

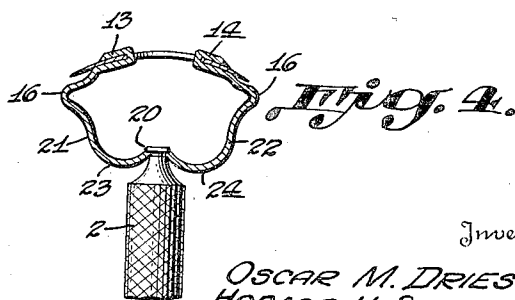
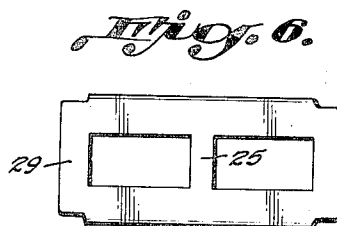
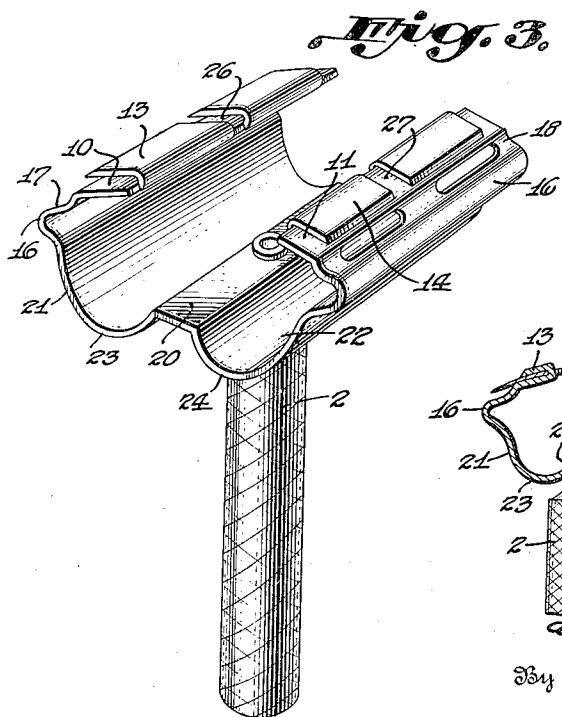
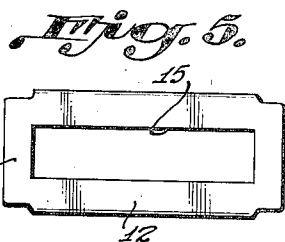
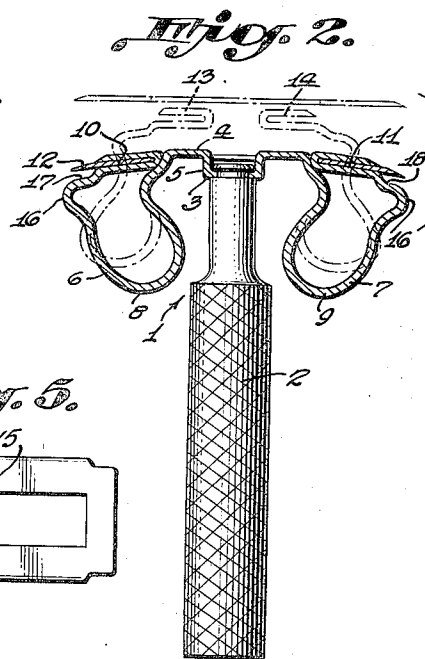
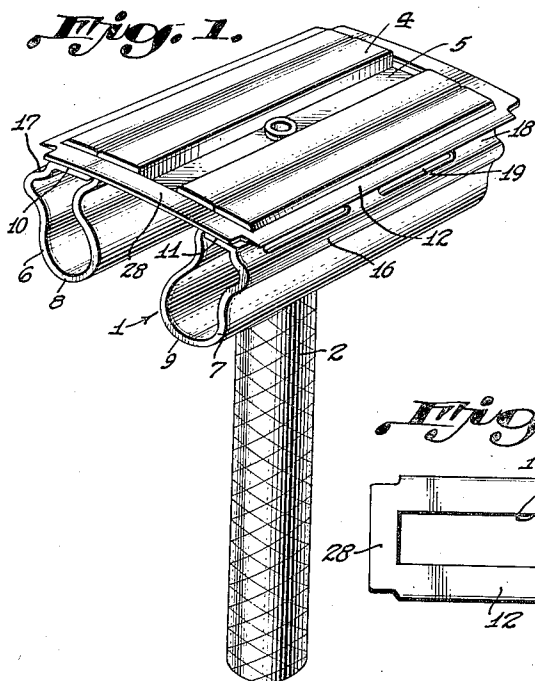
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SAFETY RAZOR

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SAFETY RAZOR

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8 Claims. (Cl. 30—41)

This invention relates to safety razors of the single piece frame type, having an expansible resilient head, the opposite sides of which have parts which when said sides are pressed together, are adapted to pass through a slot in a wafer blade for mounting the blade with respect to the head, and which parts when the pressure is relaxed, expand against the opposite sides of the slot in the blade, retaining the blade in shaving position in the razor.

One of the objects of the invention is to provide the opposite sides of the frame with outwardly opening narrow blade seating channels relatively angularly disposed when in blade retaining position, for the purpose of giving the proper transverse camber to the blade.

Another object of the invention is the provision of a razor frame head of the type described, having a longitudinal outwardly convexed corrugation cooperating with the edge of a blade retained by said head to serve as a guard therefor, and to smooth the skin in advance of the approaching cutting edge.

A further object of the invention is to provide the frame with a channel between the blade and the guard corrugation, having drainage openings to the interior of the frame head for the disposal of lather and debris which would otherwise accumulate behind the blade edge.

Still another object of the invention is the provision in a razor frame of the type described, of an integral filler portion which automatically enters the space between the sides of the frame substantially in the plane of the blade, when the head is in blade retaining position, preventing yielding of the blade when shaving, and over which filler portions the terminal portions of the free sides of the frame head ride when pressed together, permitting blade releasing contraction of the frame.

Other objects of the invention will appear as the following description of a preferred and practical embodiment thereof proceeds.

Referring to the accompanying drawing which forms a part of the following specification, and throughout the several figures of which the same reference characters have been employed to designate identical parts:

Figure 1 is a perspective view of a razor embodying the features of the invention;

Figure 2 is an axial section through the frame head showing it in full lines in expanded position, and in broken lines in contracted position and in relation to a razor blade;

Figure 3 is a perspective view of a modified form of the invention;

Figure 4 is an axial section through the head of that form of razor shown in Figure 3;

Figure 5 is a plan view showing a blade with a single longitudinal slot; and

Figure 6 is a similar view showing a blade having two slots separated by an intermediate web.

Referring now in detail to the several figures, and first adverting to that form of the invention shown in Figures 1, 2 and 5, the numeral 1 represents the frame as a whole, which comprises the handle 2 and the head 3. In the illustrated embodiment of the invention the head is composed of a single piece of sheet metal bent to form a bridge piece 4, the central part of which has the form of a longitudinal ridge 5 to the central part of which the handle 2 is riveted or otherwise preferably permanently affixed.

At each longitudinal edge of the bridge piece 4 the sheet metal forming the head is bent handlewards to form two trough-shaped members 6 and 7. The sheet metal of which the head is formed is inherently resilient, at least to some extent, and the resiliency of the trough-shaped members 6 and 7 is augmented by the rights or rotund portions 8 and 9 of said members, being of substantially U-shaped cross-section. The free sides of the trough-shaped members are deflected inwardly toward the bridge piece, and then folded outwardly to form the narrow blade seating channels 10 and 11. These channels open outwardly in opposite directions, and when in blade retaining position they make an obtuse angle with one another, so as to give the retained blade 12 the proper transverse camber.

It will be observed in Figure 2 that when the trough-shaped members are in their relaxed position, that is to say, their position of repose, they carry the blade substantially in the plane of the bridge piece so that the bridge piece projects between the blade seating channels and into the slot of the blade. The broken line showing of the frame head in Figure 2 indicates that when the resilient trough-shaped members are pressed inwardly they are distorted upwardly so that the blade seating channels ride over the bridge piece and can be brought together. The sum of the width of the outside flanges 13 and 14 of the blade seating channels is slightly less than the width of the slot 15 in the blade, so that when the blade seating channels are brought together, the blade is released and can be removed. When the parts are in the full line position shown in Figure 2, with the pressure upon the resilient trough-shaped members released, the normal resilient bias of the trough-shaped members causes the blade seating channels to react outwardly against the opposite sides of the slot in the blade, retaining the blade in shaving position. The protrusion of the bridge piece 4 through the slot in the blade and between the blade seating channels prevents the blade from yielding to shaving pressure.

It will be observed from Figures 1 and 2 that the outer sides of the trough-shaped members

are each provided with an outwardly convexed longitudinal corrugation 16 which serves not only as a guard with respect to the adjacent edge of the blade, but by virtue of its smooth imperforate surface, it smooths and tautens the skin in advance of the approaching blade edge, increasing the safety feature of the razor, and improving the shaving action of the blade.

It will be observed also from Figures 1 and 2 that between the blade and the guard corrugations 16, the trough-shaped members are provided with the outwardly concave corrugations 17 and 18, each of which is formed with perforations 19 opening to the interior of the head, and affording drainage passage for the lather and hair debris which would otherwise accumulate behind the blade edge and clog the razor.

In Figures 3, 4 and 6, a modified form of the invention is shown, in which the bridge piece does not come up to the plane of the blade seating channels, and therefore, lacks the filler function which is present in that form of the invention disclosed in Figures 1 and 2. The razor shown in Figures 3 and 4 comprises a relatively narrow bridge piece 20, to which the handle 2 is fixed. The trough-shaped members 21 and 22 and the bights 23 and 24 extending only a slight distance handwards with respect to the bridge piece 20. Said trough-shaped members are substantially similar in their shape-features to the trough-shaped members shown in the form of razor first described, in that they are provided with the narrow blade seating channels 10 and 11, the imperforate longitudinal outwardly convexed guard corrugations 16 and the outwardly concave longitudinal perforate drainage corrugations 17 and 18. Due to the fact that the bridge piece does not extend up to the plane of the blade seating channels, the trough-shaped members in the form of the invention of Figures 3 and 4 define a single head chamber instead of two head chambers, as in Figures 1 and 2, but this is a relative immaterial feature of the invention. The head in Figures 3 and 4 is normally biased in an outward or spread direction, due to the inherent resiliency of the material of which the trough-shaped members are constructed, and due to the shape of said members so that a razor blade seated in the channels 10 and 11 is firmly retained in shaving position in the head. The width of the outside flanges 13 and 14 of the blade seating channels is such that when the outer sides of the trough-shaped members are pressed together, the slotted blade is released from the blade seating flanges and can be removed. Figure 3 specifically shows a razor which can be employed with a blade such as that shown in Figure 6, in which two slots are defined by an intermediate web 25. The outside flanges 13 and 14 of the blade seating channels are discontinuous to form spaces 26 and 27 for the purpose of accommodating the web 25 of the blade.

In both forms of the invention, the outside flanges 13 and 14 terminate a short distance from the ends of the frame head, so as to allow for the seating of the end bars 28 and 29 of the respective blades.

While we have in the above description disclosed what we believe to be a preferred and practical embodiment of the invention, it will be understood to those skilled in the art that the details of construction and the arrangement of parts as herein described and illustrated are by way of example, and not to be construed as limit-

ing the scope of the invention which is defined in the appended claims.

What we claim as our invention is:

1. In a razor, a frame comprising a handle and a resilient trough-shaped head to which said handle is secured, the opposite sides of said head having substantial portions adjacent their free ends deflected inwardly, and having the marginal portions adjacent their free ends deflected outwardly to form narrow blade seating channels, normally biased outwardly relative to one another for coacting with the opposite slot sides of a slotted blade seated in said channels.

2. In a razor, as claimed in claim 1, said channels being relatively disposed at a proper obtuse angle to give transverse camber to the blade.

3. In a razor, as claimed in claim 1, the sides of said frame being formed with longitudinal outwardly convexed skin smoothing corrugations positioned to be adjacent the edges of the blade mounted in said seating channels, and to serve as guards for the edges of said blade.

4. In a razor, as claimed in claim 1, the sides of said frame being formed with longitudinal outwardly convexed skin smoothing corrugations positioned to be adjacent the edges of a blade mounted in said seating channels to serve as guards for the edges of said blade, and having longitudinal outwardly concave perforated corrugations between said convex corrugations and said blade seating channels, for draining lather and debris to the inside of said head.

5. In a razor, a frame comprising a handle and a head, the latter including a bridge piece with resilient trough-shaped members depending from its opposite longitudinal sides, each trough-shaped member having a substantial portion adjacent its free end deflected inwardly toward said bridge piece, and having marginal portions adjacent their free ends displaced outwardly to form narrow blade seating channels normally biased outwardly relative to said bridge piece for coacting with the opposite slot sides of a slotted blade seated in said channels, said bridge piece extending through the slot in the seated blade and between said blade seating channels, the terminal portions of said trough-shaped members being constructed to ride over said bridge piece under constrictive pressure applied against the free sides of said trough members, whereby said seating channels may be brought together above said bridge piece for releasing said blade.

6. In a razor, as claimed in claim 5, said blade seating channels being disposed at a proper obtuse angle to give transverse camber to the blade.

7. In a razor, as claimed in claim 5, the outer sides of said frame being formed with longitudinal outwardly convexed skin smoothing corrugations positioned to be adjacent the edges of a blade mounted in said seating channels, to serve as guards for the edges of said blade.

8. In a razor, as claimed in claim 5, the sides of said frame being formed with longitudinal outwardly convexed skin smoothing corrugations positioned to be adjacent the edges of a blade mounted in said seating channels, to serve as guards for the edges of said blade, and having longitudinal outwardly concave perforated corrugations between said convex corrugations and said blade seating channels, for draining lather and debris to the inside of said head.

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