May 20, 1952 W. M. MANSFIELD 2,597,653

RAZOR TYPE HAIR TRIMMER

Original Filed Jan. 3, 1949

Fig. 1.

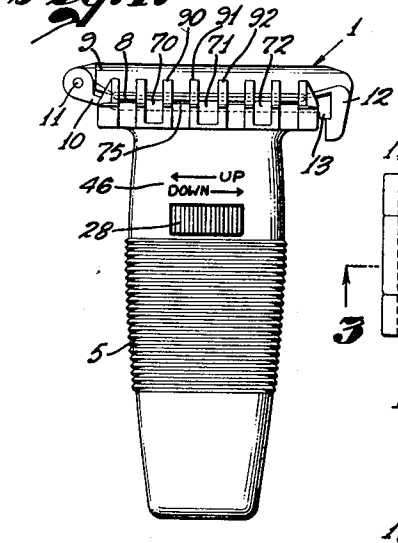


Fig. 2.

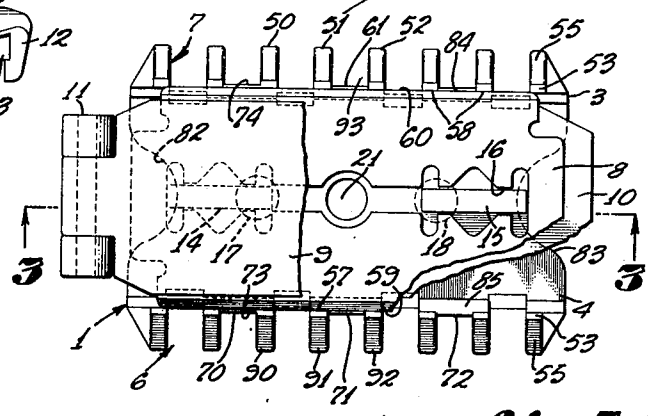


Fig. 3.

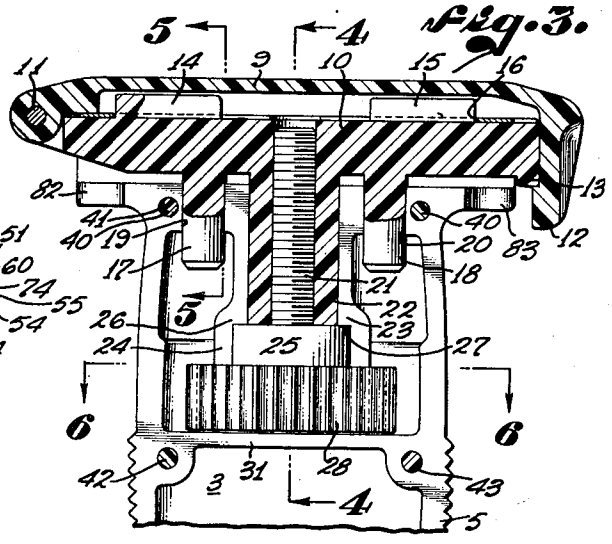


Fig. 4.

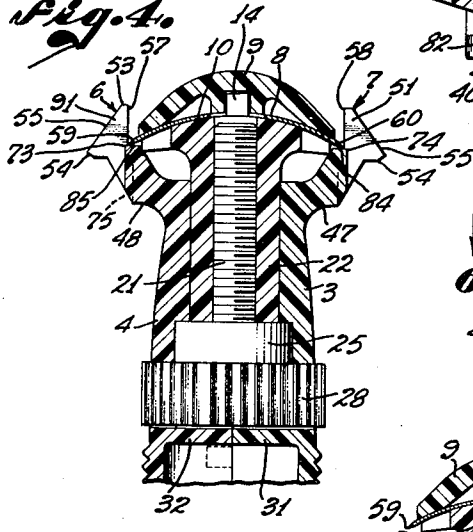


Fig. 5.

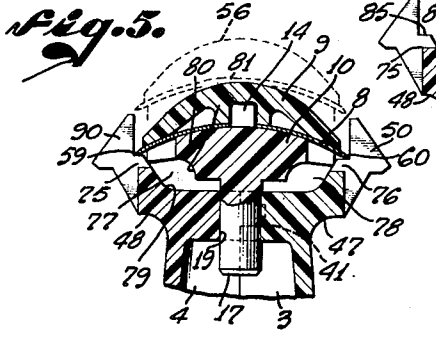


Fig. 7.

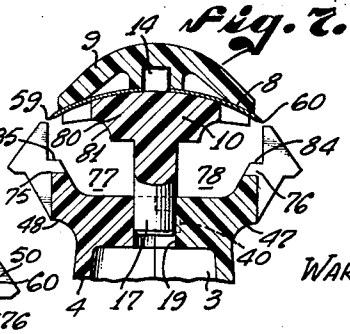
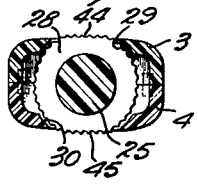


Fig. 6.



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RAZOR TYPE HAIR TRIMMER

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5 Claims. (Cl. 30—31)

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The invention relates to a razor type hair trimmer and more particularly to improvements in the trimmer described and claimed in U. S. patent application Serial No. 14,613 filed March 12, 1948, for Hair Trimming Type Razor.

In the above mentioned pending application there is described and claimed a trimmer wherein a blade is movable along the inner faces of separated guard members, the blade being adjustable to different positions for thinning, trimming or shaving.

An object of the present invention is to improve and simplify the construction in the above mentioned patent application in a number of respects as follows: Improve and simplify the construction whereby the handle and guard is constructed of identical halves, two of which may be fitted together to form the handle and guard member; provide a wind tunnel or conduit along each cutting edge of the blade with an inlet for each wind tunnel through spaces in each guard to provide for ejecting the cut hair by blowing onto the guard; provide an improved guard for thinning purposes whereby each cutting edge of the blade is suitable for thinning when the blade is in its innermost position and wherein the full length of both cutting edges are unguarded on intial movement of the blade from its innermost position whereby either side of the trimmer may be used when held in either hand, without the necessity for orienting the trimmer as in the former construction where a thinning guard was provided on one side only of the trimmer.

The trimmer disclosed herein may have various external shapes or designs, the particular one here illustrated being described and claimed in Patent D. 157,063, issued January 31, 1950 for design for Razor Type Hair Trimmer.

For further details of the invention, reference may be made to the drawings wherein Fig. 1 is a side view in elevation, full scale, of a razor type hair trimmer according to the present invention.

Fig. 2 is an enlarged top plan view of the trimmer of Fig. 1 with parts broken away.

Fig. 3 is a sectional view on substantially line 3—3 of Fig. 2 looking in the direction of the arrows.

Figs. 4, 5 and 6 are sectional views on lines of the corresponding numbers in Fig. 3, the views being taken in the direction of the arrows as indicated.

To Fig. 5 has been added a showing in dotted lines of the trimmer in position for use as a razor.

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Fig. 7 is a sectional view corresponding to Fig. 5, with the blade holder in elevated position to further illustrate the wind tunnels.

Referring in detail to the drawings, the razor type hair trimmer 1 comprises duplicate handle parts 3 and 4 which may be molded of plastic material from the same die. The parts 3 and 4 fit together as later described, to provide a handle 5 having parallel guards 6 and 7.

A flexible double edge razor blade indicated at 8 is removably clamped in curved position between an upper blade holder member 9 and a lower blade holder member 10. The blade holder members 9 and 10 are pivotally connected at one end as indicated at 11 and removably held in clamped position by an integral hook 12 on the member 9 and a catch lug 13 on the member 10. The inner blade holder member 10 has spaced lugs 14 and 15 on its outer surface to receive and position the slot 16 in the blade 8.

The inner blade holder member 10 has inwardly projecting therefrom a pair of pins 17 and 18 which slide in apertures 19 and 20, respectively, one longitudinal half of each such aperture being molded in the handle halves 3 and 4 whereby the handle halves 3 and 4 when fitted together as shown provide a substantially cylindrical slide bearing for the pins 17 and 18. The pins 17 and 18 prevent the blade holder 9, 10 from rotating when advanced or retracted by the screw 21 which engages threads in a nut 22 which is molded integral with the blade holder member 10. The exterior surface of the nut 22 may be cylindrical and each of the handle pieces 3 and 4 provides one-half of a cylindrical slide bearing for the nut 22, the half of this bearing in the handle part 3 being indicated at 23. Adjoining the inner end of the bearing half 23 is an enlarged bearing half 24 for a stub shaft 25 molded integral with the screw 21. Each of the handle portions 3 and 4 has an internal web as indicated at 26, providing a shoulder 27 for the outer end of the stub shaft 25. Integral with the stub shaft 25 and inwardly thereof is a knurled knob 28, the opposite sides of which protrude through windows 29 and 30, see Fig. 6, in the upper part of the handle portions 3, 4. At the lower portion of the windows 29 and 30, the handle parts 3 and 4 have cross webs 31 and 32 which provide a wall to limit the inward movement of the knob 28 when the blade holder 9, 10 is being elevated, there being a small

amount of play in the space between the wall 31, 32 and the shoulder 27.

The screw 21 is arranged along the axis of the handle 5 and the knob 28 is housed in the handle 5 which is hollow.

So that the handle parts 3 and 4 will mate and may be fitted together, for example the handle part 3 is provided with an integral pin 40, see Fig. 3, and opposite thereto with an integral aperture 41 whereby the pin like 40 on the other casing half 4 will fit in the aperture 41 and the pin 40 on the casing part 3 will fit the aperture like 41 on the casing part 4 when the halves 3 and 4 are fitted together. Also a plurality of other pins and apertures are provided on the parts 3 and 4 and preferably in staggered relation; for example, the part indicated at 3 and, in fact, its companion part when viewed in the same way may have an upper right-hand pin as indicated at 40, an intermediate left-hand pin 42 and a lower right-hand pin not shown, an upper left-hand pin aperture 41, an intermediate right-hand pin aperture 43 and a lower left-hand pin aperture not shown. In the example shown and described, the handle halves 3 and 4 are held together by six pins, half of which are on one of the handle halves and half on the other, all pins having a mating pin aperture in the other handle half.

As shown in Fig. 6, the knob 28 at its opposite sides may be flattened as indicated at 44 and 45 to make known the extent of rotation of the knob 28 by touch. The direction in which the knob 28 should be turned to effect up or down movement may be indicated by indicia as indicated at 46 on the side of handle 5.

The handle portion 3 at its upper end has an outwardly and upwardly extending flange 47 which terminates at its upper end in the guard 7 and the duplicate half 4 has a similar flange 48 which terminates at its outer end in the guard 6.

The guard 6 has a plurality of spaced guard members like 90, 91, 92, and guard 7 has a corresponding plurality of similar spaced guard members like 50, 51, 52, see Fig. 2, which have outer tips like 53, see Fig. 4, and transverse tips like 54, having outer faces like 55. The face 55 of the guard members of each guard is in a plane and those planes preferably are tilted at something less than 45 deg. to the axis of the handle 5, so that the cutting edges of the blade will intersect the plane of the faces like 55, particularly when the blade is elevated to the razor portion shown in dotted lines at 56 in Fig. 5.

The guard 6 has inner faces like 57 which lie in one plane and the guard 7 has inner faces 58 which lie in a parallel plane, the blade 8 being movable with its cutting edge 59 parallel to, and closely adjacent the faces 57 and with its cutting edge 60 closely adjacent and parallel to faces 58.

Alternate spaces between the guard members 50, 51, 90, 91, etc. of each guard, 6, 7, are provided with ledges or stop and guard lugs like 70, 71, 72, see Fig. 2, to guard the cutting edges 59, 60 of the blade at spaced intervals so that no hair will be cut at those intervals when the blade is in its innermost position, but the hair will be cut at the remaining alternate intervals between the guard members. In the example shown, the stop guards are illustrated in Figs. 1 and 2 as being provided at 70, 71, 72 on the guard 6 and, of course, directly opposite thereto on the guard 7; as shown in Fig. 2, the one opposite to 71 is indicated at 61. Each of the stop guards like

61, 70—72 terminates at its outer end behind the innermost position of the cutting edges of the blade as indicated for the ends 84, 85 of stop guards 61, 71 in Fig. 4, whereby the blade on initial movement from the stop guards like 61, 70 to 72 is exposed on both edges for cutting purposes throughout its full length. In other words, the spaces between certain of the members of the guard are of greater depth than the spaces between other guard members, the spaces of lesser depth, such as the space between members 51, 52 in Fig. 2 have a bottom portion 61 to block the cutting action of the blade when in juxtaposition with the blade.

The above statement that the outer ends like 84, 85 of the stop guards terminate behind the cutting edge of the blade when the latter is in its innermost position, means that the cutting edge of the blade is then in juxtaposition with such outer ends 84, 85, and also as will be apparent from Figs. 1, 2, and 4, the spaces between the stop guard members at opposite sides of a given stop guard, open into the top of that stop guard. For example, the space 93 between the guard members 51 and 52 opens into the top 84 of the stop guard 61, whereby the cutting edge 60 of the blade in the space between the guard members 51 and 52 is in position to cut the hair for the initial and all subsequent movement of the cutting edge 60 from the end 84 of the stop guard 61.

Also each of the stop guards like 61, 70 to 72 extends transversely slightly beyond the cutting edge of the blade as indicated at 73, 74 so as to guard the cutting edges 59, 60 at spaced intervals when the blade is in its innermost position. At that time, the remaining intervals between the guard members like 50 to 52, 90 to 92, etc. are in condition to cut the hair reaching such intervals because, as shown in Fig. 5, the flanges 47 and 48 are cut away opposite and behind the cutting edges 59, 60 as indicated at 75 and 76 to expose the cutting edges of the blade at spaced intervals. Also the recesses like 75 and 76 open into conduits or wind tunnels 77, 78 which extend parallel to and open into the rear side of the cutting edges of the blade. These wind tunnels 77 and 78 may be employed to blow out hair which has been cut, by directing a draft of air toward either one of the guards 6 and 7. The wind tunnels or conduits 77, 78 exist when the blade is in its innermost position as shown in Fig. 5, but the size of such tunnels is, of course, increased when the blade is in elevated position, as shown in Fig. 7. The effectiveness of the conduit 77, 78 is increased by reason of the fact that the inner surface 79 of the flange 48 is concave to form a part of the conduit 77 and the inner blade holder 10 is reduced in width, as shown at 80, and is concave as shown at 81 to form another portion of the conduit 77. The outer ends of the conduits 77 and 78 are widened by cutting away the opposite ends of the flanges 47, 48 as indicated at dotted lines 82, 83, see Figs. 2 and 3.

This application is a substitute for application Serial No. 68,907 filed January 3, 1949 for Razor Type Hair Trimmer and now abandoned.

Various modifications may be made in the invention without departing from the spirit of the following claims.

I claim:

1. A hair trimming type razor comprising a blade holder having opposed inner and outer members for clamping the blade therebetween, a

handle having a guard comprising spaced members having inner faces respectively lying in a plane, said handle having means supporting said blade holder for transverse movement of the cutting edge of the blade in a path parallel to itself behind said members and adjacent and parallel to said faces, a ledge extending across said path, said ledge having an outer end extending across the space between adjacent guard members in position to abut and guard the cutting edge of the blade by juxtaposition therewith, the space between said adjacent guard members opening into the outer end of said ledge whereby the cutting edge of the blade is guarded when in juxtaposition with said ledge and unguarded when off of said ledge, and means for moving said blade holder to move the blade along said inner faces between said guarded and unguarded positions.

2. A hair trimming type razor comprising a blade holder having opposed inner and outer members for clamping the blade therebetween, a handle having a guard comprising spaced members having inner faces respectively lying in a plane, said handle having means supporting said blade holder for movement of the cutting edge of the blade in a path parallel to itself behind said members and adjacent and parallel to said faces, and an interrupted stop guard extending between certain adjacent ones of said guard members, said stop guard extending across the blade path in an interrupted line to receive, support and guard the cutting edge of the blade at certain spaced intervals when in its innermost position, said guard having recesses between others of said guard members to expose the cutting edge of the blade at other spaced intervals when the blade is in its innermost position.

3. A hair trimming type razor comprising a razor blade holder for a double edge razor blade, a guard for each of the two cutting edges of the blade, each of said guards comprising a plurality of spaced members, each having a straight face extending lengthwise of the blade path, said faces of one of said guard members respectively lying in a plane, said faces of the other of said guard members lying in a plane parallel to said first plane, said planes being spaced apart slightly more than the distance between said cutting edges, means supporting said blade holder for movement of the cutting edges of the blade lengthwise of said faces, and a linear array of stop guards extending inwardly of and across the space between the faces of certain adjacent members in each of said guards, said arrays of stop guards being in position to guard the cutting edges of the blade at one position of said blade holder.

4. A hair trimming type razor comprising a

blade holder having opposed inner and outer members for clamping the blade therebetween, a handle having a guard comprising spaced members having inner faces respectively lying in a plane, certain of the spaces between the members of said guard having a greater depth than the remaining spaces, the spaces of lesser depth each having a bottom portion adapted to block the cutting action of the blade when in juxtaposition with the blade, said handle having means supporting said blade holder for transverse movement of the cutting edge of the blade in a path parallel to itself behind said members and adjacent and parallel to said faces, and means for operating said blade holder to move the cutting edge of the blade into or out of juxtaposition with the bottom portion of said spaces of lesser depth.

5. A hair trimming type razor comprising a handle having a guard comprising spaced members having inner faces respectively lying in a plane, a holder having opposed inner and outer members for clamping the blade therebetween at an angle to said plane, certain of the spaces between the members of said guard having a greater depth than the remaining spaces, the spaces of lesser depth each having a bottom portion adapted to block the cutting action of the blade when in juxtaposition with the blade, said guard members having outer faces lying in a plane inclined to the plane of the cutting edge portion of the blade, the plane of said outer faces intersecting the plane of the cutting edge portion of the blade when the cutting edge is adjacent the outer ends of said guard members, said handle having means supporting said blade holder for transverse movement of the cutting edge of the blade in a path parallel to itself behind said guard members and adjacent and parallel to said inner faces, and means for operating said blade holder to move the cutting edge of the blade to an inner position in juxtaposition with the bottom portion of said spaces of lesser depth, to an intermediate position out of juxtaposition with said bottom portions, and to an outer position adjacent the outer ends of said guard members.

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