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**SAFETY RAZOR**

Harold W. Van Heest, Weston, Mass.

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1 Claim. (Cl. 30—41)

My present invention relates to improvements in safety razors, and more particularly to a construction whereby a limited amount of liquid may be supplied to the razor blade when in use for shaving purposes.

It is well known that the application of heated liquid, such as water, to a razor blade while engaged in shaving, materially improves the keenness of the cutting edge and at the same time tends to soften a lathered beard so that to a great extent many of the objectionable features of shaving, such as the tension and pull on the skin, are eliminated.

At the present time, in this connection it is customary to wet the razor constantly during the shaving operation in an attempt to collect a little moist heat on the blade thereof which might be transmitted to the face. Although such practice is partially effective, it does not provide a continuing flow, so that a prime object of my invention relates to the provision of means in the blade-holding unit which serves as a convenient reservoir to retain a sufficient supply of hot water which will moisten the surface to be shaved just prior to the blades contacting the same.

Heretofore, there have been attempts made to provide liquid-holding reservoirs in safety razors, but as far as I am informed none of these have been applied to razors of the type wherein the top or blade-fastening member, or members, are disposed in hinged or pivoted association, and not separable therefrom.

Also, many of such efforts have necessitated numerous changes in the original razor design or have comprised relatively intricate constructions, so that another important object of my invention pertains to the inclusion of simple and inexpensive means which may be incorporated in certain standard types of safety razors embodying attached top members that swing or are swung in and out of blade-engaging relation, and which means may be effected without altering the main structure of the razor.

In carrying out my invention, I have found that a most efficient and practical liquid-receiving, -storing and -dispensing chamber may be formed in the swinging blade-securing cover members of safety razors of this type. To accomplish the same, I prefer to construct each of such members as two thin shells connected at the bottom and on the sides, and tapering apart slightly toward the top edges thereof, the front of which edges are suitably cut away to provide an efficient liquid-receiving entrance. Adjacent the base of the outer shell I propose to arrange outlet means in the form of a plurality of perforations or a narrow slot thru which the liquid may trickle out onto the edge of the blade at a sufficient rate of flow to keep such edge moist during the shaving operation.

Also, if desired, I may supply a pair of tapered ribs lengthwise between the back and front shells to not only strengthen the existing construction but also to divide the chamber into three sections so that liquid may generally be retained against lateral displacement as the razor is tilted during use.

A further feature of my invention, resides in the fact that the same may be applied to safety razors of the aforementioned type whether they are adapted for use with single-edged or double-edged blades. In razors employing the double-edge blade, of course, complementary blade-clamping members are required with each embodying my novel compartment, so that the liquid-receiving openings are disposed adjacent one another.

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With razors constructed in accordance with my invention, therefore, it will be apparent that a user merely has to hold the same under water for an instant to fill the chamber sufficiently to keep the blade edge moist for any one of the necessary repeated shaving operations. And it will also be appreciated that my construction will in no way interfere with the shaving process nor cause objectionable clogging from the shaving lather. My invention is a simple and practical development in this art which will add materially to the efficiency of the razor and will aid greatly in the comfort of the shaving operation.

Further objects, features, and details of construction will be hereinafter more fully and more clearly defined in the accompanying description and more clearly pointed out in the appended claim.

Referring now to the drawings, wherein I show preferred embodiments of my invention:

Fig. 1 is a plan view, on a slightly enlarged scale, illustrating my invention applied to a safety razor adapted to employ double-edged blades;

Fig. 2 is a similar plan view showing a modified form of liquid dispensing means;

Fig. 3 is a cross-sectional view in perspective form, taken on the line 3—3 of Fig. 1;

Fig. 4 is a plan view of a modification showing my invention applied to a safety razor adapted to employ single-edged blades;

Fig. 5 is a cross-sectional view in perspective form taken on the line 5—5 of Fig. 4, and

Fig. 6 is a fragmentary perspective view illustrating a suitable hinge construction.

In the drawings I have illustrated my invention as applied to two types of commercial safety razors wherein the blade-clamping means comprises a hinged, pivoted, or swinging construction. One of such razors, Figs. 1, 2, and 3, represents the variety that is arranged to employ double-edged blades, while the other one, Figs. 4 and 5, typifies the kind that is made to use a single-edged blade.

Referring now to Figs. 1 and 3, a safety razor for double-edged blades is depicted, having complementary blade-clamping members which do not require disassembling during blade-changing operations. In this construction, 10 designates generally the usual hollow handle element which at its inner end is welded or otherwise secured to the bottom of a guard member 11. Extending thru both the top of the handle 10 and an appropriately registering opening in the centre of the guard member 11 is a stud (not shown) which supports a vertically movable frame member 12 which is formed with a lengthwise blade-centering rib 14 and a pair of transverse end pieces 15—15. Suitably pivoted as shown at 19—19, Fig. 6, at each end of each of said pieces 15 are the extended arms of identical oppositely facing arcuate blade-clamping members, indicated generally at 16 and 17 respectively, the construction being such that rotation of the outer end of the handle 10 (not shown) effects a relative vertical movement of the frame 12, thus causing the complementary members 16 and 17 to open and close as minute lugs depending from the extended arms of such members come in and out of contact with the fixed guard member 11.

The novelty of my invention pertains primarily to the construction of such members 16 and 17, whereby to the function of blade-clamping is added means to supply continuous moisture to the shaving edges of the blade by the inclusion of a relatively obscured chamber formed in the members 16 and 17.

As best shown in Fig. 3, I prefer to arrange each of these clamping members 16 and 17 with an arcuate outer shell 22 having a row of spaced perforations 23—23 adjacent the lower edge thereof and a cutaway portion 24 along the middle of the upper edge thereof. United to said shell 22 throughout the length of the base and both sides thereof, but held slightly apart therefrom throughout its remaining area by reinforcing ribs 26—26, is a thin backing plate 25, the top edge of which extends above the cutaway portion 24 and is adapted to register with the rib 14 of the frame 12 slightly below the top thereof, thus providing an appropriate liquid-receiving

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opening on each side of such rib 14 when the members 16 and 17 are in closed or clamping position.

As a means of improving the functional efficiency of the chamber thus formed in the members 16 and 17 and to provide a series of compartments therein, I desire to have the ribs 26—26 extend from the edge of the cutaway portion 24 to the angle of juncture between the outer shell 22 and the backing plate 25. In this way, any liquid flowing into any one of the separate compartments will be retained therein against lateral displacement, thereby insuring a uniform amount of liquid passing over the blade edge throughout its length. Also, I desire to arrange the row of outlet perforations 23 sufficiently above the bottom of the shell 22 so that any liquid within such compartments will not flow too copiously thru such perforations to cause undue annoyance to a user in the process of shaving.

It will be appreciated further that the usual curvature of the blade-clamping members of razors of this general type lends itself favorably to the inclusion of a construction as above outlined since a straight backing member, such as 25, attached to an arcuate shell, such as 22, at the bottom and inwardly flanged sides thereof will automatically provide a spaced section therebetween. Accordingly, to incorporate my novel improvement in standard safety razors of the above described design requires a minimum of structural change.

In Fig. 2 I show a slight modification of my invention in which I employ a narrow slot 35 in the place of the row of perforations 23. In this form, the oppositely pivoted blade-clamping members 30 and 31 are each formed with such longitudinal slot 35 adjacent the base thereof on the arcuate outer shell 33 slightly above its union with a backing plate 34, the shell and plate being retained in separated relation throughout their complementary surfaces by transverse ribs 36—36, which are appropriately disposed to reinforce such parts and to divide the intervening space, thus formed, into non-connecting compartments.

Referring to Figs. 4 and 5, I have illustrated a safety razor having a hinged blade-clamping cover and of a type adapted for single-edged blades, with my novel construction incorporated therewith. In this variation a handle 45 is secured in diagonal association to a guard element 46 formed with an upstanding back flange 47 which carries in hinged association a blade-clamping cover 50, the clamping and releasing of which is controlled by a snap mechanism operated by the finger holds 52 and 53.

The cover 50 is constructed with my novel liquid-receiving and -dispensing chamber therein and comprises an outer shell 55 and a backing plate 56 united at their sides and bottom edges and spaced apart in upwardly tapering relation by minute ribs 57—57. Adjacent the top of such shell 55 is a liquid-receiving opening 58 and slightly above the bottom thereof is a row of liquid-dis-

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pensing perforations 59—59, thus, in combination with the backing plate 56, constituting a liquid-receiving, -storing, and -dispensing chamber, which, of course is divided into separate compartments by the ribs 57—57.

When using my safety razors to perform the shaving operation, I hold the same under the hot water faucet for an instant, which is sufficiently long for the liquid 40 and 60 to enter the openings formed by the cutaway portion 24 and the opening 58 and to fill up the compartments created by the ribs 36 and 57, and, thence, to flow thru the perforations 23 and 59 onto the edges of the blades 20 and 51. I then apply the razor to the lathered face and the moist heat tends to mix with the lather, thereby softening the beard just in advance of the blade edge contacting the same. Then as the razor is cleaned under the faucet between shaving operations, the compartments are automatically refilled with water for the succeeding strokes.

It will be appreciated that the liquid chambers in my razor are of such limited size that the water will flow onto the blades very slowly and will not spill over onto the clothes or apparel of the user.

From the foregoing, therefore, it will be appreciated that I have devised a novel, simple, and efficient improvement for incorporation in safety razors of the type wherein the blade-clamping member, or members, are pivoted toward the blade edge, such improvement being particularly characterized by the inclusion in each member of a liquid-receiving, -storing, and -dispensing chamber which is adapted to take water or other liquid from a faucet or other source and to transmit the same in restricted amounts to the razor blade, and which construction may readily be applied to standard razors of this general sort, be substantially concealed therein, and which will not alter the size nor the appearance thereof.

I claim:

In a safety razor of the kind described having blade-centering means in the form of an upstanding rib, a pair of oppositely disposed pivoted blade-clamping members, each member comprising an outer shell and a backing plate united at the bottom and sides and spaced apart throughout their remaining areas to provide a compartment therebetween, a plurality of wedge-shaped partitioning elements arranged transversely in said compartment, each of said outer shells formed with a recess along its upper edge and a plurality of perforations adjacent its lower edge, and the top of each backing plate adapted to register with said rib when in clamping position.

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