

RAZORS AND SHAVING UNITS FOR RAZORS

5 This invention relates to a razor blade assembly, in
the form of a complete razor or a shaving unit for a
razor. By 'shaving unit' is meant a blade assembly which
can be mounted on or formed integrally with a handle or a
razor frame to provide a complete razor. In particular
10 the invention relates to a disposable razor, that is to
say one that is intended to be disposed of by the user
when he considers that the razor is no longer giving an
adequate shave. More particularly, the invention relates
to the provision, in such a blade assembly, of means
15 movable to expose the cutting edge of the blade for
shaving or to render it safe so that it cannot harm anyone
handling the blade assembly.

According to the present invention there is provided a
razor blade assembly whose components comprise a razor blade
20 having a cutting edge, a top cap which at all times extends
over the blade and a guard bar located at the forward end
of the assembly and spaced from the adjacent edge of the
top cap to form an opening therebetween, and having means
supporting the blade for pivotal movement about an axis
25 parallel to the cutting edge of the blade relative to said
top cap between a first position in which the cutting edge
of the blade is exposed in said opening for shaving and a
second position in which the cutting edge is retracted with

respect to said opening and is no longer exposed for shaving but is securely retained in said assembly beneath said cap.

5 The present invention also provides a razor blade assembly comprising a razor blade having a cutting edge, a blade platform on which said blade is rigidly supported, a top cap disposed on the opposite side of the blade to the blade platform, and a guardbar, and means mounting the
10 blade platform for pivotal movement relative to the top cap about an axis parallel to the cutting edge of the blade to move the blade into and out of a shaving position.

The invention will be better understood from a consideration of the following description of constructions of
15 razor in accordance with the present invention which will be described, by way of example only, with reference to the accompanying drawings in which:-

Figure 1 is a side elevation, part in section, of one form of razor in accordance with the invention;

20 Figure 2 is a rear elevation of the razor of Fig.1;

Figure 3 is a section through the razor head showing the blade in a "shaving" position;

Figure 4 is a section through the razor head showing the blade in a "safe" position;

25 Figure 5 is an exploded perspective view of the head of the razor, and

Figures 6 and 7 are sections through the razor head of a modification of the embodiment of Figures 1 to 5

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showing the "shaving" and "safe" positions of the razor blade respectively;

The razor illustrated in the accompanying drawings is formed by two main components, the first being a handle 10 at one end of which a razor head 11 is formed integrally. The handle and head can be moulded in one piece in plastics material.

10 The second component of the razor is a blade platform 12 on which a blade 13 (or if desired a parallel-spaced pair of blades) is mounted between blade locating posts 14 and secured to the platform by rivets 15, the posts 14 and rivets 15 being formed integrally with the platform.

15 On the side of the platform 12 which is adjacent the cutting edge 13a of the blade 13, a guardbar 16 is formed integrally with the platform, the guardbar being connected to the platform by webs 17. The webs 17 are spaced apart 20 along the guardbar to form apertures between the guardbar and the platform through which water can be directed to wash the blade edge.

Pivot pins 18 project from the opposite ends of the 25 platform along a line parallel to and below the cutting edge of the blade for engagement in bearing apertures or recesses 19 in the head 11 to be described below.

The side of the platform 12, which is parallel to but

remote from the guardbar, is formed with an operating bar 20. The operating bar carries ribs 21, on its rearward surface for engagement by the finger of a user, and a pair of detents 22 located at opposite ends of the bar 21 for a purpose to be described below.

The razor head 11 is formed as a V-section trough 23 which is defined between two triangular shaped end walls 24, an upper wall 25 forming a top cap of the razor, a base wall 26 which is integral with the upper end of the razor handle, and a rear wall 27 which is integral with the end walls 24 and upper wall 25 but spaced from the base wall 26. The upper wall 25 and base wall 26 are spaced apart, the spacing at their forward edges being less than at their rearward edges to provide the V section trough therebetween. The end walls 24 are arranged to fit over the ends of the integral blade platform and guardbar, the forward ends of the walls 24 containing the bearing apertures 19 in which the pivot pins 18 are received.

The rearward edge 24a of each of the end walls 24 of the razor head is formed with a pair of spaced indentations 24b, which are engageable resiliently by the detents, such as 22, of the operating bar 20 when the razor platform is in its uppermost tilted position or in its lowermost tilted position respectively to lock the platform in these positions.

The uppermost tilted position, which is shown in Figure 3, is the "shaving", or blade-exposed, position of

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the razor blade. In this position, the blade is at the correct shaving angle and location relative to those surfaces of the guardbar 16 and of the top cap 25 which contact the skin of the shaver. The lowermost tilted position, which is shown in Figure 4, is the travel, or 'safe' position of the razor blade in which the blade edge is withdrawn from the shaving position and lies a sufficient distance below the opening defined between the top cap 25 and guardbar 16 to be in a position in which it cannot injure anyone handling the razor. The resiliency of the bearings and of the detents allows the detents to hold the blade platform securely in the positions of Figures 3 or 4 yet permits the blade platform to be moved between these positions by finger pressure on the bar 20.

The V section trough 23 has the manufacturing advantage that assembly of the razor merely requires that the blade platform with blade or blades secured thereto is inserted into the trough and with the bearing pins resiliently urging the end walls 24 apart until these pins engage in the bearing apertures, at which time the detents 22 engage one set of the indentations 24b. Guide channels of progressively decreasing depth may be provided on the inner faces of the end walls to guide the pivot pins into the bearing apertures.

In a modification of the above-described embodiment, and as illustrated in Figures 6 and 7 the razor head is formed by a pair of end walls 124, a top cap 125 and a rear wall 126 which is integral with the top cap 125

along its rearward edge and with the end walls 124 along their rearward edges, the rear wall also being integral with the upper end of the razor handle 110.

The razor has a blade platform 112 and blade 113 constructed and movable in substantially the same way as the blade and platform of the first-described embodiment except that the rear wall 126 is formed with a slot 127 extending longitudinally of the handle in which a peg 121 on the platform can engage and slide. The peg 121 projects through the slot 127 to enable the peg to be engaged by a finger or thumb of the user. By pushing the peg along the slot, the platform 112 together with the blade 113 pivots about the axis of pivot pins 118.

The blade platform is formed with a detent 122 for engagement in the "shaving" position of the blade with a recess 128 on the rear wall 126, so that in the shaving position, the blade is securely located and held, although the razor head is not stressed.

In a modification (not illustrated) of the first and second embodiments of the invention, the pivot pins 118 are formed on the end walls 124 and the bearing apertures are formed in the blade platform.

In another modification (not illustrated) of the first and second embodiments of the invention, the guardbar is formed integrally with the end walls of the razor head, so that only the blade and blade platform are

pivotally movable.

Although the invention has been described in relation to disposable razors, the novel features of the invention
5 reside primarily in the head of the razor and are therefore applicable to a shaving unit.

The expression 'pivotal movement' as used herein is intended to include all forms of rotational movement,
10 whether about a fixed axis or a moving axis.

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CLAIMS

1. A razor blade assembly whose components comprise a razor blade having a cutting edge, a top cap which at all times extends over the blade and a guardbar located at the forward end of the assembly and spaced from the adjacent edge of the top cap to form an opening therebetween, and having means supporting the blade for pivotal movement about an axis parallel to the cutting edge of the blade relative to said top cap between a first position in which the cutting edge of the blade is exposed in said opening for shaving and a second position in which the cutting edge is retracted with respect to said opening and is no longer exposed for shaving but is securely retained in said assembly beneath said cap.

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2. A razor blade assembly according to claim 1 wherein said blade and guardbar are supported for pivotal movement relative to said top cap about said axis parallel to the cutting edge of the blade.

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3. A razor blade assembly according to claim 1 wherein said blade is pivotally movable relative to said guardbar.

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4. A razor blade assembly according to claim 1 wherein the blade is rigidly secured to a blade platform and said platform is pivotally movable relative to said top cap about said axis parallel to the cutting edge of the blade.

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5. A razor blade assembly according to any preceding claim including a base wall spaced from said top cap, and two spaced apart end walls rigidly interconnecting the top cap and base wall and forming a housing for the blade and blade platform, the blade and blade platform being pivotally supported within said housing for movement between the first and second positions.

6. A razor blade assembly according to claim 1 having a blade platform to which the blade is rigidly secured and wherein the guardbar is rigid with the blade platform.

7. A razor blade assembly according to claim 1 or claim 2 wherein the guard bar is rigid with the top cap.

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8. A razor blade assembly according to any one of the preceding claims wherein said components further comprise a razor handle rigid with said top cap.

25 9. A razor blade assembly comprising a razor blade having a cutting edge, a blade platform on which said blade is



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rigidly supported, a top cap disposed on the opposite side of the blade to the blade platform, and a guardbar, and means mounting the blade platform for pivotal movement relative to the top cap about an axis parallel to the cutting edge of the blade to move the blade into and out of a shaving position.

10. A razor blade assembly according to claim 9 wherein said axis is spaced from the plane of the blade on the side of the blade opposite said top cap adjacent the forward end of the blade platform.

11. A razor blade assembly substantially as herein described with reference to any one of the embodiments illustrated in the accompanying drawings.

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