

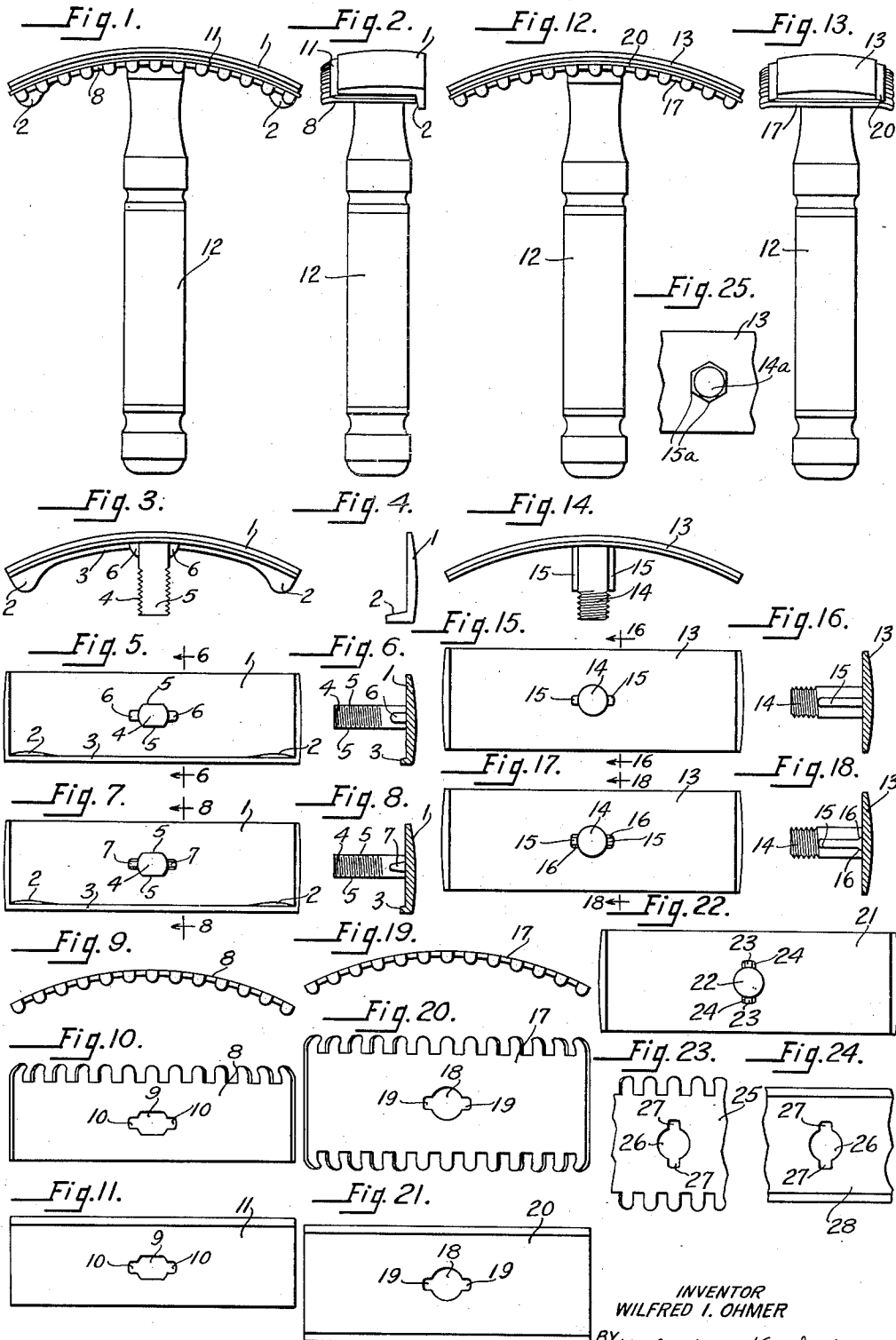
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SAFETY RAZOR

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SAFETY RAZOR

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2 Claims. (Cl. 30—12)

This invention relates to improvements in safety razors, and has for its object to provide a safety razor having a rigid guard and means operating on the guard, adjacent the center thereof, to press
5 a blade against the guard and to align the blade with relation to the guard.

It is also an object of this invention to provide a safety razor having a rigid head, a shank or stem extending from the head, and means on
10 the stem or shank to engage a blade pressed against the head and align the blade with regard to the head.

It is a further object of this invention to provide a safety razor having a head with a stem or shank thereon, ribs on each of two opposite
15 sides of the shank, and means to press against the head a guard with a blade between the head and the guard, said guard and blade each having a hole corresponding in size and shape to the size and shape of the shank with the ribs thereon.

It is particularly the object of this invention to provide, in connection with an arcuate guard, a resilient blade and means engaging the guard
20 and the blade to flex the blade and press it against the guard, said means engaging the blade adjacent its center.

These and other objects and advantages will appear from the following description taken in connection with the drawing.

30 Referring to the drawing:

Figure 1 is a side elevation of a razor embodying the present invention.

Figure 2 is an elevation taken at right angles to Figure 1.

35 Figure 3 is a side elevation of the head member of the safety razor.

Figure 4 is an end elevation of the head shown in Figure 3.

40 Figure 5 is a bottom plan view of the head, showing the shank and aligning lugs on the shank adjacent the head.

Figure 6 is a section on the line 6—6 of Figure 5.

45 Figure 7 is a view similar to Figure 5 but showing V-shaped aligning lugs.

Figure 8 is a section on the line 8—8 of Figure 7.

Figure 9 is an edge view of the guard member.

50 Figure 10 is a plan view of the guard member.

Figure 11 is a view showing the blade adapted to be used with the guard of Figure 10 and the heads shown in Figures 3, 5 and 7.

55 Figure 12 is a front elevation of a modified form of razor.

Figure 13 is a view taken at right angles to Figure 12.

Figure 14 is a top plan view of the head of the razor.

Figure 15 is a plan view showing the shank or stem attached to the head, and having on each
5 of two opposite edges a rib.

Figure 16 is a section on the line 16—16 of Figure 15.

Figure 17 is a view similar to Figure 15 but
10 showing a stem rib in which the part of the rib adjacent the head is enlarged to form a camming and seating cam for a blade and a guard.

Figure 18 is a section on the line 18—18 of Figure 17.

Figure 19 is a view showing one of the toothed
15 edges of the guard.

Figure 20 is a plan view of the guard.

Figure 21 shows a double edged blade adapted to be used with the guard shown in Figure 20.
20

Figure 22 shows a head similar to that shown in Figure 17 but with the ribs arranged transversely of the head.

Figure 23 shows a guard with a hole therein to receive the shank and the ribs of the head shown
25 in Figure 22.

Figure 24 shows a blade having a hole therein corresponding to the hole in the guard of Figure 23, and corresponding in shape and size to the shank and the ribs of the head shown in
30 Figure 22.

Figure 25 is a fragmentary view showing a modified form of shank.

In Figures 1 and 2 a finished razor is shown. This razor is composed of an arcuate head 1, a
35 guard 8 and a handle 12. The head has at each end, on one edge, a laterally projecting cam 2. These cams are connected along one edge by means of a relatively shallow flange 3.

Extending from the center of the head and on the concave side thereof is a shank or stem 4. As shown in Figures 3, 5 and 7, this shank is flattened on two sides so that its two opposite sides
40 5 are parallel. At the point where the shank is joined to the head there are lugs 6, one between each end of the head and the shank and attached to the shank and to the head to provide a firmer union between the head and the shank, and also to provide means for properly seating and aligning the razor blade and the guard with respect to the head. These lugs, as shown in
50 Figure 7, are V-shaped, as indicated by the numeral 7, to produce a camming effect to more accurately seat and align the guard and the blade with respect to the head.
55

In the earlier movements of the blade and the guard for assembling the parts of the razor, a relatively free movement is necessary, but when the blade and the guard become seated these parts must be securely held against movement. The lugs 7 serve to properly seat the blade and the guard, and cooperate with the other structural features of the razor for securely holding the guard and the blade in a fixed position.

The lugs 6 and 7, together with the shank or stem 4, are shown used in connection with an arcuate head and an arcuate guard, but these elements may be used with a flat head and a flat guard and may be used with the flat head and the flat guard and align the guard and the head with relation to the blade without any other cooperating element, such as the cams 2 and the flat sides of the stem. The flat sides of the stem are used principally for aligning the guard and the blade with respect to each other before they are pressed upon the head.

In Figure 9 there is shown a rigid arcuate guard with the usual teeth on one edge thereof. This guard is also shown in Figure 10, and has therein an elongated opening or slot composed of a hole 9 and oppositely disposed notches 10. This hole and these notches form an elongated opening which extends longitudinally of the guard. A similar opening is provided in the blade shown in Figure 11.

These openings in the blade and the guard correspond substantially in shape and size to the shank 4 and the lugs 6 and 7. The blade of Figure 11 is indicated by the numeral 11. The blade and the guard are held upon the head by means of the handle 12, which is hollow at one end and threaded to engage the threads of the shank or stem 4.

In Figures 12 and 13 there is shown a double edged blade, a guard, a handle and a head for gripping a double edged blade. The head is indicated by the numeral 13 and is shown to be arcuate, and has extending from the center of the concave side thereof a stem or shank 14. On each of two opposite sides of this stem or shank is a rib 15. As shown in Figures 15 and 17, each rib is between the shank and one end of the head. These ribs are sufficiently long that they will guide and align the blade and the guard during the flexing of the blade, and after the blade has been pressed against the head by the guard or against the guard by the head. In other words, these ribs serve at all times to align the blade with respect to the guard and the guard with respect to the head.

In Figures 17 and 18 these ribs are shown to be flared at their lower ends adjacent the head to form cam surfaces 16 for more accurately and positively aligning the blade with relation to the guard and both with relation to the head.

In Figure 19 there is shown an arcuate guard 17, which has in its center a round hole 18, and on each of two opposite edges of the hole, notches 19. These notches and the hole form an opening through the guard corresponding in size and shape to the stem 14 and the ribs 15. The blade 20 shown in Figure 21 has a similarly shaped hole 18 and notches 19. The hole 18 and the notches 19 in the blade and the guard receive the stem 14 and the ribs 15 when they are positioned upon the head.

In Figure 22 the head 21 has a stem thereon 22, which has extending from each of two opposite sides a rib 23. Each rib has at its end, adjacent the head, a pair of cam surfaces 24

formed by flaring out the end of the rib. This rib is similar to the rib shown in Figure 18, with the exception that it is on one of the lateral sides of the stem instead of being on the side adjacent an end.

In Figure 23 there is shown a guard 25, which has in its center a round hole 26. The guard is cut away at each lateral edge of the hole to form a notch 27. These notches and hole 26 form an oblong opening through the guard, which has its longest dimension transverse of the guard.

In Figure 24 there is shown a razor blade 28, which has a hole and notches similar to the guard shown in Figure 23. The hole and notches in the blade and the guard are adapted to receive the stem and the ribs on the head shown in Figure 22. When the blade and the guard are placed upon the head, the blade being flat and flexible rests upon the ends of the head, while the guard rests upon the blade intermediate the ends of the head. The ribs are of sufficient length that they will extend through the notches 27, with the blade resting upon the ends of the head and the guard resting upon the blade.

After the parts are thus assembled the handle 12 is applied to the shank 14. These parts being in threaded engagement the rotation of the handle will cause the blade and the guard to move toward the head, thereby flexing the blade and pressing the blade against the head by means of the guard, or by pressing the blade against the guard by means of the head.

While the blade is shown as flexible it may be arcuate in shape, corresponding to the shape of the guard and the head. And while the guard and the head are shown to be arcuate they may be flat, and carry a stem such as the stem 14 with the ribs 15 or 23 thereon for properly positioning the guard and the blade with respect to the head.

The word stem is used to designate any projection on the head of such a shape that it will align a blade and a guard on the head by fitting in holes therein of similar shape and size as the projection. The handle may be threaded on the projection or otherwise attached thereto so it will fit over the projection and press the guard and the blade against the head.

In Figure 25 the stem 14a which is on the head 13, as shown in Figure 14, is hexagonal in shape, as indicated by the numeral 15a, and is adjacent the head for fitting in similarly shaped holes in the blade and the guard. The blade and the guard may be arcuate or flat; so may the head be either arcuate or flat.

It will be understood that I desire to comprehend within this invention such modifications as come within the scope of my claims and my invention.

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

1. In a safety razor, the combination of a cap and a guard, a stud depending from the under side of said cap, a blade, a handle cooperating with said stud to clamp the parts in assembled relation, aligning projections of relatively uniform width extending from opposite sides of said stud and being joined to said cap at one end, said end of each projection terminating in flared, camming portions, said guard and blade having apertures substantially complementary in shape to the cross-section of the said stud and projections, the portions of said blade aperture engaging said projections being wider than said pro-

jections and being adapted to roughly align said blade with said cap, the flared ends of said projections being adapted to engage said wider portions of the blade aperture to accurately align 5 said blade in said assembly in the final clamped position of said cap, guard and blade.

2. In a safety razor, the combination of a curved cap and guard, a stud depending from the under side of said cap a flexible blade, a handle cooperating with said stud to clamp the parts 10 in assembled relation, aligning projections of relatively uniform width extending from opposite sides of said stud and being joined to said cap at one end, said ends of each projection

terminating in flared, camming portions, said guard and blade having apertures substantially complementary in shape to the cross-section of the said stud and projections, the portions of said blade aperture engaging said projections being 5 wider than said projections and being adapted to roughly align said blade with said cap, the flared ends of said projections being adapted to engage said wider portions of the blade aperture to accurately align said blade in said assembly in 10 the final clamped position of said cap, guard and blade.

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