

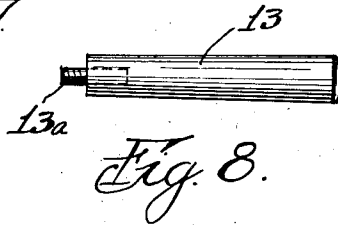
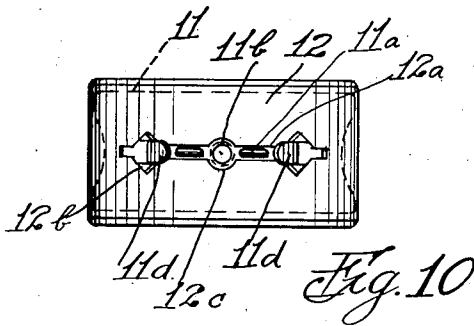
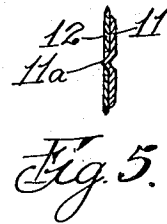
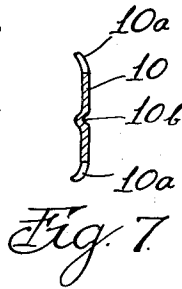
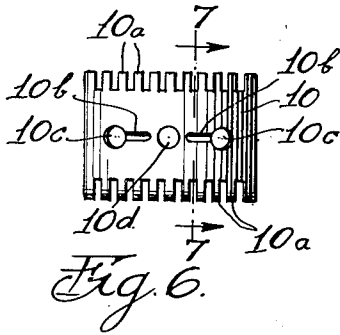
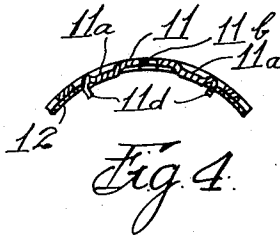
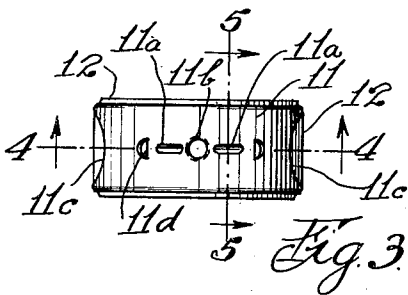
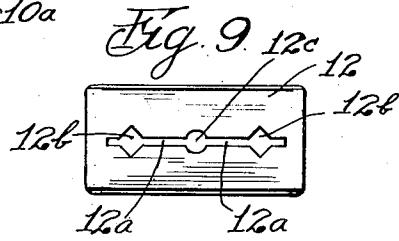
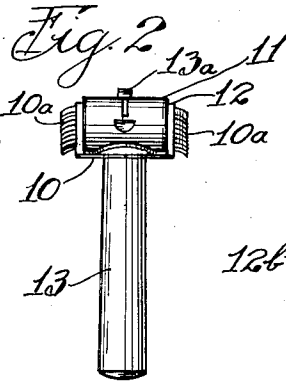
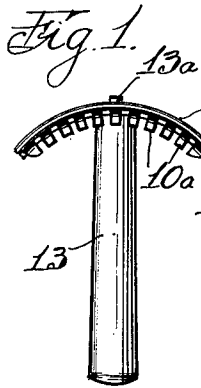
Feb. 2, 1937.

W. G. WALLENBECK

2,069,465

SAFETY RAZOR

Filed Aug. 6, 1935



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UNITED STATES PATENT OFFICE

2,069,465

SAFETY RAZOR

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Application August 6, 1935, Serial No. 34,934

1 Claim. (Cl. 30—49)

My invention relates to a safety razor construction adapted for use in shaving hollowed or depressed surfaces, for example, the arm-pits, where it is difficult, if not impossible to do effective work with safety razors of the kinds ordinarily used on the face. To adapt it to the particular work contemplated, my improved safety razor comprises a base plate of substantially the length of standard safety razor blades, bent longitudinally to the general conformation of the surfaces to be shaved, a clamping plate having substantially the length of the razor blade and of the same general curvature as the base plate, and a screw carried by the handle of the device, for holding the base plate and the mounting plate tightly against a razor blade between them, whereby the razor blade, which is thin and flexible, is caused to assume the same general curvature as the base plate and the clamping plate. The base plate is provided with curved tongues extending laterally beyond the edges of the clamping plate to constitute guards for the opposite cutting edges of the razor blade, the clamping plate being flat laterally, and somewhat narrower than the razor blade.

By my invention, I provide an improved means for aligning the base plate, the razor blade and the clamping plate with each other, to insure the proper relation of the cutting edges of the blade to the guards and to the edges of the clamping plate, which means consist of longitudinal ribs and grooves in the adjacent surfaces of the base plate and the clamping plate, cooperating with similar longitudinal slots in the blade, and tongues projecting from the concave surface of the clamping plate, through corresponding apertures in the blade, and into corresponding apertures in the base plate. As a result, the parts are held against displacement in any direction, when clamped together, the projecting tongues also serving to hold the blade in curved condition against the clamping plate by pressing the mid-portion of the blade against said plate, during the assembling of the parts of the razor, for example, after cleaning the same.

My invention will be best understood by reference to the accompanying drawing showing a preferred embodiment thereof, in which

Fig. 1 shows my improved razor in assembled condition, in front elevation,

Fig. 2 shows the structure illustrated in Fig. 1, in side elevation,

Fig. 3 is a plan view of the clamping plate removed from the base plate of the razor, with a

razor blade held in place on the clamping plate, by tongues extending from the latter,

Fig. 4 is a horizontal, sectional view of the parts shown in Fig. 3, taken along the line 4—4,

Fig. 5 is a vertical, sectional view of the parts shown in Fig. 3, taken along the line 5—5,

Fig. 6 is a plan view of the base plate employed,

Fig. 7 is a vertical, sectional view of the base plate shown in Fig. 6, taken along the line 7—7,

Fig. 8 is a side view of the handle removed from the razor,

Fig. 9 is a plan view to an enlarged scale, of the razor blade removed from the razor, and

Fig. 10 is a bottom view to an enlarged scale, of the parts shown in Fig. 3.

Similar numerals refer to similar parts, throughout the several views.

As shown in Figs. 1 and 2, my improved razor consists of a base plate 10, a clamping plate 11, a razor blade 12, and a handle 13, having the relation to each other illustrated in these figures, when the razor is in assembled condition.

As shown in Figs. 3, 4 and 10, the clamping plate 11 is provided with longitudinal ribs 11a, 11a to enter corresponding slots 12a shown in the razor blade 12 in Fig. 9, to hold the blade laterally on the plate 11. The plate 11 is also provided with a central threaded aperture 11b, to engage the threaded stud 13a shown in Fig. 8, as extending from one end of the handle 13. The ends of the plate 11 are recessed at 11c, 11c to permit engagement by the finger and thumb of the user, with the ends of the razor blade 12, to remove the latter from the plate 11 when desired. The plate 11 is flat laterally, and curved longitudinally to a curvature substantially fitting the hollow surfaces to be shaved, the width of the plate being enough narrower than the width of the blade 12, to permit the cutting edges of the blade to engage the surfaces to be shaved. The length of the plate 11 is substantially equal to the length of the blade 12, when the latter is bent longitudinally to fit the inner or concave surface of said plate, which is its position when assembled in the razor.

The clamping plate 11 is provided in line with the ribs 11a, 11a, and within its ends, with tongues 11d, 11d, extending inwardly from the concave surface of the plate, in directions substantially radial of said surface, as a result of which, said tongues, besides extending inwardly, also extend towards each other, to constitute hooks extending through apertures 12b, 12b, with which the blade 12, as shown in Fig. 9, is provided. The spacing of the tongues 11d, 11d from each other,

is substantially the same as the spacing of the apertures 12b, 12b from each other, as a result of which, when the blade is placed on the plate 11, it is held in bent condition along the concave surface of the plate in a position facilitating the assembly of the remaining parts of the razor, the engagement of the slots 12a and apertures 12b of the blade by the ribs 11a and tongues 11d of the clamping plate 11, insuring that the blade will be in proper relation to the other parts of the razor for effective use, when the razor is assembled.

The blade 12 may be of any well known double edged flat wafer kind, and is readily mounted on the clamping plate 11, by laying it on the concave side of the plate and pressing its mid-portion towards and into engagement with the plate, which effects the engagement described of the ribs 11a and tongues 11d, with the slots 12a and apertures 12b respectively. The blade is held in the bent condition described, against its spring tendency to flatten, by the tongues 11d, until it is released from said tongues, which is readily done when desired, by pressing the ends of the blade towards each other in the recesses 11c, 11c, thereby further bending the blade and giving it a sufficiently increased curvature to free it from the tongues 11d, in which condition it may be removed from the plate 11. As shown in Fig. 9, the blade 12 is provided with a central aperture 12c to permit the stud 13a to pass through it.

As shown in Figs. 6 and 7, the base plate 10 is provided along its edges adjacent the cutting edges of the razor blade 12 when in use, with projecting and curved tongues 10a, the width of the plate and the length of the tongues being such that the tongues extend outwardly beyond the cutting edges of the razor blade, to constitute guards to prevent cutting the skin when shaving. The base plate 10 is curved longitudinally to substantially fit the concave surface of the clamping plate 11, and said base plate is of substantially the same length as the razor blade 12. The base plate 10 is provided centrally of its convex surface, with longitudinal grooves 10b, 10b to receive the parts of the ribs 11a, 11a projecting through the razor blade, and it is also provided with apertures 10c, 10c to receive the ends of the tongues 11d, 11d. A central aperture 10d is formed through the plate 10 to receive the stud 13a.

In assembling the razor, the blade 12 is placed on the clamping plate 11 in engagement with the tongues 11d, 11d as described, the base plate 10 is placed against the concave surface of the blade 12, and the threaded stud 13a is passed first through the aperture 10d and then through the aperture 12c, and it is then screwed tightly into the aperture 11b, tightly clamping the blade 12

between the base plate 10 and the clamping plate 11.

The plates 10 and 11 are preferably of any suitable metal of sufficient thickness and stiffness to retain their shape for all conditions of use to which the razor may reasonably be subjected. The handle 13 may be of any suitable material, whether metal, wood, composition, or otherwise, the only requirements being that it shall be serviceable, and be provided with the threaded stud 13a described, which is preferably of metal for the purposes set forth.

By holding the blade 12 on the clamping plate 11 in the manner described, it will be observed that there are no parts of the blade holder, that extend outwardly beyond the edges of the razor blade, in a manner to interfere with the effective use of the cutting edges of the blade, particularly at the ends of said cutting edges, which is a great advantage where the shaving must extend into angles or corners. It will also be observed that my razor consists of a minimum number of simple parts, readily separable from each other, and readily cleanable.

While I have shown my invention in the particular embodiment above described, it will be understood that I do not limit myself to this exact construction as I may employ equivalents known to the art at the time of the filing of this application without departing from the scope of the appended claim.

What I claim is:

In a safety razor, the combination of a base plate of metal bent longitudinally to the curvature of concave surfaces to be shaved and having central longitudinal ribs projecting from its concave surface and corresponding grooves in its convex surface, a flexible razor blade having a central longitudinal slot through it shorter than the length of said blade and having enlarged openings at its end and mid portions, a clamping plate of metal bent longitudinally to substantially the curvature of the base plate and having central longitudinal ribs extending from its concave surface into the slot in said blade and in alignment with the grooves in said base plate, said clamping plate having grooves in its convex surface opposite its said ribs and having also tongues formed from it at the ends of its said ribs and projecting through said end enlarged openings in the razor blade, said base plate having apertures at the outer ends of its said ribs to receive said tongues, said base plate having bent guard tongues extending from its longitudinal edges, a clamping stud extending through said plates and said blade, and a handle extending from said stud.

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