

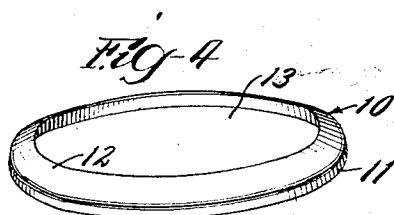
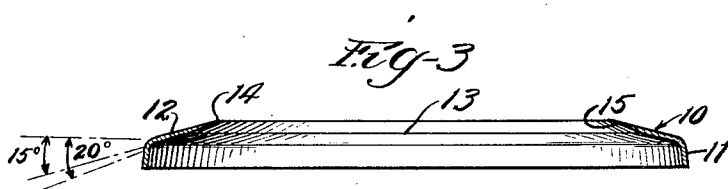
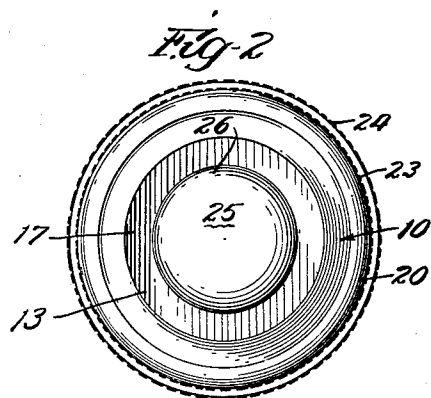
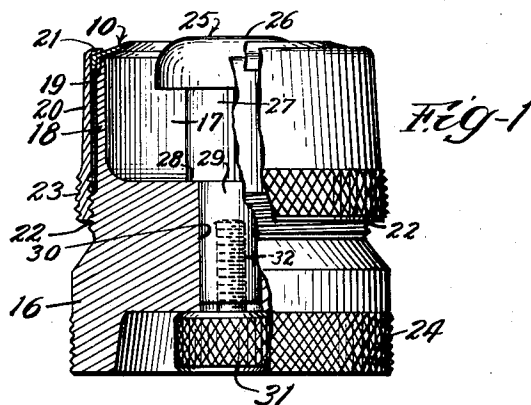
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SHAVER

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2,598,711

SHAVER

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6 Claims, (Cl. 30-49)

1 This invention relates to a shaver which may be either manually manipulated or motor driven, and is characterized by having a blade that has an internal cutting edge. A razor of this type has the advantage that it will produce a fast, clean shave whether the beard is long or short, and can be moved over the face in any direction with equal effectiveness.

Further and other objects of this invention will become apparent as the disclosure proceeds and the description is read in conjunction with the accompanying drawings, in which:

Fig. 1 is a vertical view, partly in section, showing a shaver made in accordance with this invention;

Fig. 2 is a plan view;

Fig. 3 is a vertical sectional view of the shaver blade; and

Fig. 4 is a perspective view of the blade.

It should be understood that the disclosure of a preferred form of the invention and the detailed description thereof is in compliance with Section 4888 of the Revised Statutes, and should not be construed as imposing limitations upon the appended claims unless required by the prior art.

In a prior application, Serial No. 87,907, filed April 16, 1949, which matured as Patent No. 2,556,208 granted June 12, 1951, I have disclosed a unique type of razor or shaver which is characterized by having a frusto-conical shaver blade with a circular opening that is sharpened to provide a cutting edge. The blade was shown in conjunction with a motorized shaver, although obviously it could be used with a manually manipulated shaving head. The disclosure of my earlier application is incorporated herein by reference to the extent that it is not inconsistent with the present disclosure.

Referring now to Fig. 3, it will be seen that the cutting blade 10 is made from a single piece of metal, preferably cold rolled razor blade steel, and is formed into a frusto-conical shape by stamping or some other suitable means. The blade has a downwardly extending lip 11 and an inwardly tapered portion 12 with a central opening 13 providing an inner marginal wall 14 which is sharpened to provide a keen razor edge. Preferably this is done by grinding the edge 14 from below as indicated at 15 and then honing both top and bottom sides of the edge to provide an extremely sharp cutting edge.

Purely by way of illustration, the blade thickness may be on the order of .009 inch, the overall dimension of the blade may be approximately an inch; the central opening 13 at least one-half inch in diameter, and preferably on the order of

2 of an inch; the frusto-conical portion 12 of the blade may make an angle of approximately 15° with respect to a plane normal to its axis; and the ground portion 15 of the blade edge may make an angle of approximately 20° with the same plane.

The blade, after being blanked out and formed, is hardened to 57 or 58 Rockwell in order that the blade may keep its edge after proper sharpening.

As stated before, the blade of this invention may be used in various types of shavers and razors, but for the purpose of illustration, a manually manipulated shaver is shown in Figs. 1 and 2. This shaver comprises a head block 16, preferably of aluminum or other light weight material, having a central cavity 17 which is bounded by a relatively thin, annular wall 18 upon the top surface 19 of which the blade 10 is adapted to rest. The blade is held in place by a collar 20 having an inwardly turned flange 21 at its upper margin which overlies the blade 10.

The block 16 and collar 20 have mating threaded portions 22 which permit the collar to be screwed down upon the block and clamp the blade 10 firmly in place. Preferably the lower portion 23 of the collar 20 is knurled to facilitate rotation of the collar 20 while making the screw-thread connection between the collar 20 and block 16. Similarly, the lower portion of the block 16 is externally knurled at 24 to enable the block 16 to be firmly held while screwing the clamp in place.

A guard pillar 25 is mounted within the cavity 17, and includes a head 26 which projects upwardly into the opening 13 and terminates approximately at the plane of the cutting edge 14. The shank 27 on the pillar is offset at 28 to provide a shoulder which rests on the floor of the cavity 17, and the reduced portion 29 of the shank extends downwardly through an opening 30 in the block where it is secured in place by a knurled screw 31 which extends into a threaded recess 32 in the shank. With this construction, it is possible to remove the pillar 25 easily for the purpose of cleaning, and with the pillar 25, blade 10, and collar 20 removed, all parts can readily be cleaned.

The shaving head described above is used by pressing the top of the head against the face and then moving it across the face in any direction, preferably with a slightly circular motion, since the blade cuts with equal effectiveness with any direction of movement. The guard pillar 25 prevents the skin from entering the cavity to the extent that might permit cutting of the skin, and is

particularly desirable when the shaver is moved over sharp contours of the face such as the chin. The relatively large opening for the blade 10 not only enables the shaver to cut a correspondingly large swath as it is moved across the face, but also permits the shaver to be used close to the nose and ears without interference from the shaver head.

When the blade of this invention is used in a motorized shaver such as disclosed in my earlier application hereinabove identified, I have now found that a motor speed of approximately 120 R. P. M. is more satisfactory than the higher speed referred to in the earlier application.

I claim:

1. A shaving head assembly comprising a thin-walled cutting blade having an opening therein ground and honed to provide an internal inwardly facing cutting edge, a head block having a central cavity bounded by an annular wall, the upper margin of which supports the blade, and a blade collar telescoped over the annular wall and secured to the block to clamp the blade firmly in place.

2. A shaving head assembly comprising a thin-walled cutting blade having an opening therein ground and honed to provide an internal inwardly facing cutting edge, a head block having a central cavity bounded by an annular wall, the upper margin of which supports the blade, a blade collar telescoped over the annular wall and secured to the block to clamp the blade firmly in place, and a guard pillar mounted in the block cavity and projecting upwardly toward the blade opening to a position approximately level with the cutting edge of the blade.

3. A thin-walled cutting blade of the class described, characterized by having an opening therein with the marginal wall of the opening lying substantially in a plane and having a razor sharp cutting edge facing inwardly, said cutting edge being defined by inwardly converging surfaces each of which forms a substantial angle with the center line through the opening and with a plane normal to said center line.

4. A thin-walled cutting blade of the class described, characterized by having an opening

therein with the marginal wall of the opening lying substantially in a plane and having a razor sharp cutting edge facing inwardly, said cutting edge being defined by inwardly converging surfaces each of which forms a substantial angle with the center line through the opening and with a plane normal to said center line, the portion of the blade adjacent to the cutting edge being frusto-conical in form.

5. A thin-walled cutting blade of the class described, characterized by having an opening therein with the marginal wall of the opening lying substantially in a plane and having a razor sharp cutting edge facing inwardly, said cutting edge being defined by inwardly converging surfaces each of which forms a substantial angle with the center line through the opening and with a plane normal to said center line, the portion of the blade adjacent to the cutting edge being frusto-conical in form, and the mean angle of said surfaces with respect to said normal plane being more than about 15°.

6. A thin-walled cutting blade of the class described, characterized by having an opening therein with the marginal wall of the opening lying substantially in a plane and having a razor sharp cutting edge facing inwardly, said cutting edge being defined by inwardly converging surfaces each of which forms a substantial angle with the center line through the opening and with a plane normal to said center line, and said cutting edge being ground and honed to extreme sharpness whereby the blade is capable of shaving action when moved in a direction transverse to said center line.

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