Sept. 3, 1946. J. W. ANDERSON 2,406,985

RAZOR

Filed April 19, 1945

Fig. 1.

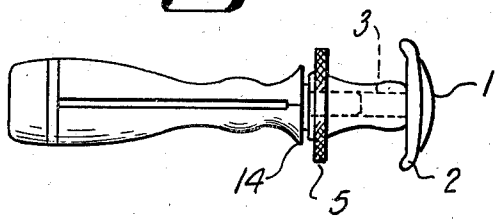


Fig. 2.

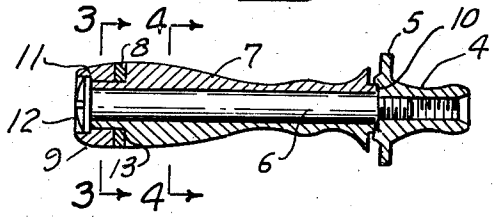


Fig. 3.

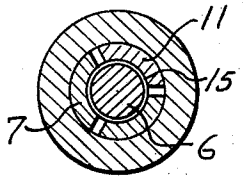
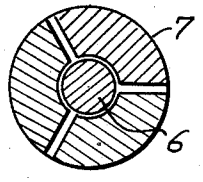


Fig. 4.



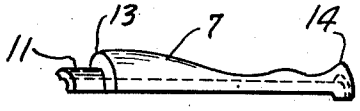


Fig. 5.

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RAZOR

John W. Anderson, Gary, Ind.

Application April 19, 1945, Serial No. 589,213

8 Claims. (Cl. 30—85)

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This invention relates to razors and in particular to a safety razor of the type wherein the handle assembly is constructed to permit the blade carrying head of the razor to rotate or revolve around the axis of the handle and thereby automatically equalize throughout the length of the cutting edge of the head its pressure against the area to be shaved.

As has been pointed out in my prior applications, Serial No. 543,067, filed July 1, 1944, and Serial No. 547,404, filed July 31, 1944, with this type of razor it has been difficult to maintain between the stem and the handle the exact degree of friction which would prevent the razor head from freely spinning or turning out of the desired position preparatory or during a shaving stroke and at the same time avoid excessive friction between the stem and handle which would prevent the razor from readily equalizing its pressure against the area to be shaved throughout changing angles incident to a shaving stroke.

This invention contemplates a razor which is an improvement over that shown in my prior applications.

It is an object of this invention to produce a razor wherein the relative rotation between the cutting head and the handle can be easily and conveniently controlled and even prevented, as occasion requires, by the operator.

The invention contemplates a razor having a handle of the above-specified type which is simple in structure, efficient in operation, and easily manipulated by the operator of the razor.

It is also an object of this invention to produce a razor handle of the above type which can be readily assembled and easily disassembled for purposes of cleaning or otherwise.

It is also an object of the invention to produce a handle of the above type wherein the braking action can be effected in a plurality of ways so that the handle lends itself to varying manual characteristics of different shavers.

A further object of the invention is that of producing a razor handle of the above type which is easily assembled to, and disassembled from, the cutting head and which is arranged so that the lather and shorn whiskers will not get into the working parts of the handle.

Fig. 1 is an elevation showing my handle.

Fig. 2 is a longitudinal section through my razor handle.

Figs. 3 and 4 are sections along the lines 3—3 and 4—4 of Fig. 2.

Fig. 5 is a perspective view of one of the sections of the handle.

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Referring to the drawing, I have shown for illustrative purposes a Gillette type razor wherein the head comprises a clamping plate 1, a guard plate 2, and a threaded stud 3 fixed centrally to the clamping face of the clamp. The blade (not shown) is clamped between the clamp 1 and the guard 2 and the head is secured to the handle by means of the screw threaded stud 3.

My handle comprises the following elements: head 4 in the form of an internally threaded nut having a knurled circumferential flange 5, shaft 6, handle sections 7, washer 8, and ferrule 9.

Handle sections 7 are preferably identical one with the other and are assembled loosely (not joined together) around shaft 6. Handle sections 7 fit into, and are held in position at one end by, a recess 10 in nut 4 and are held together at the other end by ferrule 9 which fits over the reduced ends 11 of sections 7. Head 12 of shaft 6 retains ferrule 9 in position over the ends of sections 7. Washer 8 of any desired color can be used for decorative purposes and, as shown, is assembled over the reduced ends of sections 7 between shoulder 13 and ferrule 9. Washer 8 also holds sections 7 together. Knurled flange 5 on nut 4 acts as a lather guard and adds to the convenience of holding the nut rigidly when unscrewing shaft 6 from nut 4 and when unscrewing nut 4 from the threaded stud 3 of the razor head 1, 2. Shaft 6 is free to move under slight friction of the handle assembly in normal use.

Handle sections 7 have a sloppy fit with respect to shaft 6 and also have a sloppy fit at one end in recess 10 in nut 4 and at the other end have a sloppy fit in ferrule 9. The handle sections 7 act as a brake to retard or entirely prevent relative movement between handle sections 7 and shaft 6 whenever extra pressure of the hand is applied at any point between washer 8 and flange 5. By assembling all of the handle sections loosely together on shaft 6, normal manual (that is, finger) pressures on the handle create uniform slight braking effect. Relative movement between the handle 7 and shaft 6 can be entirely prevented by applying additional pressure (greater than the normal manual pressure) on the handle at any point and against any one or more of sections 7. Due to the loose assembly of sections 7 on shaft 6, braking effect to either retard or completely stop relative movement between handle 7 and shaft 6 can be applied anywhere along any one or more of sections 7.

The handle can be very easily disassembled for cleaning by unscrewing shaft 6 out of nut 4 which

permits handle sections 7 to be withdrawn from washer 8 and ferrule 9.

The entire handle assembly can be easily disassembled from the shaving head 1, 2 by unscrewing nut 4 from threaded stud 3. The knurled flange 5 on nut 4 greatly facilitates this operation because flange 5 gives a lever advantage, due to its greater diameter, in screwing nut 4 on stud 3 as compared with the small diameter of the nut 4 which is the conventional diameter of this nut in the conventional Gillette head.

The knurled flange of the nut 4 serves to prevent accumulating lather from moving down on to the handle and on to the fingers of the operator and thus retards lather and detached whiskers from getting into the slots of the handle. This flange also enables the operator of average strength to readily hold nut 4 against rotation while the shaft 6 is being unscrewed from the nut or screwed back into the nut. Shaft 6 must be shouldered tightly against the nut so that it will not turn under the braking effect of the handle when the razor is in use.

The flange preferably is of small enough diameter that it will not contact a flat surface before that surface is contacted by the outer end of the handle and by a side of the razor head adjacent a cutting edge of the blade. It will be noted that at 14 the diameter of the handle assembly is increased to facilitate the prevention of contact of a finger or thumb of the operator with the flange of nut 4 when it is desired that shaft 6 turn freely in the handle with a minimum of braking effect.

If desired the finger or thumb of the operator may be projected slightly to touch the face or the knurled periphery of the flange as a means of preventing, or of aiding in preventing, the turning of the shaft 6, nut 4 and the head 1, 2, in unison with relation to the handle and the hand of the operator. This manipulation may be used instead of compressing the handle against shaft 6 for braking effect, or may be used to supplement that braking effect. The size of the operator's hand with relation to the size of the handle and manual habits of the operator acquired in other activities determines which manipulation for braking effect is most convenient for him.

It will be noted that pressing a thumb or a finger against the outer face of the flange of nut 4 tends to project the outer ends of the longitudinal sections of the handle against the inner face of the slotted head of the shaft 6, thus providing additional braking effect.

It is found that most operators rely entirely upon braking effect obtained by increasing the pressure of the hand against the handle and do not rely at all upon the flange for braking effect.

If desired, the flange may be made large enough with relation to the handle and the head so that when at rest on a flat surface only the outer end of the handle and the flange will contact a flat surface, thus holding the razor head and the edge of the blade away from flat surface and any moisture thereon which might accelerate oxidation of the cutting edge of the blade.

It will be noted, particularly by referring to Figs. 3 and 4, that sections 7 have a loose or sloppy fit on shaft 6 so that a small clearance 15 occurs between the inner surface of sections 7 and the outer periphery of shaft 6 when the sections are drawn outwardly against the opening in the ferrule 9 and recess 10. In action the handle 7 will be gripped by the person shaving and two or more of sections 7 will have friction contact with shaft 6. It is understood, of course, that the handle is shown made from three sections 7 for descriptive purposes only. Actually the handle can be made from two, three, or more sections, such as illustrated by sections 7.

Due to the sloppy fit of handle 7 on shaft 6 the handle will operate effectively in the manner above described in spite of dirt accumulations between the handle and the shaft which would otherwise clog the handle if the fit were closer. The sloppy fit of the handle on the shaft also permits the handle to be more easily cleaned by immersing in a stream of water.

I claim:

1. In a safety razor of the type having a blade carrying head, the combination of rigid means adapted to be secured to said head, and a handle rotatably mounted on said rigid means, said handle comprising a plurality of sections positioned circumferentially of the rigid means and having a loose fit thereupon whereby said handle responds variously to varying manual pressures applied anywhere throughout the length of said sections to retard relative rotation between the handle and rigid means.

2. The combination as set forth in claim 1 wherein said rigid means is a shaft and the handle sections are substantially identical.

3. In a safety razor of the type having a blade carrying head, the combination of rigid means adapted to be secured to said head, and a handle rotatably mounted on said rigid means, said handle comprising a plurality of sections positioned circumferentially of the rigid means, and retainer means secured to said rigid means for retaining said handle sections loosely on said rigid means, said retainer means and handle sections having cooperating male and female portions which loosely interengage so that the handle sections are retained loosely on said rigid means whereby said handle responds variously to varying manual pressures applied to said sections to retard relative rotation between the handle and rigid means.

4. In a safety razor of the type having a blade carrying head, the combination of a shaft adapted to be secured to said head, and a handle rotatably mounted on said shaft, said handle comprising a plurality of sections positioned circumferentially of the shaft, and retainer means secured to said shaft for retaining said handle sections loosely on said shaft, said retainer means and handle sections having cooperating male and female portions which loosely interengage so that the handle sections are retained loosely on said shaft whereby said handle responds variously to varying manual pressures applied to said sections to retard relative rotation between the handle and shaft.

5. A handle assembly for a safety razor comprising a shaft, a handle rotatably mounted on said shaft and comprising a plurality of longitudinal sections, recessed members adapted to fit over the opposite ends of said sections with a loose fit for retaining the handle sections loosely together upon said shaft whereby the handle responds to manual pressure to effect a braking action with said shaft.

6. The combination as set forth in claim 5 wherein one of said recessed members is in the

form of a nut adapted to be screwed on to a blade carrying head.

7. The combination as set forth in claim 5 wherein one of said recessed members is adapted to be secured to a blade carrying head and is provided with an enlarged circumferential flange extending in a plane transversely of the shaft whereby said flange serves as a lather guard and assists in connecting said recessed member to the blade carrying head.

8. In a safety razor of the type having a blade carrying head, the combination of a shaft, a handle comprising a plurality of longitudinal sections rotatably mounted on said shaft, a ring

positioned over one end of said handle for loosely retaining the handle sections together, an enlarged end portion on said shaft for retaining said ring in position over the end of said handle sections, an enlarged recessed member secured to the other end of said shaft and arranged to receive the other end of said handle for loosely retaining the handle sections on said handle whereby the handle sections respond to pressure to effect a braking action between the handle and the said shaft to retard relative rotation therebetween.

JOHN W. ANDERSON.