

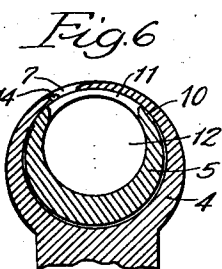
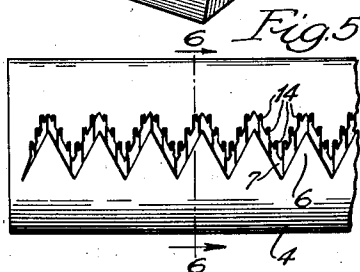
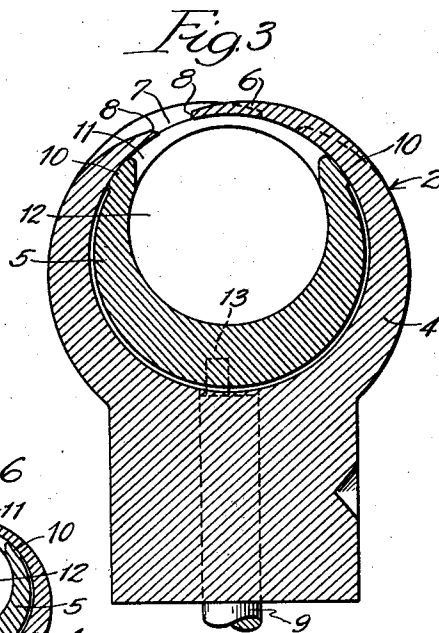
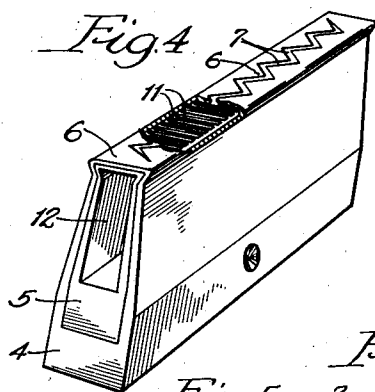
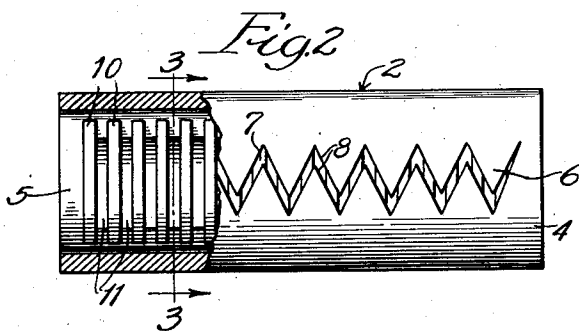
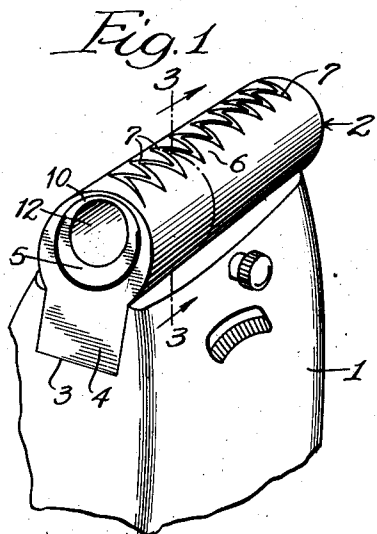
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2,202,633

RAZOR

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UNITED STATES PATENT OFFICE

2,202,633

RAZOR

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10 Claims. (Cl. 30-43)

This invention relates to mechanized razors of the shear-action type, and more especially to the shear heads therefor.

The main objects of my invention are to provide an improved form of shaving head for such razors; to provide an improved form and arrangement of shearing edges in such a head; to provide a shear head for such razors having a multiple-edged, face-bearing shear member rigid with the frame and specially formed to more perfectly pick up and guide the hairs to be cut; to provide such a head having an improved form of cutting slot with points arranged to pick up and guide hair into a more nearly erect and effective position for shearing by a moving blade cooperating with the fixed shear member; and to provide such a device having an elongated hair-receiving aperture with an unbroken continuous series of alternately inclined opposed cutting edges.

This invention is illustrated by the accompanying drawing wherein:

Fig. 1 is a fragmentary perspective view of a razor embodying my improved shaving head, part of the motor housing and handle being broken away.

Fig. 2 is a partly sectioned plan view of the shaving head shown in Fig. 1, but on a larger scale.

Fig. 3 is an enlarged sectional view taken on line 3-3 of Fig. 1.

Fig. 4 is a perspective view, partially broken away, of a modified form of my improved shaving head.

Fig. 5 is a fragmentary plan view of another modified form of shear head.

Fig. 6 is a sectional view taken on the line 6-6 of Fig. 5.

Referring to the drawing, my preferred form of razor comprises a unitary handle and motor housing 1, in combination with a removable shear head 2 set in a body slot 3. The head 2, wherein my invention resides consists mainly of a metal cylindrical shell 4 within which a cylindrical cutter 5 is operatively mounted.

The shell 4 is cylindroidally hollow and open at its ends, and is provided with an opening on its underside to accommodate the end of an actuating shaft 9 arranged to coact with the movable cutter 5 to oscillate and reciprocate the same. The shell 4 includes a thin outwardly facing part 6 which is adapted to bear against and slide over the surface of the skin to be shaved and a zigzag perforatory slot 7 runs lengthwise of this thin bearing part 6, the edges 8 of the slot being relatively thin and sharp to provide a fixed

shear element for the razor. Each of the two zigzag edges 8 of slot 7 is continuous and therefore the razor in each sweep to and fro cuts a full swath extending in width the whole length of slot 7.

The hollow, movable, metal cutter 5 is of slightly less diameter than the hollow shear head and conforms to the shape of the inside thereof. The upper portion of the cutter 5 is provided with an upraised arcuate portion 10 which is adapted to frictionally bear against the inner surface of the shear head directly below the slot 7.

A series of slots 11 are arranged in the arcuate portion 10 of the cutter to accommodate the sheared hairs as they are clipped from the surface being shaved, the clipped hairs falling through the slots 11 into a hollowed portion 12 of the cutter where they may be removed through the open end thereof.

The cutter 5 is arranged to frictionally bear against the area adjacent the slot by means of a spring, not shown, which extends through the lower portion of the shear head 2 and bears against or suitably engages the underside of the cutter member 5.

The cutter 5 is adapted to move in an oscillatory and reciprocatory manner and is actuated by the shaft 9 which carries an offset lug or crank pin 13 on its end. The shaft 9, as shown, extends through the lower portion of the stationary shear head 2 and engages the cutter 5 in a suitable manner such as that employed with the device disclosed in the Aaron Patent No. 1,970,518, issued August 14, 1934.

This manner of shifting or actuating the cutter member 5 may be accomplished in many ways and it is not intended that this invention be limited to the particular means shown. The same applies to the cutter member as indicated by the modification thereof shown in Fig. 4.

The invention is also designed to provide a shear head with a slot which is large enough to admit the hair or beard but small enough to prevent the skin from entering the slot and becoming injured by cutting or irritation.

It can readily be seen that my improved shear head greatly facilitates the shearing of the hair or beard in that the hairs are more readily picked up and directed into the slot in the cutter head for instant shearing. Also the unbroken knife-like edges of the zigzag slot increases the instant cutting ability of the razor and increases the total cutting area.

Heretofore, in mechanized razors, it was necessary to go over the same area being shaved

several times in order to shear off all of the hair, due to the arrangement of the openings provided in the shear head. The usual transversely slotted heads contain too much solid metal face bearing surface which prevents many of the hairs from properly entering the slots for shearing. Also, with ordinary slot arrangements, in attempting to cause the hairs to enter the slots, the hair must be manipulated by the razor until it reaches into the slots. This manipulating causes unnecessary wasted time. My improved device not only more readily picks up the hair, but also places the hair in proper vertical position for immediate shearing so that the cutter will act squarely on each hair, cutting the same close to the skin in much the same manner as the well known straight razor.

In the modification shown in Fig. 4 the device of the present invention is modified to be adapted to fit the "Schick" type of mechanized razor, as described in the Schick Patents Nos. 1,721,530, issued July 23, 1929 and 1,757,978, issued May 13, 1930, wherein the movable cutter only reciprocates. In this embodiment the slot 7 lies in a flat plane whereas the preferred embodiment of my invention shows the slot 7 lying in an arcuate plane.

In the modification shown in Figs. 5 and 6 the device shown is identical to the device shown in Figs. 1 to 3, except that a series of guide slots 14 are cut into the cutter head from one edge of the slot 7 and each lies in a plane normal to the long axis of the shear head which mainly supplement the slot 7. These additional slots also facilitate the shearing of the hair.

It should be recognized that I can obtain substantially the same results if a wavelike or sinuous aperture is used in the shear head, therefore, this invention should not be construed as being limited to the specific embodiment showing a zigzag aperture.

It is to be understood that some of the details set forth may be altered or omitted without departing from the spirit of the invention as defined by the following claims.

I claim:

1. A mechanized razor having a head comprising a pair of complementary shear members, one being adapted for manual sliding over and against the surface to be shaved and the other being operatively disposed adjacent thereto, the said one member having across its face a zigzag perforatory slot with sharp shearing edges and angular points adapted to reach under and lift up recumbent hairs lying across or against the direction of razor movement as said head advances crosswise of the general direction of said slot.

2. A mechanized shear razor having a head comprising an oblong face member to bear on and be slid over the surface to be shaved, and a relatively movable member bearing against the inner side thereof, said members having complementary shear edge parts, those on the outer of said members being arranged in zigzag alinement lengthwise of said face member and defined by alternating serrated margins whereby points are

formed which are adapted to reach under and lift up hairs to an effective cutting position in each to and fro sweep of the razor across the surface to be shaved.

3. A face bearing shear member having a sinuate aperture therein defined by serrated complementary margins, each of which has an unbroken cutting edge.

4. A razor comprising an oblong face bearing shear member having a hair receiving sinuate aperture extending lengthwise of its bearing surface, and the margins of said aperture having cutting edges along which hair lifting points occur.

5. A razor comprising a face bearing shear member having an elongated sinuous aperture therein defined by complementary serrated margins each of which has an unbroken cutting edge, a cutter member arranged to cooperate with said shear member, and means to operate said cutter member shearwise relative to said face bearing member.

6. In a razor an oblong face bearing shear plate having a series of alternately inverted chevron-shaped hair receiving apertures extending lengthwise of said plate and the margins of the apertures having tapered cutting edges.

7. A razor comprising an elongated face bearing shear plate having a continuous zigzag hair receiving aperture extending lengthwise thereof, the margins of the aperture having tapered cutting edges, a complementary shear member arranged to cooperate with said plate, and means to move the latter relative to said shear plate, the points of said edge margins being adapted to slide under recumbent hairs, whereby upon drawing said shear plate against the grain of the hair the hair will be picked up and placed in position in said aperture for shearing.

8. A shear head for mechanized razors comprising a relatively thin face-bearing surface having an unbroken elongated hair receiving aperture made up of a continuous series of alternately inclined opposed cutting edges, and a series of spaced short guide slots extending from one edge of the hair-receiving aperture and respectively lying in a plane normal to the long axis of the shear head.

9. A shear head for mechanized razors comprising a relatively thin face-bearing surface having an unbroken undulated hair-receiving aperture extending lengthwise thereof and having opposed cutting edges, and a series of spaced short guide slots extending from one edge of the hair receiving aperture and respectively lying in a plane normal to the long axis of the shear head.

10. A shear head for mechanized razors comprising a relatively thin face-bearing surface having an unbroken undulated hair-receiving aperture extending lengthwise thereof, and having opposed cutting edges, and a series of spaced short guide slots extending from the hair-receiving aperture and respectively lying in a plane normal to the long axis of the shear head.

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