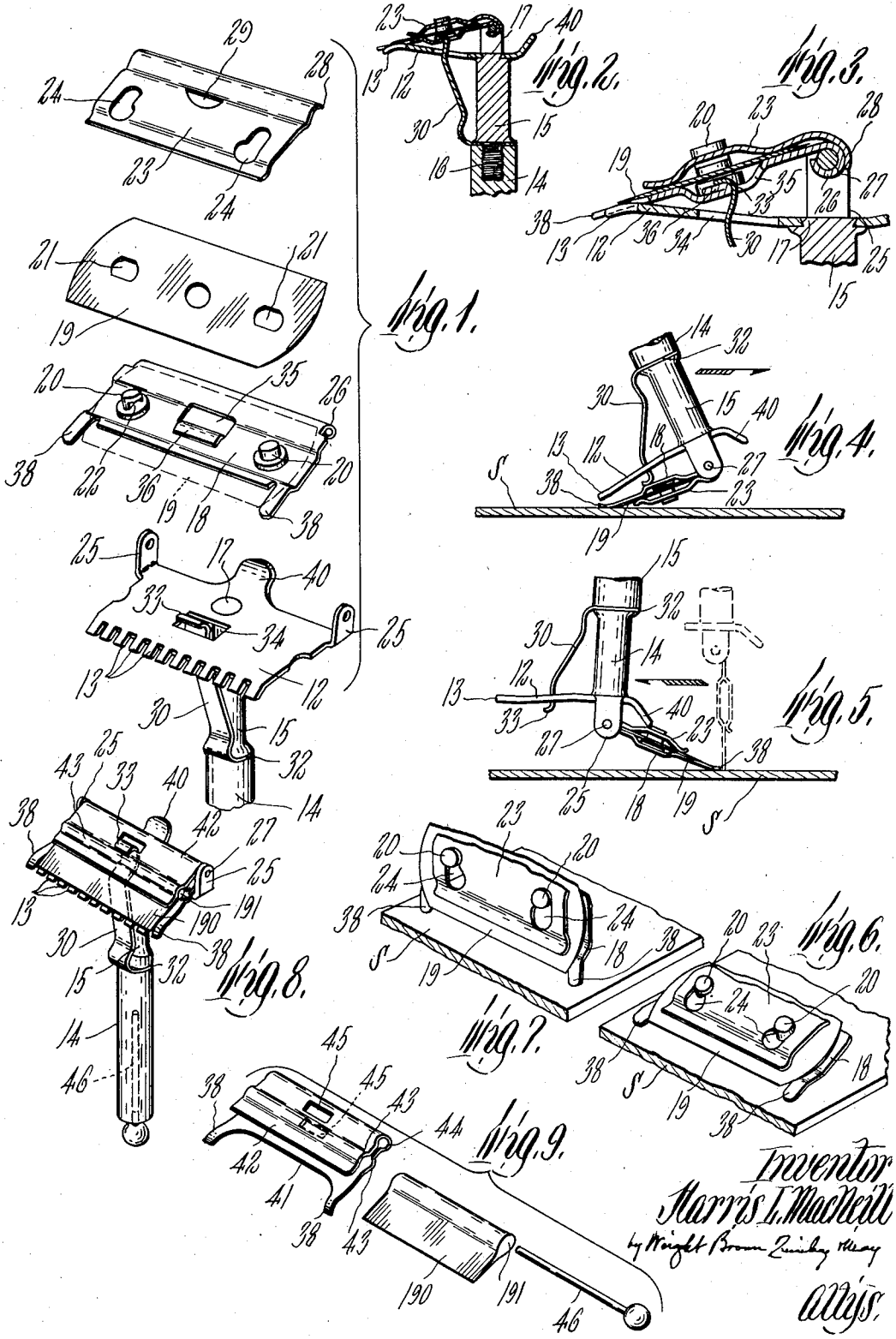
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SAFETY RAZOR

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SAFETY RAZOR

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4 Claims. (Cl. 30—12)

This invention relates to a safety razor comprising a guard plate having a serrated edge, a handle, and a detachable blade, the razor being adapted to be conditioned for stropping, or otherwise sharpening, without detaching the blade, the guard plate and handle constituting elements of means for sharpening the blade.

The object of the invention is to provide a safety razor of simple construction adapted to be quickly and conveniently conditioned both for shaving and sharpening, the construction being such that when the razor is conditioned for sharpening, the handle may be held substantially perpendicular to a sharpening surface, and moved to and fro over the same to impart sharpening movements to the blade, and the blade may be first automatically raised from said surface and then deposited thereon at a proper sharpening angle during reversals of the sharpening movements, so that injury to the blade edge and to the sharpening surface during reversal is impossible.

Of the accompanying drawing forming a part of this specification,—

Figure 1 shows separately in perspective the component parts of a safety razor constituting the preferred embodiment of the invention.

Figure 2 is a sectional view showing said parts assembled, the razor being conditioned for shaving.

Figure 3 is an enlargement of portions of Figure 2.

Figures 4 and 5 are side views showing the razor conditioned for stropping, and a strop.

Figure 6 is a fragmentary perspective view showing portions of the razor and strop, the razor being shown in stropping relation to the strop.

Figure 7 shows the razor and strop parts shown by Figure 6, the razor parts being shown as they appear when the stropping movement is being reversed.

Figure 8 shows in perspective a razor embodying the invention having blade securing means differing from the means shown by the preceding figures.

Figure 9 shows separately in perspective, parts of the razor shown by Figure 8.

The same reference characters indicate the same parts in all of the figures.

I will first describe the preferred embodiment shown by Figures 1 to 7.

The body, or rigid portion of the razor includes a guard plate 12 having a serrated edge whose teeth are designated by 13, and a handle fixed to, and projecting from the back of the guard plate, the handle preferably including an outer section 14, and an inner section 15, said sections being separably connected at 16 (Figure 2), their meeting ends being formed to rigidly clamp one end of a detent member hereinafter described. The section 15 is rigidly connected at 17 (Figures 2 and 3), with the rear edge portion of the guard plate 12.

18 designates a blade rest, preferably formed from sheet metal, and having means for releasably securing a blade 19 which, as shown by Figure 1, is two-edged, and of the Gillette type. Said means in this instance include spaced apart studs 20 adapted to enter orifices 21 in the blade, and having slots 22 in their inner sides extending parallel with each other, and a sheet metal holding down member 23 formed to bear on the outer side of the blade, and having approximately keyhole shaped orifices 24 whose larger ends are formed to receive the studs 20, the arrangement being such that when the studs have entered the larger ends of the orifices 24 the plate 23 is movable edgewise to cause the narrower ends of the orifices to engage the stud slots 22 and thus confine the plate 23 and the blade in a predetermined position relative to the guard plate.

The rear edge of the blade rest is connected with the rear edge portion of the guard plate 12 by hinge means adapted to permit an edge of the blade to cooperate with the serrated edge of the guard plate 12, in shaving, the blade rest and blade being inclined relative to the guard plate, as best shown by Figure 3.

Said hinge means preferably includes ears 25 upstanding from opposite ends of the guard plate, a hinge socket member 26 formed on the rear edge of the guard plate, and a hinge pintle member 27 (Figure 3) inserted in orifices in the ears 25, and in the socket member 26.

The socket member 26 is externally formed to be yieldingly engaged by a resilient ear 28 on the rear edge of the holding-down plate 23, such engagement being effected when the holding-down plate is pushed inward to cause the narrower portion of the orifices 24 to engage the slots of the studs 20, said ear yielding when passing over the socket member 26, and then springing inward to the position shown by Figure 3, and preventing accidental outward movement of said plate from its holding-down position. The holding-down plate may be provided with an orifice 29 whose edges may be engaged by a finger to push the plate inward and outward.

The body and blade rest have detent means for releasably confining the rest in cooperative

relation to the guard plate in shaving, said detent means being provided in this instance by a resilient metal finger 30 having an end portion 32 rigidly attached to the handle by being clamped between the handle sections 14 and 15, and a hook 33 at its opposite end portion. The guard plate is provided with a slot 34, and the blade rest with a coinciding slot 35, one edge of which is reinforced by a lip 36 integral with the rest. The finger 30 extends through the slots 34 and 35, and its hook 33 constitutes a detent member adapted to spring automatically into engagement with the lip 36, which constitutes a complemental detent member. The intermediate portion of the finger 30 is exposed between the handle and the guard plate so that it may be pressed inwardly by the operator toward the handle to disengage the hook 33 from the lip 36, and permit the blade rest and blade to swing away from the guard plate as shown by Figures 4 and 5, and thus condition the razor for stropping.

The forward edge of the blade rest is offset inwardly from the edge of the blade secured thereto as indicated by the dotted line showing of the blade in Figure 1, so that said edge is enabled to cooperate with the teeth of the guard plate in the usual manner when the razor is conditioned for shaving.

The blade rest is provided at its opposite ends with resilient members here shown as thin resilient ears 38 located at opposite ends of the confined blade, and projecting forward from the edge thereof as indicated by Figure 1, these members being adapted to function as hereinafter described, when the razor is conditioned for stropping.

As already stated, when the detent members 33 and 36 are interengaged, the razor is conditioned for shaving.

When it is desired to sharpen the blade the detent member 33 is displaced from its operative position by inward pressure on the resilient finger 30, so that the blade rest and blade are adapted to swing on the hinge connection between said rest and the guard, and oscillate in the directions required to present first one side, and then the opposite side of the blade edge to a strop S.

The arrangement is such that the secured blade may be sharpened by holding the handle substantially perpendicular to the strop, as indicated by Figures 4 and 5, and moving it to and fro over the strop in the directions indicated by the arrows, to impart stropping movements to the blade, one side of the blade edge being sharpened by a movement in one direction, and the opposite side by a movement in the opposite direction. During these movements the resilient blade rest members 38 bear yieldingly and slide on the strop, and are flexed to permit suitable pressure of the blade against the strop.

When each of said movements is reversed, the ends of the members 38 engage the surface of the strop, and cause the lifting of the blade edge from said surface, as indicated by Figure 7, when the blade rest and blade are swinging from either of the inclined positions shown by Figures 4 and 5 toward the other, so that contact of the blade edge with the strop during reversal is impossible. When the members 38 are suitably inclined they permit stropping contact of the blade edge with the strop, as already stated.

I provide means for maintaining the blade rest and blade at a suitable angle to the strop during the stropping movements. Said means in this instance includes the finger 30, the hooked end of which bears on the blade rest 18 during a stropping movement in one direction, said finger acting as a strut, or stop, as indicated by Figure 4. Another element of said means is a curved ear 40 which is formed on the guard plate and bears on the blade rest during a stropping movement in the opposite direction, as shown by Figure 5, said ear acting also as a strut, or stop.

Figures 8 and 9 show a razor which differs from that shown by the preceding figures, chiefly in that the blade rest is provided with means for confining a blade 190 having one cutting edge and a thickened back 191.

The blade rest is made by folding a sheet metal blank to the form shown by Figure 9 to provide a main portion, or blade rest 41, on which one side of the blade bears, the forward edge of said portion having the members 38, a holding down portion 42 overhanging the main portion 41, and bearing on the opposite side of the blade, ridges 43 formed on the portions 41 and 42 forming a space receiving the thickened back of the blade, and a hollow neck portion 44 resiliently connecting the portions 41 and 42, and formed to receive the pintle 27.

The neck portion 44 is provided with two slots 45, one of which is shown by dotted lines in Figure 9, through which the finger 30 extends. The hook 33 of said finger engages the outer side of the neck portion 42, as shown by Figure 8, to maintain the razor conditioned for shaving. When the razor is conditioned for stopping, the finger 30 bears on the inner side of the holding-down portion 42, and acts as a strut to maintain one inclination of the blade rest and blade, and the guard plate ear 40 acts as a strut to maintain the opposite inclination as described in connection with Figures 4 and 5.

A rod 46 may be provided to push the blade back 190 into, and particularly out of, the space between the ridges 43. Said rod may be housed in the handle section 14 when not in use, as indicated by Figure 8.

The sharpening operation is essentially a stropping operation, the blade rest and blade trailing after the handle, as indicated by Figures 4 and 5. When the blade reaches one end of its stropping movement, and the blade rest and blade are inclined as shown by Figure 4, the operator inclines the handle in the direction required to cause the ends of the members 38 to slightly indent and engage the strop, thus preventing said members from sliding, and then reverses the stropping movement of the handle. The reversal causes the blade rest and blade to swing until they assume the inclined position shown by Figure 5, the member 38 being thus positioned to again bear yieldingly, and slide on the strop, the blade edge being lifted from the strop during the reversal.

It will now be seen that the stropping manipulation is very simple, and involves but little care on the part of the operator.

I claim:

1. A safety razor comprising a body including a guard plate having a serrated edge and a handle fixed to, and projecting outward from the guard plate, a blade rest having means for releasably securing a blade thereto, hinge means connecting the rear edge of the rest with the guard plate, and arranged to permit an edge of the blade to cooperate with the serrated edge of the guard plate in shaving, the body and blade rest having detent

means for releasably confining the rest and blade in cooperative relation to the guard plate, the forward edge of the blade rest being offset inwardly from the edge of a blade secured thereto, the ends of the blade rest being provided with resilient members located at opposite ends of a confined blade and projecting forward from the edge thereof, the arrangement being such that when the blade rest is secured by said detent means, the razor is conditioned for shaving, and when the rest is released the razor is so conditioned that the secured blade may be sharpened by holding the handle substantially perpendicular to a strop, and moving it to and fro over the strop, resilient blade rest members bearing yieldingly and sliding on the strop during the stropping movements, and engaging the strop to lift the blade edge therefrom when the stropping movements are being reversed, means being provided for maintaining the blade rest and blade at predetermined angles to the handle and the strop during the stropping movements.

2. A safety razor as specified by claim 1, the means for maintaining the blade rest and blade at predetermined angles to the handle and to a strop, including a finger secured at one end to the handle and extending through slots in the guard plate and blade rest, said finger constituting a strut or stop adapted to maintain one of said angles, and an ear on the rear edge of the guard plate constituting a strut or stop adapted to maintain the other angle.

3. A safety razor as specified by claim 1, the blade securing means including spaced apart studs fixed to the blade rest and adapted to enter orifices in a two-edged blade, said studs having slots extending parallel with each other, and a holding down member slidable on the blade rest and having keyhole shaped orifices including larger ends formed to receive said studs, and narrower ends formed to be engaged with the stud slots by a sliding movement of said member, the holding down member being provided with a resilient ear adapted to be separably engaged with a member of said hinge means by said sliding movement.

4. A safety razor as specified by claim 1, the detent means being embodied in a hook formed on one end of a resilient finger whose opposite end is rigidly attached to the handle, said hook constituting a detent member, and a complemental detent member associated with the blade rest, an intermediate portion of said finger being exposed between the handle and guard plate to receive pressure causing flexure of said finger and the separation of said detent members, the resilience of said finger and the rigid attachment of its inner end to the handle causing an automatic engagement of the said hook with the detent member of the blade rest.

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