Nov. 6, 1956 J. I. DUKE 2,769,233

SAFETY RAZOR

Filed Aug. 12, 1954

Fig. 1

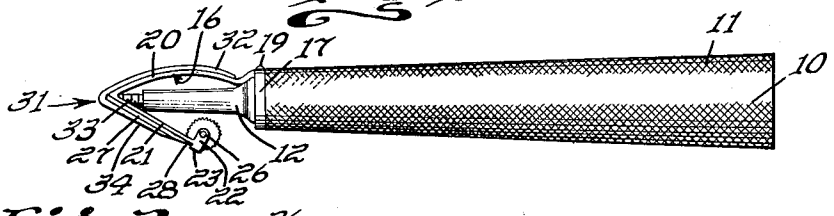


Fig. 2

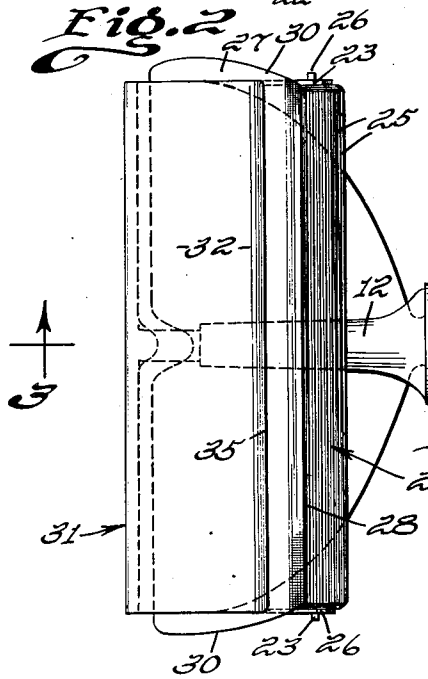
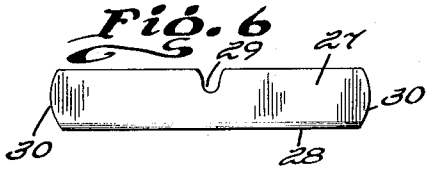


Fig. 6



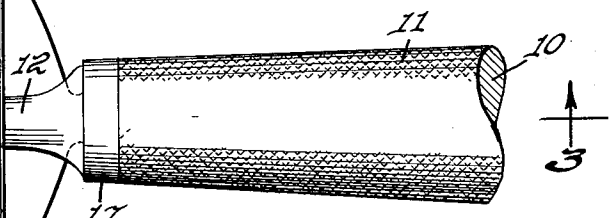


Fig. 5

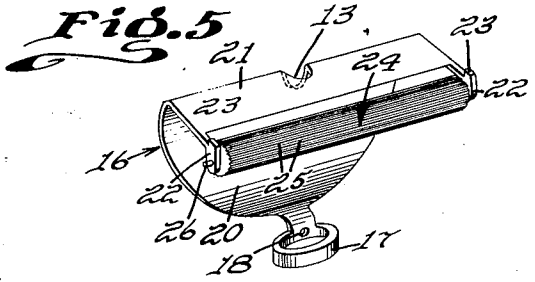


Fig. 3

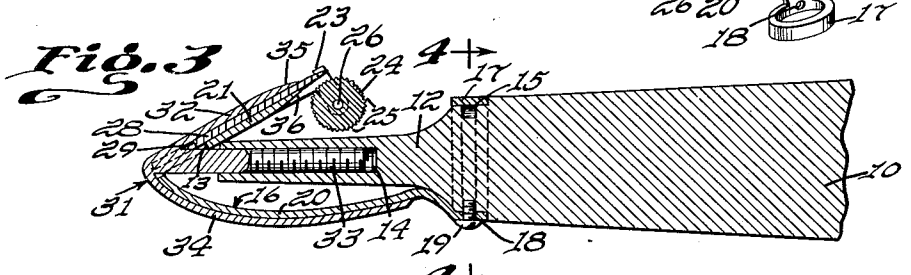
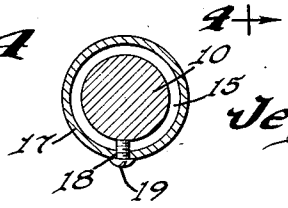


Fig. 4



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SAFETY RAZOR

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4 Claims. (Cl. 30—69)

This invention relates to a safety razor.

The object of the invention is to provide a safety razor which includes a frame and a roller for engagement with a person's skin whereby a more efficient shave can be effected.

Another object of the invention is to provide a safety razor which is easy to use even around the nose and the ears, there being a roller which rolls the lather and beard away from the cutting edge so that the blade can readily cut the beard and wherein the razor is easy to clean, the blade being usually removable from the razor.

A further object of the invention is to provide a safety razor which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a side elevational view of the safety razor, constructed according to the present invention.

Figure 2 is a fragmentary plan view of the safety razor of the present invention.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a perspective view of the support member.

Figure 6 is a plan view of the blade.

Referring in detail to the drawings, the numeral **10** designates a handle which may have a tapered construction so that one end is of greater diameter than the other end, and the exterior surface of the handle **10** is knurled as at **11** so as to facilitate the manual gripping of the handle. Extending from one end of the handle **10** is a shank **12** which is provided with an interiorly threaded socket **14**, Figure 3. The handle **10** is further provided with an annular groove **15** which is arranged adjacent the shank **12**, and a support member **16**, Figure 5, is detachably connected to the handle **10**.

The support member **16** includes an annular collar **17** which surrounds the groove **15**, and the collar **17** is provided with an opening **18**. A suitable securing element such as a screw **19** extends through the opening **18** and into engagement with the groove **15** for preventing accidental disengagement of the support member **16** from the handle **10**.

The support member **16** further includes a bracket **20** which has a curved shape as shown in Figure 3, and the bracket **20** has formed integral therewith or secured thereto an angularly arranged base **21**. Projecting from the base **21** is a pair of spaced parallel apertured ears **22** for a purpose to be later described, and extending from each of the ears **22** is a guard lug **23**. The lugs **23** help prevent or help to insure that the user will not accidentally cut himself with the razor blade while he is shaving.

Journaled in the support member **16** is a roller **24** which is provided with a plurality of spaced parallel ridges or grooves **25** in its outer surface, and the grooves **25** extend longitudinally along the outer surface of the roller. Pins or trunnions **26** extend from each end of the roller **24**, and the trunnions **26** project through the apertures in the ears **22**. It will be seen that when the safety razor is in its assembled position as shown in Figure 3, the roller **24** is spaced slightly from the cutting edge **28** of the blade **27** so that the skin and beard is moved the proper distance in order to insure effective cutting by the blade **27**.

The base **21** of the support member **16** is provided with an opening or cut-out **28** which registers with an opening **29** in the blade **27**, Figure 6. The ends of the blade **27** are rounded as at **30** whereby there are no sharp edges which project out from the ends of the blade to accidentally cut a person. It will be seen from Figure 2 of the drawings that the blade **27** is slightly longer than the base **21** so that end portions of the blade **27** project beyond the razor whereby these end portions can be readily manually grasped when the blade is to be replaced or removed.

There is further provided a clamp **31** which includes a body portion **32** that is arranged contiguous to one side of the razor blade **27**. Projecting from the clamp **31** or formed integral therewith is an exteriorly threaded stem **33** which is arranged in threaded engagement with the socket **14** in the shank **12**, Figure 3. The clamp **31** further includes an arcuate section **34** which is arranged contiguous to the outer surface of the bracket **20**. Thus, when the razor is to be taken apart, the handle **10** can be manually rotated so as to cause disengagement of the stem **33** from the socket **14** whereby the clamp **31** can be removed. Then, the screw **19** can be removed so that the support member **16** can be detached from the handle. The end portion of the clamp **31** is tapered or beveled as at **35**, and the corresponding end portion of the base **21** is also tapered or beveled as at **36**, whereby the cutting edge **28** of the blade **27** is exposed to provide a more efficient cutting action by the blade.

From the foregoing it is apparent that there has been provided a safety razor which includes the handle **10**, support member **16**, and clamp **31** and blade **27**. The stem **33** of the clamp **31** projects through the opening **29** in the blade **27** and also through the opening **13** in the base **21**. With the parts arranged as shown in Figures 1, 2 and 3, the handle **10** is gripped and the razor is moved across the face. The roller **24** with the ridges **25** moves or stretches the skin and beard or other hair the proper distance so that the hair can be effectively severed or cut by the sharp edge **28** of the blade **27**. The guards **23** prevent accidental cutting of the face by the edge **28**, and the projecting ends of the blade **27** can be readily gripped as shown in Figure 2 when the blade is to be removed or replaced. The clamp **31** can be readily detached by unscrewing the handle **10** whereby the stem **33** will separate from the socket **14**. Also, by removing the screw **19** the support member **16** can be removed. Thus, all parts can be effectively cleaned or separated when desired.

The parts are constructed so that there will be no clogging of the blade so that the razor will not be choked up with hair or the like. With the present invention a person can readily shave around his ears or nose and the roller **24** rolls the lather and beard away from the cutting edge **28** so that the edge is free to cut the hair. The blade can be dipped in water when it is to be cleaned and the razor will cut hairs even though they may be long. Also, the razor does not have to be taken apart when the blade is to be removed since the handle **10** can be unscrewed slightly and then the blade **27** can be removed and replaced. The razor utilizes the special blade **27** shown in Figure 6. Further, no special apparatus is required to replace the blades. The opening **29** through which the stem **33** projects serves to center the blade, and when

the blade is to be removed, the handle can be rotated. It is to be noted that the blade extends out on each end of the razor so that the thumb and finger on the same hand can lift the cutting edge of the blade above the guard lug, after the blade has been released by turning the handle and then the blade can be lifted out without replacing the hold on the blade. The blade can be replaced in the same way. By having the set screw 19 extended through the slot 15, the handle 10 can rotate freely with respect to the support member 16, but these parts cannot become accidentally separated.

The razor may have a width of 1½ inches and may be 3 inches long including the handle. Also, the distance from the bottom of the roller to the top of the razor is one-half an inch and the diameter of the roller is five thirty-seconds of an inch.

I claim:

1. In a safety razor, a tapered handle provided with an exteriorly knurled surface, a shank extending from one end of said handle and provided with an interiorly threaded socket, there being an annular groove in said handle, a support member including an annular collar surrounding said groove, a securing element projecting through said collar into said groove, a bracket extending from said collar, a base arranged angularly with respect to said bracket and extending therefrom, there being an opening in said base, a pair of apertured ears extending from said base, a roller having trunnions journaled between said ears and provided with a plurality of spaced parallel longitudinally extending grooves, said roller being spaced from the free edge of said base, a blade arranged contiguous to said base and provided with an intermediate opening registering with the opening in said base, a clamp including a stem projecting through the registering openings in said blade and base, said stem being threaded exteriorly and engaging the socket in said shank, said clamp including a body portion arranged contiguous to said blade, and a curved section engaging said bracket.

2. The apparatus as described in claim 1, and further including lugs projecting from said ears for preventing accidental cutting of the user's skin by the blade.

3. In a safety razor, a tapered handle provided with an exteriorly knurled surface, a shank extending from one end of said handle and provided with an interiorly threaded socket, there being an annular groove in said handle, a support member including an annular collar surrounding said groove, a securing element projecting through said collar into said groove, a bracket extending from said collar, a base arranged angularly with respect to said bracket and extending therefrom, there being an opening in said base, a pair of apertured ears extending from said base, a roller having trunnions journaled between said ears and provided with a plurality of spaced parallel longitudinally extending grooves, said roller being spaced from the free edge of said base, a blade arranged contiguous to said base and provided with an intermediate opening registering with the opening in said base, a clamp including a stem projecting through the registering openings in said blade and base, said stem being threaded exteriorly and engaging the socket in said shank, said clamp including a body portion arranged contiguous to said blade, and a curved section engaging said bracket, guard lugs projecting from said ears, the free edge of said body portion being shaped to provide a tapered edge, the edges of said blade being rounded and extending beyond the ends of said base, said blade having a cutting edge arranged contiguous to said roller.

4. In a safety razor, a handle provided with an exteriorly knurled surface, a shank extending from said handle and provided with a threaded socket, there being a groove in said handle, a support member including a collar surrounding said groove, a securing element projecting through said collar into said groove, a bracket extending from said collar, a base arranged angularly with respect to said bracket and extending therefrom, there being an opening in said base, a pair of apertured ears extending from said base, a roller having trunnions journaled between said ears and provided with a plurality of grooves, said roller being spaced from the free edge of said base, a blade arranged contiguous to said base and provided with an opening registering with the opening in said base, a clamp including a stem projecting through the registering openings in said blade and base, said stem engaging the socket in said shank, said clamp including a body portion contiguous to said blade, and a curved portion engaging said bracket.

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