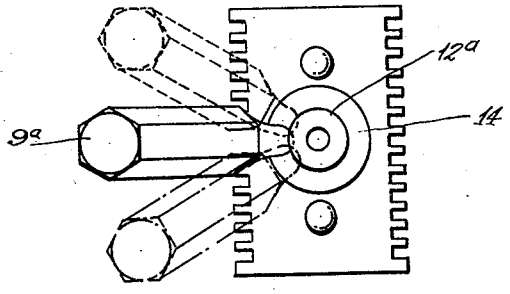


Fig. 6

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1,858,260

UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Application filed August 6, 1929. Serial No. 383,862.

This invention is a safety razor and the object of the invention is to provide a razor which may be more conveniently manipulated than heretofore in a manner to more efficiently effect the shaving operation. It is common in the well known forms of safety razors, of which the Gillette, Eveready and Gem are examples, to mount the handle of the razor in perpendicular relation to the head, said handle extending through substantially the center of the head in such perpendicular relation with the blade symmetrically disposed about the axis of the handle. When using the razor of any of the kinds referred to, the face is, in effect, scraped after the manner of manipulating a hoe, the cutting edge of the blade being forced directly against the hair to sever the same by lateral pressure.

My experiments and research in this connection have convinced me that the theory on which these razors operate is wrong and that in order to properly sever a hair with the least possible force, there should not only be a lateral pressure but a drawing of the cutting edge in a longitudinal direction across the hair. Experience has demonstrated beyond peradventure that hair may be more readily cut through the application of these combined forces as stated and there is less tendency to pull on the hair during the cutting operation. A closer shave may be had with attendant greater comfort.

It is of course possible to manipulate safety razors heretofore made in the manner specified but it requires a very steady hand and considerable skill in practice to accomplish this result without cutting the face. The reason for this is due to the fact that the hand is positioned perpendicular to the razor head and the further fact that the razor is manipulated by a lateral thrust on the handle instead of a pull on the handle. In razors of the character described the cutting edge is pushed against the head. In the razor of the present invention, in contradistinction, the blade is pulled into engagement with the hair, moved longitudinally by its edge while in engagement therewith, and said blade may be so adjusted that the drawing of the head of the razor across the chin will bring about the drawing cut such as I have described.

With the foregoing considerations in mind, the razor of the present invention is so constructed that instead of mounting the handle in perpendicular relation to the head of the razor, it is mounted in pronounced angular relation to the axis of the head and is supported on the head for relative adjustment so as to control the angle of the drawing cut to best suit individual requirements.

Another feature of the invention consists in the particular novel form of blade which also forms part of the present invention. This blade being so constructed that the cutting edges are ground from the opposite faces of the blade in order to provide for a close shave or a shave not so close without requiring any adjustment of the blade. It has generally been the practice heretofore, particularly in blades of the Gillette type, to clamp the blade in the head with varying degrees of tightness in order to obtain the desired cut. This has never been satisfactory because if it is attempted to shave with a blade which is not clamped down as tight as it could be clamped, there is every possibility that the handle will rotate loose during shaving and cause cutting of the face. With the blade of the present invention this cannot occur as the blade is clamped down tight all of the time.

Features of the invention, other than those specified, will be apparent from the hereinafter detailed description and claim when read in conjunction with the accompanying drawings.

The accompanying drawings illustrate different practical embodiments of the invention, but the construction herein shown is to be understood as illustrative only and not as defining the limits of the invention.

Figure 1 is a side elevation of a razor embodying the present invention with a portion of the handle shown in section.

Figure 2 is an underneath plan view of the razor head with the handle removed.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a central transverse section

through a razor head with a blade of the present invention associated therewith.

Figure 5 is a side elevation of a modified form of razor with the head and associated parts shown in central transverse section.

Figure 6 is an underneath plan view of the razor shown in Fig. 5.

The head of the razor of this invention embodies a suitable clamping plate 1 coacting with a guard plate 2. The clamping plate is provided with a centrally disposed threaded post 3, at either side of which are positioned the usual studs 4 which extend through holes in the guard plate to maintain the two plates in relative positions. The structure thus far described is substantially the same as conventional safety razors as now made except that it will be noted from Figs. 1 to 3 that the upper face 5 of the guard plate 2 is preferably made perfectly flat. This is the preferred form of the present invention, although if desired a conventional razor blade head may be used without departing from this invention.

The purpose of forming the surface 5 is to permit it to cooperate with greater efficiency with the blade 6 shown in Fig. 4. This blade differs from prior blades in that it is not adapted to be bent and that it is ground at its opposite edges from opposite sides. Note, for example, that the grinding at the edge 7 is all from the upper face of the blade, while the grinding at the edge 8 is all from the lower face of the blade. Both of these grindings may be hollowing grindings or flat as desired.

It will be noted, however, that by grinding in this way the blade will cooperate with the guard plate in such manner that the edge 8 will give a closer shave than the edge 7. Thus the clamping plate may be clamped down tightly to the guard plate 2 and yet the two edges of the blade will give two distinct cuts without requiring adjustment. Practical application of blades constructed as described has shown beyond question that they embody pronounced advantages and are thoroughly efficient for the purposes stated.

It has heretofore been the practice in the manufacture of safety razors to screw a handle directly upon the threaded post 3, so that the handle is coaxial with the post. According to the present invention in controdistinction, the handle is adapted to be placed in angular relation to the axis of the post. The invention is susceptible of various practical embodiments to this end and two are shown for the purpose of illustration.

In the structures of Figs. 1, 2 and 3, the handle is designated 9 and it is adapted to screw on to a threaded handle post 10 on which is formed an angularly disposed foot 11 having therein a perforation adapted to fit over the post 3 and an attaching nut 12 is thereupon adapted to be screwed on to the post 3 to bind the foot 11 firmly to the head and simultaneously clamp the portions of the head together with the blade between the clamping and guard plates. The threaded portion of the post 10 is preferably of the same diameter and threaded as the post 3, so that the handle may be associated with the handle post as shown in Fig. 1, or the handle post and its foot together with the bolt 12 may be wholly removed and the handle screwed directly upon the post 3 as is the case with the conventional safety razor. This interchangeability is capable under the present invention as some buyers may desire to have a razor which may be used in both ways, but such interchangeability is not an essential of the present invention.

It is well recognized by those who use safety razors that there is a pronounced tendency of the handle to unscrew from the head during use of the razor. To obviate this disadvantage, the handle is preferably provided at one end with a cut out 13 as indicated in Fig. 3 and this cut out is adapted to be occupied by a portion of the nut 12 so as to lock the handle against inadvertent rotation. To remove the handle, it is necessary to remove the nut 12.

It will be noted that inasmuch as the post 10 has the foot 11, this post is offset so that the axis of the handle is laterally extended almost to the edge of the blade, so that when the razor is used, the handle draws the blade instead of pushing it. Experience has shown that a much better control of the blade of the razor may be had by this arrangement.

It will be further noted that by offsetting the mounting of the handle as stated, and inclining the foot with respect to the axis of the handle that it is possible to move the handle into various positions of adjustment as indicated in dotted lines in Fig. 2. To do this, the nut 11 is slightly loosened, a handle is thereupon adjusted to the desired position and the end then tightened to lock the parts in place. When adjusted to either of the dotted line positions of Figure 2, the blade when drawn across the face will be presented to the hair in an inclined relation so that there is not only a direct pressure against the hair but also a combination longitudinal movement of the edge of the blade with respect to the hair. The angle may be changed to suit individual tastes and requirements and when the nut 12 is tightened, the parts will be clamped firmly in position until new further adjustment is desired.

The arrangement of Figures 5 and 6 is slightly different than the arrangement of the preceding figures. Instead of providing a separate handle post for the handle 9*a*, I provide a disk 14 which has therein a hole 15 adapted to receive the threaded end 16 of the handle. The clamping nut 12*a* which corresponds in function to the nut 12 has a

tapped hole 17 in its end to receive the end 16 of the handle in the event the razor is to be used like a conventional razor. The angularity of adjustment of the handle with reference to the blade edge is accomplished through rotation of the disk or plate 14 about the threaded post 3 as indicated in dotted lines in Fig. 6, and the disk may be locked in any position by tightening the clamping screw 12*a*.

Both of the constructions are, generally speaking, used in the same way, insofar as the shaving operation is concerned and in both of them the angularity of adjustment of the handle with reference to the blade which may be efficiently and easily obtained. In both cases, the blade is drawn over the face instead of pushed over the face as in prior practice and in both cases, the blade is presented to the hair in such manner as to be moved longitudinally with respect to the hair while forced thereagainst in order to obtain the most efficient cutting operation.

The foregoing detailed description sets forth the invention in its preferred practical form, but the invention is to be understood as fully commensurate with the appended claim.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

A safety razor embodying a guard plate provided with a centrally disposed hole, a clamping plate provided with a centrally disposed threaded clamping post extending through the hole in the guard plate, a handle plate positioned rearwardly of the guard plate and having a hole through which the clamping post extends, a nut screwed on to the clamping post to clamp all of said plates together, a threaded handle post carried by the handle plate and extending in angular relation to the handle plate and to the axis of the clamping post, and a handle screwed on to said handle post, said handle being provided with a cut out adapted to be occupied by a portion of the nut when the nut is screwed on to the clamping post for the purpose of locking the handle against inadvertent release from the handle post.

In testimony whereof I have signed the foregoing specification.

JOHN W. ASHWORTH.