

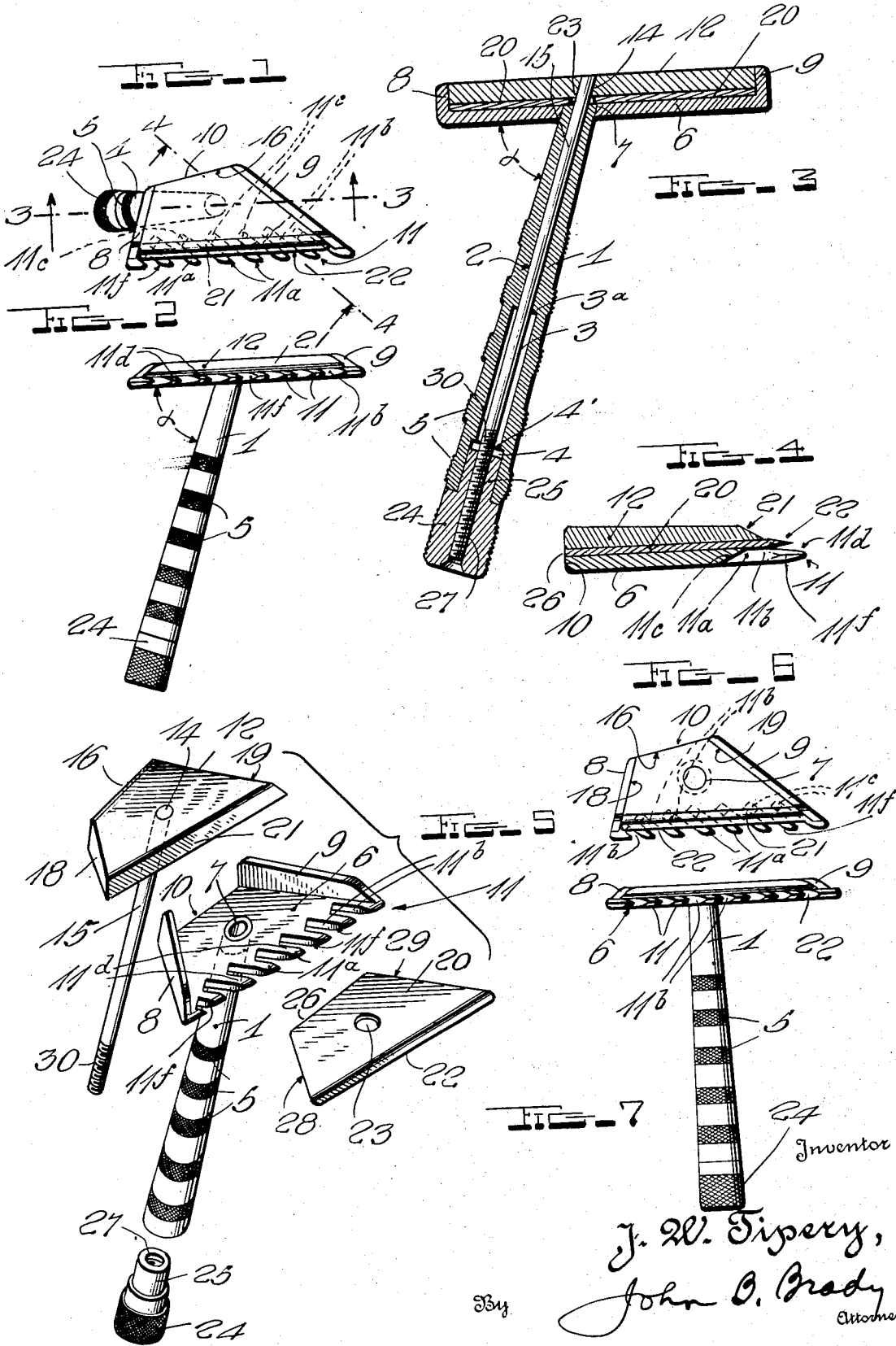
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SAFETY RAZOR

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# UNITED STATES PATENT OFFICE

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## SAFETY RAZOR

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2 Claims. (Cl. 30-12)

My invention relates broadly to razors and more particularly to a midget type safety razor.

One of the objects of my invention is to provide a construction of safety razor of midget size which is particularly shaped to facilitate the use of the razor in removing hair under the armpits.

Another object of my invention is to provide a construction of safety razor having a quadrilateral cutting blade with opposite edges of unequal lengths shaped to enable the razor to be used in confined cutting position.

Still another object of my invention is to provide a construction of razor having a cutting blade which has the outline of a quadrilateral figure and which may be used in confined or relatively cramped positions.

A further object of my invention is to provide a construction of guard for a safety razor by which a blade of quadrilateral outline may be secured in a predetermined position and prevented from slipping.

A still further object of my invention is to provide a construction of quadrilaterally shaped securing plate for a correspondingly shaped cutting blade having means for preventing endwise slippage of the cutting blade.

Another object of my invention is to provide a construction of safety razor in which the securing means for the blade is telescopically mounted in the razor handle and connected with a plate member which extends flush with a pair of abutments at each end of the guard in which the razor blade is mounted.

A still further object of my invention is to provide a construction of safety razor in which the handle is disposed at a convenient angle to the cutting blade to facilitate a cross cut instead of a straight drawing cut against the hair for thereby increasing convenience and comfort in shaving.

Other and further objects of my invention reside in the construction of a safety razor as set forth in the specification hereinafter following by reference to the accompanying drawing in which:

Figure 1 is a top plan view of the safety razor constructed in accordance with my invention; Fig. 2 is a front elevation thereof; Fig. 3 is a central vertical longitudinal section on an enlarged scale taken on line 3-3 of Fig. 1; Fig. 4 is a transverse vertical section on line 4-4 of Fig. 1; Fig. 5 is a perspective view of the component parts constituting the safety razor; Fig. 6 is a plan view showing a modified form of construction; and Fig. 7 is a front elevation thereof.

Referring to the drawing in detail, reference character 1 designates the handle of the safety razor of my invention having an axial bore 2 extending therethrough for a distance slightly more than one-half of the length thereof. The enlarged bores 3 and 4 of different diameters are formed in the handle 1 over the remaining length of the handle 1. A shoulder 3a interconnects the bore 3 with the bore 2. A shoulder 4a interconnects the bore 4 with the bore 3. That is to say, the handle 1 has an axial bore extending therethrough which increases in diameter in progressive steps. The external surface of the handle 1 is provided with knurled portions 5 disposed at spaced intervals along the length of the handle 1. The end of the handle 1 extends at an acute angle  $\alpha$  to the plane surface of the supporting plate 6. The supporting plate 6 has an aperture 7 therein through which the end of the handle 1 extends for forming a soldered connection with the plate 6, the end of the handle 1 terminating flush with the upper plane surface of the supporting plate 6. The supporting plate 6 has a plane surface having the outline of a quadrilateral figure. The ends of the supporting plate 6 are turned upwardly at 8 and 9 forming walls extending normal to the plane surface of the supporting plate 6. The walls 8 and 9 are unequal in length and are tapered from a maximum height at the rear edge 10 of the supporting plate 6 to the front edge 11 thereof which terminates in a guard as shown. The rear edge 10 and the guard 11 are of unequal length. The supporting plate 6 is so shaped that the angles between the vertically extending walls 8 and 9 and the rear edge 10 are obtuse, while the angles between the vertically disposed walls 8 and 9 and a peripheral line which includes the extremities of the guard 11, are acute. A razor blade 20 which corresponds in outline to the supporting plate is adapted to be mounted on the supporting plate 6 and secured in position between the vertically disposed walls 8 and 9 with the cutting edge 22 thereof directly aligned with the guard 11. The razor blade 20 is apertured at 23 with the aperture directly aligning with the bore 2 in the handle 1. The razor blade 20 has edges 22, 26, 28 and 29 of unequal length, the angles between the edge 26 and edges 28 and 29 being obtuse, and the angles between the cutting edge 22 and the edges 28 and 29 being acute.

The securing plate 12 by which the razor blade 20 is maintained in fixed position is tapered in thickness from a rear edge 16 to a front edge 21 with the edges 18 and 19 thereof inclined to fit

immediately between the vertically extending walls 8 and 9 of the supporting plate 6. The securing plate 12 is apertured at 14 for receiving the rod member 15 which extends through the bore in the handle 1. That is, rod member 15 passes through the progressively increasing bore in handle 1 throughout the portions 2, 3 and 4. The end of the rod 15 is screw threaded at 30 and is engaged by the screw threaded bushing member 24. The screw threaded bushing member 24 has a cylindrical portion of reduced diameter indicated at 25 which fits into the end of the enlarged bore 4 in handle 1. Bushing 24 is internally screw threaded at 27 to engage the screw threads 30 on the end of rod 15, for securing the rod 15 in position on the handle of the razor. The fact that the handle 1 is disposed at an angle to the supporting plate 6 enables the cutting operation to be effectively in a crosswise direction instead of a direct drawing of the razor blade downwardly in a straight line against the hair. Where it may be desirable to use the razor in straight line operations against a beard the handle 1 may be disposed normal to the supporting plate 6 as shown in the modified form of the razor of my invention illustrated in Figs. 6 and 7.

As shown in Fig. 1, the guard 11 is provided with teeth 11a formed by slots 11b disposed at an angle of substantially 45° to the front line of the guard 11. Hence the teeth impart to the hair a diagonal approach to the edge of the blade, causing a shearing action and thus greatly facilitating the cutting of the hair and positively avoiding any pulling or drawing on each individual strand of the beard. Furthermore, looking at Fig. 4, it will be noted that the extreme bottom edges of the inclined slots 11b between the guard teeth 11a are beveled rearwardly as indicated at 11c, greatly facilitating the drawing of the body of the safety razor across the surface to be shaved. There is a distinct coaction between the beveled top surface 11d and beveled lower face 11e of guard teeth 11a. The beveled rear edges 11c of the guard teeth 11a are plainly shown in Fig. 4 in full lines and in dotted lines in Figs. 1 and 6. This is a most important feature of the safety razor of my invention. There exists a cooperation between the inclined handle 1 and the inclined slots 11b between the guard teeth 11a. This arrangement will positively insure each hair being subjected to the shearing action of the blade, resulting in a clean cut without subjecting the hair to an undesirable pulling or tearing. The safety razor of my invention will cut a growth of hair that is not thoroughly lathered. In view of this fact, my razor is particularly advantageous for shaving undesirable growth of hair without subjecting such parts to a time-taking lathering operation, which operation is more or less messy

and hence objectionable. The particular formation of the extreme front edge of the guard teeth 11a is also very important in carrying out the function of the razor of my invention. It will be noted that the teeth 11b are slightly curved in directions towards the inlet of the slots 11b as shown at 11f in order to guide the hair in a somewhat oblique fashion, as pointed out above.

The razor of my invention is constructed in a midget size and the shape of the supporting plate, the securing plate, and the razor blade is such that the razor may be effectively used in cramped spaces.

I have found the construction of razor of my invention highly practical in manufacture, production and use, and while I have described my invention in certain preferred embodiments I desire that it be understood that modifications may be made and that no limitations upon my invention are intended other than are imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A midget razor comprising a supporting plate, a handle disposed at an angle to said supporting plate, a guard consisting of a multiplicity of teeth formed along the front edge of said supporting plate and extending diagonally towards one end of the supporting plate, said teeth being tapered from their upper and lower faces towards their free ends and each having one side edge straight and its other side edge curved transversely for guiding strands of hair into slots between the teeth, each of said slots terminating at its rear end in a flat under cut face extending rearwardly at a downward incline, a razor blade, and a plate member for mounting said blade against said supporting plate with the cutting edge of the blade overlapping said teeth, said supporting plate, blade and plate member corresponding in shape, the opposite edges of each being of unequal length and disposed at an angle to each other.
2. A midget razor comprising a supporting plate, a handle disposed at an angle to said supporting plate, the front edge portion of said plate being slotted to form a multiplicity of guard teeth extending diagonally of the plate towards one end thereof, each of said slots terminating at its rear end in a flat undercut face extending rearwardly at a downward incline, a razor blade, and a quadrilaterally shaped member means for holding said razor blade against said supporting plate with the cutting edge of the blade immediately over the guard teeth, said supporting plate, blade and plate member corresponding in shape, the opposite edges of each being of unequal length and disposed at an angle to each other.

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