

SPECIFICATION Safety razors

The invention relates to safety razors and is directed more particularly to the construction of a shaving head or implement for such razors.

It is generally known in the art to provide a housing having platform and cap portions adapted to receive a blade means therebetween. In U.S. Patent No. 1,195,259 issued August 22, 1916 to W. E. O'Reilly, there is shown a platform and cap portion formed from a single piece of metal, the cap overlying the platform.

It is also generally known to embed a blade in a plastics shaving head, the head being permanently attached to a handle, or alternatively, removable from a handle for replacement by another shaving head. U.S. Patent No. 1,864,995 issued June 28, 1932 to T. H. Frost shows such an arrangement.

More recent examples of plastics shaving heads having blades fixed therein include U.S. Patent No. 3,703,764 issued November 28, 1972 to Roger L. Perry U.S. Patent No. 3,724,070 issued April 3, 1973 to Francis W. Dorion, and U.S. Patent No. 4,026,016 issued May 31, 1977 to Warren I. Nissen. While such recent examples have been eminently successful, there is as always, a need for such products which are less expensive to manufacture and/or offer improved functional characteristics.

A combination of the simplicity of the O'Reilly device and the more recent blade-in-plastic shaving implements would afford significant cost savings, and at the same time permit manufacture of a more manoeuvrable, more easily handled shaving implement.

In accordance with the present invention there is provided a shaving implement housing comprising an elongate platform portion, a back portion upstanding from the rear, longitudinal margin of the platform portion, a cap portion extending from the said back portion and overlying the said platform portion, leg portions extending forwardly from said platform portion and joining a guard portion the said platform portion having a series of aligned recesses therein adjacent the back portion, and the cap portion comprising a series of spaced, aligned, forwardly extending fingers, each of the fingers being disposed over a respective one of the said recesses, the said recesses being separated by platform rib portions, the said rib portions and fingers being adapted to receive and retain blade means therebetween.

The invention also includes a shaving implement or head incorporating such a housing and a complete razor incorporating such an implement or head.

The above and other features of the invention, including various novel details of construction and combination of parts, will now be more particularly described by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is a top plan view of one form of housing illustrative of an embodiment of the

invention;

Figure 2 is a front elevational view thereof;
Figure 3 is a sectional view taken along the line III—III of Figure 1;

Figure 4 is a sectional view taken along the line IV—IV of Figure 1;

Figure 5 is an exploded perspective view of an illustrative blade means;

Figure 6 is a top plan view of one form of shaving implement in accordance with the invention;

Figure 7 is a front elevational view of the shaving implement;

Figure 8 is a sectional view taken along line VIII—VIII of Figure 6; and

Figure 9 is a side elevational view of one form of razor in accordance with the invention.

Referring to the drawings, and particularly Figures 1—4, it will be seen that an illustrative housing 2 includes an elongate platform portion 4.

A back portion 6 upstands from the rear longitudinal margin of the platform portion 4, and a cap portion 8 extends forwardly from the back portion 6 to overlie the platform portion. The housing further includes leg portions 10 extending forwardly from the platform portion and joining a guard portion 12 which is disposed parallel to the back portion 6. The housing is further provided with end walls 14, 16 interconnecting the back and guard portions at the ends of the housing.

The cap portion 8 is composed of a series of spaced, aligned, forwardly extending fingers 18. The platform portion is provided with a series of spaced, aligned recesses 20, the recesses being separated by platform rib portions 22. As may be seen in Figure 1, each of the fingers 18 is disposed over one of the recesses 20 and each of the rib portions 22 is in alignment with a space between two of the fingers 18.

Preferably, the entire housing is of plastics and is moulded as an integral unit. The fingers 18 are in effect leaf springs adapted to flex resiliently to receive a blade means between the fingers and the platform and further serve to urge the blade means against the upper surface 24 of the platform portion.

In the preferred embodiment, the end walls 14, 16 are provided with inwardly extending projections 26 which are opposed to each other, as seen in Figures 1 and 2. The projections provide an additional blade means retention facility. Each projection includes a forward surface 28 extending from the end wall on which the projection is mounted obliquely to a side surface 30. A rear surface 32 interconnects the rearward edge of the side surface and the end wall surface. The function and operation of the projections 26 will be further described hereinbelow.

Each of the fingers 18 include a guide surface 34 serving to guide a blade means into the gap, or pocket, formed by the platform and back portions and the fingers. The fingers 18 are formed such that while extending forwardly, the fingers also extend slightly downwardly as viewed, in Figures 3 and 4, or toward the platform

16

surface 24.

Referring to Figure 5 it will be seen that a blade means suitable for use with the above described housing includes a first blade 40 having a cutting edge 42 and a narrow second blade 44 having a cutting edge 46, the blades 40, 44 being fixed to either side, respectively, of a spacer member 50. The spacer member 50 includes an elongated central portion 52 and end portions 54 extending forwardly of a frontal edge 56 of the central portion 52 and having outwardly facing notches 58 therein adapted to receive the projections 26. The notches 58 are defined in detail by extensions 60, each having a cam surface 62, an outer surface 64, and a notch surface 66.

In assembly, the blade means including the first blade 40, spacer 50, and second blade 44, is inserted between the fingers 18 and the upper surfaces 24 of the rib portions 22, the finger guide surfaces 34 guiding and urging the blade means into place. The cam surface 62 engages the projection forward surface 28. Continued pressure on the blade means causes the extensions 60 to override the projections 26, with the notches 58 coming to rest about the projections 26, as seen in Figure 6.

Referring to Figure 9, it will be seen that the housing may be provided with means for attachment to a razor handle. While such means may comprise the well known groove means disclosed in the aforementioned U.S. Patent No. 3,724,070 or journal bearing means as disclosed in the aforementioned U.S. Patent No. 4,026,016 in the embodiment shown in Figures 1—4, the housing is provided with connecting means 70 depending from the housing and adapted to be engaged by a razor handle 80. The handle 80 may be permanently connected to the housing 2, or may be designed to be selectively connected and disconnected to and from the handle.

The arrangement of the cap fingers 18 over platform recesses 20 and of rib portions 22 beneath the spaces between fingers 18 serves not only to reduce the weight of plastics material required to form the housing, but also to simplify the moulding tools required for its production in that the groove in which the blade means is received can be formed without the need for a mould insert movable in the plane of the surface 24.

CLAIMS

1. A shaving implement housing comprising an

elongate platform portion, a back portion upstanding from the rear longitudinal margin of the platform portion, a cap portion extending from the said back portion and overlying the said platform portion, leg portions extending forwardly from said platform portion and joining a guard portion, the platform portion having a series of aligned recesses therein adjacent the back portion, and the cap portion comprising a series of spaced, aligned, forwardly extending fingers, each of the fingers being disposed over a respective one of the said recesses, the said recesses being separated by platform rib portions, the said rib portions and fingers being adapted to receive and retain blade means therebetween.

2. A housing in accordance with claim 1, in which the said fingers comprise spring means adapted to flex to resiliently receive said blade means and to urge the blade means against the rib portions.

3. A housing in accordance with claim 1 or 2 including end walls at each end of the housing interconnecting the platform and guard portions, each of the end walls having an inwardly extending protuberance thereon, said protuberances being opposed.

4. The housing in accordance with claim 1, 2 or 3 including connecting means depending from the housing and adapted to interconnect with a razor handle.

5. A shaving implement comprising the housing in accordance with any preceding claim and a blade means disposed and clamped between said fingers and said rib portions, said blade means presenting cutting edge means between said guard portion and said cap portion.

6. A shaving implement in accordance with claim 5, in which the said blade means comprises a first blade member, a spacer member, and a second blade member, said spacer member being disposed between said first and second blade members.

7. A razor comprising a shaving implement in accordance with claim 5 or 6, and a handle member fixed to said implement and having a grip portion facilitating manual manipulation of said razor during a shaving operation.

8. A housing substantially as herein described with reference to the accompanying drawings.

9. A shaving implement or a razor substantially as herein described with reference to the accompanying drawings.

(16)

surface 24.

Referring to Figure 5 it will be seen that a blade means suitable for use with the above described housing includes a first blade 40 having a cutting edge 42 and a narrow second blade 44 having a cutting edge 46, the blades 40, 44 being fixed to either side, respectively, of a spacer member 50. The spacer member 50 includes an elongated central portion 52 and end portions 54 extending forwardly of a frontal edge 56 of the central portion 52 and having outwardly facing notches 58 therein adapted to receive the projections 26. The notches 58 are defined in detail by extensions 60, each having a cam surface 62, an outer surface 64, and a notch surface 66.

In assembly, the blade means including the first blade 40, spacer 50, and second blade 44, is inserted between the fingers 18 and the upper surfaces 24 of the rib portions 22, the finger guide surfaces 34 guiding and urging the blade means into place. The cam surface 62 engages the projection forward surface 28. Continued pressure on the blade means causes the extensions 60 to override the projections 26, with the notches 58 coming to rest about the projections 26, as seen in Figure 6.

Referring to Figure 9, it will be seen that the housing may be provided with means for attachment to a razor handle. While such means may comprise the well known groove means disclosed in the aforementioned U.S. Patent No. 3,724,070 or journal bearing means as disclosed in the aforementioned U.S. Patent No. 4,026,016 in the embodiment shown in Figures 1—4, the housing is provided with connecting means 70 depending from the housing and adapted to be engaged by a razor handle 80. The handle 80 may be permanently connected to the housing 2, or may be designed to be selectively connected and disconnected to and from the handle.

The arrangement of the cap fingers 18 over platform recesses 20 and of rib portions 22 beneath the spaces between fingers 18 serves not only to reduce the weight of plastics material required to form the housing, but also to simplify the moulding tools required for its production in that the groove in which the blade means is received can be formed without the need for a mould insert movable in the plane of the surface 24.

CLAIMS

1. A shaving implement housing comprising an

elongate platform portion, a back portion upstanding from the rear longitudinal margin of the platform portion, a cap portion extending from the said back portion and overlying the said platform portion, leg portions extending forwardly from said platform portion and joining a guard portion, the platform portion having a series of aligned recesses therein adjacent the back portion, and the cap portion comprising a series of spaced, aligned, forwardly extending fingers, each of the fingers being disposed over a respective one of the said recesses, the said recesses being separated by platform rib portions, the said rib portions and fingers being adapted to receive and retain blade means therebetween.

2. A housing in accordance with claim 1, in which the said fingers comprise spring means adapted to flex to resiliently receive said blade means and to urge the blade means against the rib portions.

3. A housing in accordance with claim 1 or 2 including end walls at each end of the housing interconnecting the platform and guard portions, each of the end walls having an inwardly extending protuberance thereon, said protuberances being opposed.

4. The housing in accordance with claim 1, 2 or 3 including connecting means depending from the housing and adapted to interconnect with a razor handle.

5. A shaving implement comprising the housing in accordance with any preceding claim and a blade means disposed and clamped between said fingers and said rib portions, said blade means presenting cutting edge means between said guard portion and said cap portion.

6. A shaving implement in accordance with claim 5, in which the said blade means comprises a first blade member, a spacer member, and a second blade member, said spacer member being disposed between said first and second blade members.

7. A razor comprising a shaving implement in accordance with claim 5 or 6, and a handle member fixed to said implement and having a grip portion facilitating manual manipulation of said razor during a shaving operation.

8. A housing substantially as herein described with reference to the accompanying drawings.

9. A shaving implement or a razor substantially as herein described with reference to the accompanying drawings.

The text of the specification has been reproduced by photocopying. The original typescript may be inspected on the premises of the Patent Office



* C L M S *