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3,045,346

HEAD FOR DRY ELECTRIC RAZOR

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Fig. 1.

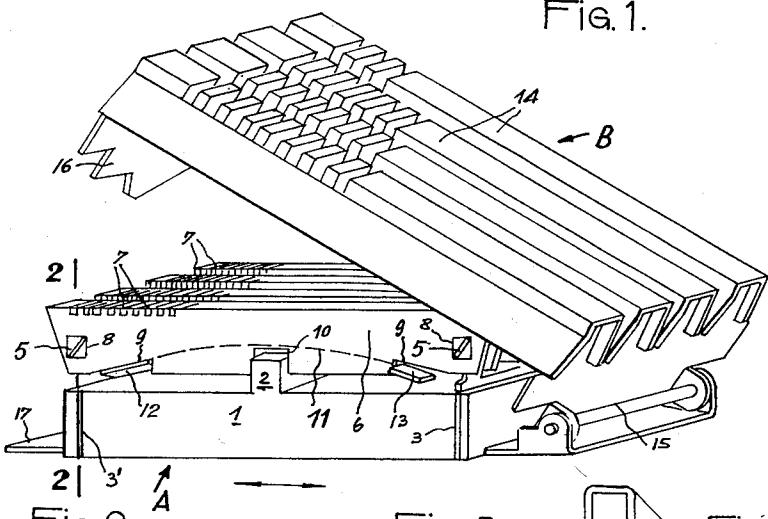


Fig. 2.

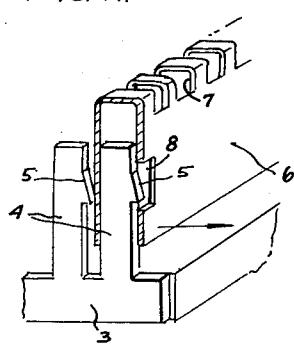


Fig. 5.

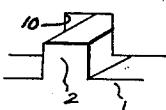


Fig. 3.

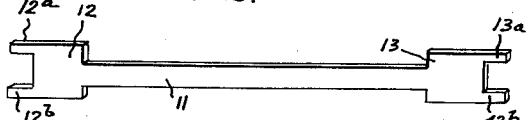


Fig. 4.

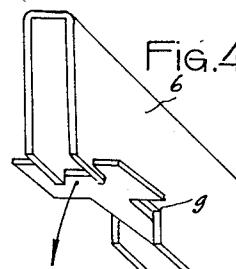


Fig. 6.

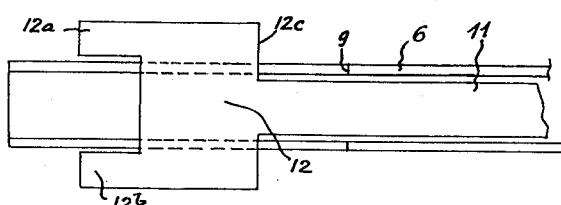
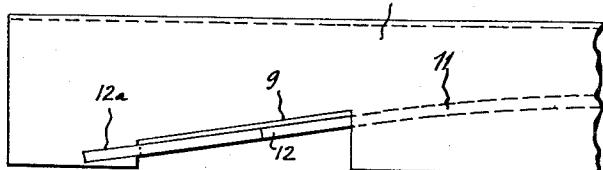


Fig. 7.



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HEAD FOR DRY ELECTRIC RAZOR
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The present invention relates to a head for a dry electric razor.

According to the invention, a unit drives a bar with an alternating rectilinear movement, this bar being straddled on the upper surface by U-shaped blades maintained at their ends by strips comprising vertical lamellae, the blades being thrust upwards by spring-leaves tending to press the blades against a comb-grid moved over the face of the user.

Various other characteristics of the invention will moreover be revealed by the detailed description which follows.

One form of embodiment of the purpose of the invention is shown, by way of non-restrictive example, in the attached drawings.

FIGURE 1 is a perspective view of the razor head, the grid being removed.

FIGURE 2 is a larger scale section along the line 2—2 of FIGURE 1.

FIGURE 3 is a perspective view of part of the head.

FIGURE 4 is a perspective view showing the fitting of the blades of the razor head.

FIGURE 5 is a larger scale view of elements of the head connecting the motive part to the blades.

FIGURE 6 is a larger scale plane view of the lower part of the blades and the spring placed underneath these blades.

FIGURE 7 is a side elevation corresponding to FIGURE 6.

FIGURE 1 shows a unit 1 driven by an alternating rectilinear movement by a motor connected to this unit by suitable transmission (not shown). This unit 1, of parallelepipedic shape, comprises a bar 2 in the center of its upper face, whose purpose will be explained further on. Two brackets 3, 3' are attached to the two opposite ends of the unit 1 and are extended at their upper part by vertical extensions 4 each comprising an inclined protruding face 5. The extensions 4 are spaced so as to be able to be inserted in the ends of blades 6 formed from U-shaped parts whose upper portions are suitably cut transversely so as to make equidistant notches 7, whose edges are thinned for cutting the bristles of the beard.

Rectangular holes 8 are cut on one of the side walls of the U-shaped blades 6 to enable them to be entered by the protruding faces 5 due to the elasticity of said blades. Spaces 9 of trapezoidal shape are provided in the ends of the blades 6 at their lower part, whereas a rectangular recess 10 is cut in the center of the wings of the blades. The recesses 10 enable the unit 1 to engage the blades by means of the bar 2. Spring-leaves 11 provided with enlarged ends 12, 13 are placed under each blade 6, and owing to their length, are placed in a circular arc passing above the bar 2. The parts 12a, 12b, 13a, 13b of the enlarged ends 12, 13 bear against the upper surface of the unit 1, whereas the shoulders 12c terminating these enlarged ends abut against the wings of the blades 6 after having been engaged inside the trapezoidal spaces 9. Owing to the tension of the spring-leaves 11, the latter bear on the upper face of the unit 1, thrusting the blades 6 upwards which then assume their highest position when the inclined faces 5 are abutting against the lower edges of the rectangular holes 8.

Finally, a comb-grid 14, which is fitted on a hinge 15,

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integral with the unit 1, can be locked above the blades 6 by a device 16 cooperating with a plate 17 of the unit 1. The razor head operates in the following manner:

When the unit 1 is actuated by a rapid alternating rectilinear movement, it drives the blades 6 by means of the bar 2 penetrating into the recesses 10, and by the vertical extensions having the inclined protruding faces 5 placed inside the blades 6. As the blades 6 are thrust upwards against the comb-grid 14, they work under excellent conditions, because the bristles penetrating into the grid are cut off flush with the latter, and thus the user has a very clean shave. When the user presses the razor head firmly against his face, the comb-grid 14 can be slightly deformed, and therefore, the blades 6 would rub against the lower face of this grid, if this were not compensated by the temporary deflection of the spring-leaves 11, thus allowing the blades 6 to descend slightly, which is possible, because these blades are guided vertically by the inclined faces 5 of the vertical extensions 4. As soon as the pressing force ceases, the comb-grid 14 and blades 6 resume their former position, the one under the effect of its own elasticity, the others thrust by the spring-leaves 11. The recesses 10 enabling the blades 6 to straddle the bar 2 are made as not to leave any clearance for the blades which thus cannot be moved transversely in relation to the unit 1.

The locking of the blades 6 on the razor head enables the latter to be rapidly removed, either for cleaning the head, or for replacing a defective part. Taking apart is operated as follows:

After raising the grid 14 and withdrawing the spring-leaves 11 by lowering them in the direction of the arrow F₁ (FIG. 4), the blades 6 are unhooked from the inclined protruding faces 5 by slightly pulling the wings of these blades in the direction of the arrow F₂ (FIG. 2). The blades are thus freed.

The comb-grid 14 is generally made of a metal suitably plated to resist certain media, and more particularly, perspiration. This also applies to the blades 6, but the latter are more generally made of special steel thus affording longer life to the sharpened parts.

It can be seen from the foregoing that there has been provided an electric shaver head comprising a motor-driven cutter assembly A and a grid assembly B constituting a fixed cutter cooperating therewith, the grid assembly having a carrier displaceably mounted with respect to cutter assembly A and locking means extending from one end thereof for retaining the displaceable grid assembly in co-acting relation with respect to the cutter assembly.

Various modifications can moreover be applied to the form of embodiment, shown and described in detail, without departing from the scope of the invention.

I claim:

1. Dry electric razor head, having a comb-grid and a unit underneath said comb-grid, said unit being driven in an alternating rectilinear movement comprising a bar on its upper face, U-shaped blades maintained at their ends by brackets having vertical extensions, said blades straddling said bar, and spring-leaves having enlarged ends placed under each one of said blades tending to press said blades upwardly against said comb-grid moved over the user's face.

2. Dry electric razor head according to claim 1, said vertical extensions each having an inclined protruding face forming a lower abutment for said blades.

3. Dry electric razor head according to claim 1, said blades having rectangular recesses straddling said bar and trapezoidal spaces for accommodating said enlarged ends of said spring-leaves.

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