March 24, 1953 F. P. MUSSO 2,632,242

SAFETY RAZOR

Filed Jan. 31, 1950 2 SHEETS—SHEET 1

Fig-1

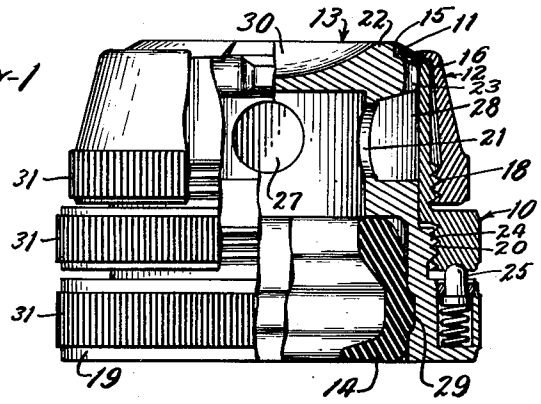


Fig-2

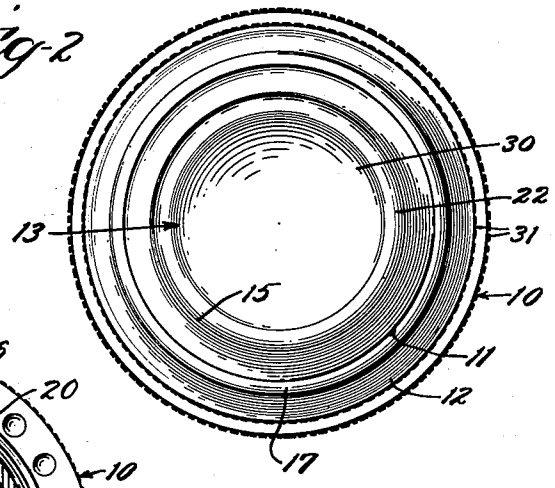
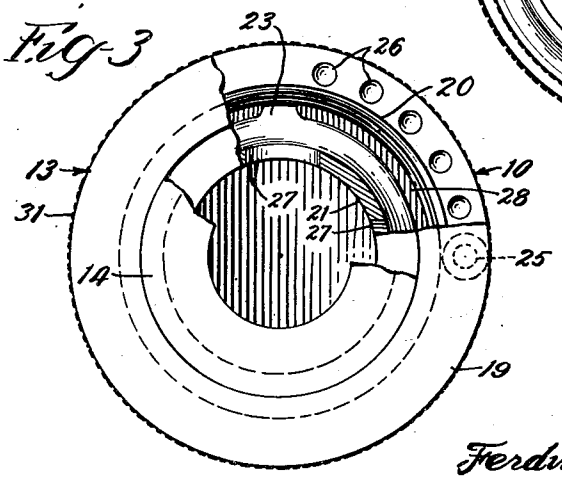


Fig-3



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SAFETY RAZOR

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Fig-4

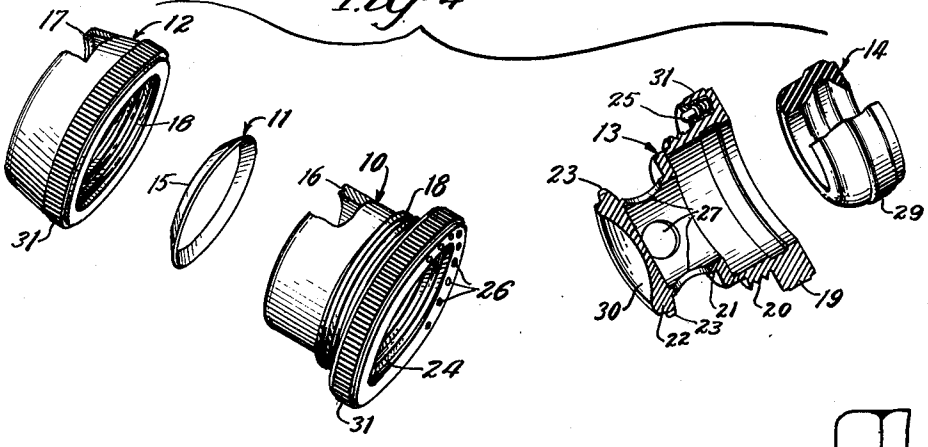


Fig-5

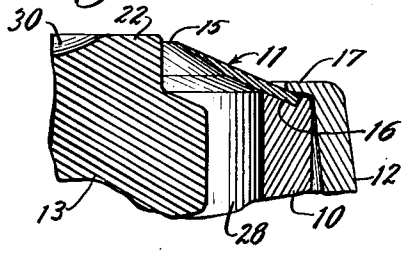


Fig-7

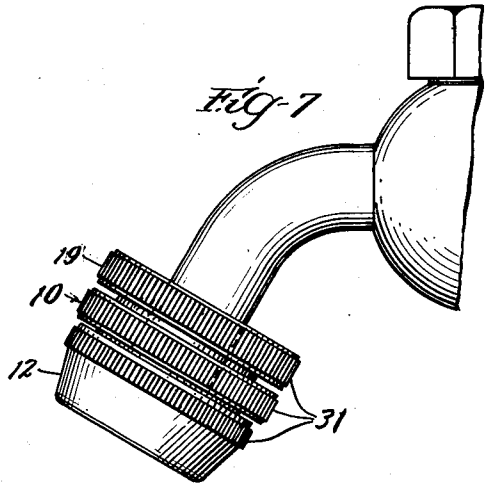
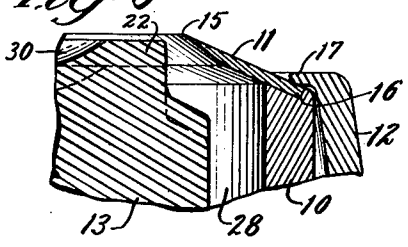


Fig-6



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UNITED STATES PATENT OFFICE

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SAFETY RAZOR

Ferdinando Pasquale Musso, Chicago, Ill.

Application January 31, 1950, Serial No. 141,413

5 Claims. (Cl. 30—41)

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This invention relates to safety razors and is an improvement on the shavers disclosed in my copending applications, Serial Nos. 87,907 and 107,461, filed April 16, 1949, and July 29, 1949, respectively, having matured into Patents No. 2,556,208 and No. 2,598,711 respectively, the disclosures of these applications being incorporated herein by reference to the extent that they are not inconsistent with the present disclosure.

As disclosed in these prior applications, my shaver is characterized by having an annular blade provided with an interior cutting surface preferably, although not necessarily, circular in shape, so that as the shaver is moved across the face, there is always a more or less diagonal movement of the cutting edge across each beard stubble with the result that a smoother and cleaner shave is achieved. Furthermore, the shaver may be moved across the face with a circular motion, and since the shaver shaves equally well with any direction of movement, the beard stubble may be readily cut regardless of the angle of the stubble as it emerges from the face skin.

In the improved safety razor disclosed in this application, the diameter of the cutting blade has been made slightly larger, and the holder for the blade has been modified to provide greater safety in handling, greater accuracy in providing the desired adjustment for the blade, and greater convenience in cleaning the razor after use.

These and other objects and advantages will become apparent as the disclosure proceeds and the description is read in conjunction with the accompanying drawings, in which:

Fig. 1 shows a side elevational view of my improved shaver with parts broken away to show the internal construction;

Fig. 2 is a plan view of the shaver;

Fig. 3 is a bottom view with parts broken away to expose other parts of the shaver;

Fig. 4 is an exploded perspective view which clearly shows the components of the shaver;

Fig. 5 is an enlarged vertical sectional view showing the guard mound in safety position;

Fig. 6 is a view corresponding to Fig. 5, but showing the guard mound lowered to shaving position; and

Fig. 7 shows the manner in which the shaver may be held against a faucet for rapid cleaning of the blade.

It will be understood that the illustration and description of a preferred form of this invention are for the purpose of complying with Section 4888 of the Revised Statutes, and should not be construed as imposing undue limitations on the appended claims.

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The entire shaver is preferably made of aluminum, with the exception of the blade which may be of stainless steel, so that the shaver is lightweight and will not rust.

As shown in Fig. 4, the shaver consists essentially of a tubular body member 10, an annular blade 11, a retaining cap 12, a hollow guard member 13 which is telescopically received within the body member 10, and which carries at its lower end a rubber sealing gasket or washer 14.

The blade 11 is annular in shape and has a circular cutting edge 15 along its inner margin. More specific characteristics are disclosed and claimed in my Patent No. 2,598,711, and need not be further described here.

The upper margin of the body 10 has a blade seat 16 (Fig. 5) which receives and supports the outer peripheral wall of the blade 11. The blade is held firmly on this seat by the retaining cap 12 which has an inwardly extending lip 17 which extends over and engages the outer face of the blade 11. The cap 12 has a threaded connection 18 with the body 10 as shown most clearly in Fig. 1.

The inner body or guard member 13 is hollow, has a rim portion 19, a threaded portion 20, a stem portion 21, and a guard mound 22. The guard member is telescopically received within the outer body 10, and a plurality of spacing lugs 23 engages the inner wall of the tubular body 10 to position the guard mound 22 accurately with respect to the cutting blade 11. The body member 10 has an internal threaded portion 24 which receives the threaded portion 20 of the guard member 13, and the position of the guard mound with respect to the blade is adjusted by a rotary movement of the guard member 13 with respect to the body member 10.

When the guard member 13 is screwed tightly into the body member 10, the guard mound 22 extends slightly above the cutting edge 15 of the blade as shown in Fig. 5, and thereby prevents any possible cutting action from taking place. When the shaver is readied for use, the guard member is unscrewed a predetermined amount which brings the top of the guard mound slightly below the cutting edge 15 as shown in Fig. 6, and it will be understood that the exact position of the guard mound with respect to the cutting edge 15 is determined by the extent to which the guard member 13 is unscrewed from the body member 10.

As a convenience in determining the proper positioning of the guard mound 22 with respect to the cutting edge 15, I have provided a spring detent arrangement which yieldingly holds the

guard member in preselected angular positions with respect to the body member 10. The arrangement consists of a ball-headed plunger 25 mounted in the rim 19 of the guard member 13 and yieldably engageable within semi-spherical depressions or notches 26 provided in the lower face of the body member 10. It will be understood that when the guard member 13 is firmly screwed into the body member 10 so that the guard mound 22 is in the position shown in Fig. 5, it requires only an angular movement of 90° or less to bring the detent 25 into engagement with the first depression 26, and thereafter as the retrograde movement of the guard member 13 is continued, a distinct click may be heard and felt as the detent travels over the several depressions 26. In this way, the user may determine empirically the exact adjustment which gives him the most desirable shaving conditions, and may reset this adjustment by each time unscrewing the guard member 13 to the precise angular position indicated by the clicks of the detent 25 over the depressions 26.

The stem portion 21 of the guard member 13 has a plurality of radial ports 27 to provide communication between the interior of the guard member 13 and the annular space 28 which lies between the stem 21 and body member 10. Cleaning of the razor may therefore be easily effected by merely holding the bottom of the shaver against a faucet, as shown in Fig. 7, so that the spout of the faucet extends either into the rubber gasket 14 or against its face, and water is then permitted to flow with pressure through the ports 27 and annular space 28, and then outwardly through the small clearance space between the blade 11 and mound 22. After removing the shaver from the faucet, all droplets of water may be blown from the shaver by holding the bottom portion to the mouth and sharply blowing through the shaver.

The sealing ring 14 may be made of rubber or any other suitable yieldable material, and preferably has an annular flange 29 which engages a mating depression in the guard member 13 to hold it in place.

The guard mound 22 is preferably shaped as shown in Figs. 1, 4, 5, and 6, the depression 30 having been found to act somewhat as a suction cup to support the skin in the proper angular position with respect to the blade 11.

Preferably each of the rotary parts, that is, the retaining cap 12, body member 10, and guard member 13, are provided with knurled or ribbed portions 31 as indicated by Fig. 7 to facilitate assembly and adjustment of the parts.

Many modifications will occur to those skilled in the art, and the claims should therefore be construed broadly enough to embrace such ready modifications.

I claim:

1. In a razor, the combination of a tubular body having a blade seat adjacent its upper face, an annular blade mounted on the seat and having a cutting edge along its inner margin, a retaining cap for holding the blade on the body, a guard member threadedly received within the body and having a guard mound extending into proximity with the cutting edge of the blade and concentric therewith, said guard member and body having passageways therethrough for directing flushing water outwardly through the space between the cutting edge and the guard member.

2. In a razor, the combination of a tubular body having a blade seat adjacent its upper face, an annular blade mounted on the seat and having a cutting edge along its inner margin, a retaining cap for holding a blade on the body, a hollow guard member telescopically mounted within the body member and having a guard mound extending into proximity with the cutting edge of the blade and providing clearance space therebetween, said guard member having radial ports therein whereby flushing water may be introduced into the razor through the bottom of the guard member, then radially through said ports, and finally past the cutting blade and through the clearance space between the blade and the guard member, and a washer secured in the lower end of the guard member adapted to receive a spout of a faucet for the introduction of the flushing water.

3. In a razor, the combination of a tubular body having a blade seat adjacent its upper face, an annular blade mounted on the seat and having a cutting edge along its inner margin, a retaining cap for holding a blade on the body, and a guard member threadedly received within the body and having a guard mound extending into proximity with said cutting edge and concentric therewith, said mound having a rounded depression in its upper face.

4. In a razor, the combination of a tubular body having a blade seat adjacent its upper face, an annular blade mounted on the seat and having a cutting edge along its inner margin, a retaining cap for holding a blade on the body, and a guard member threadedly received within the body and having a guard mound extending into proximity with said cutting edge, and means for adjusting the axial position of the guard mound with respect to the cutting edge.

5. In a razor, the combination of a tubular body member having a blade seat adjacent its upper face, an annular blade mounted on the seat and having a cutting edge along its inner margin, a retaining cap for holding a blade on the body member, and a guard member threadedly received within the body member and having a guard mound extending into proximity with said cutting edge, and means for adjusting the axial position of the guard mound with respect to the cutting edge, said means comprising a spring detent carried by one member and notches provided in the other member for cooperation therewith.

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The following references are of record in the file of this patent:

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