

W. G. SHOCKEY.

RAZOR.

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1,005,753.

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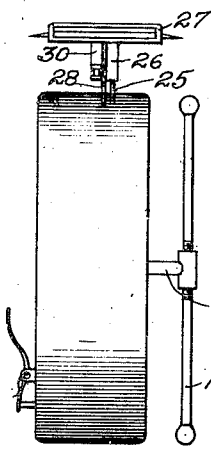


Fig. 1.

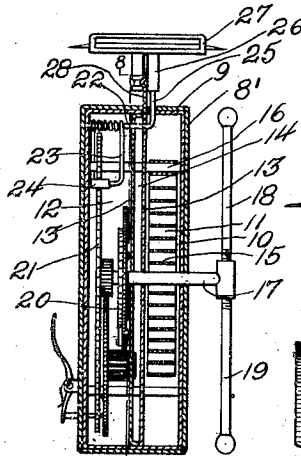


Fig. 2.

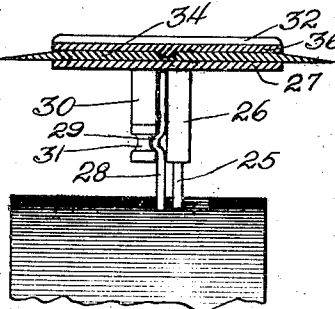


Fig. 3.

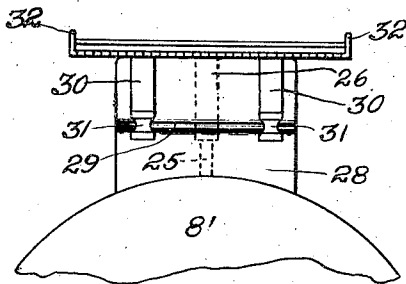


Fig. 4.

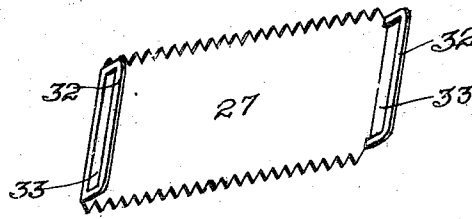


Fig. 5.

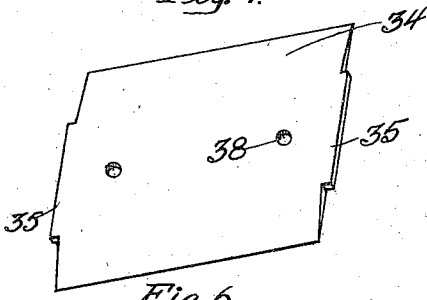


Fig. 6.

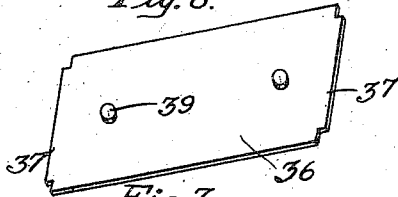


Fig. 7.

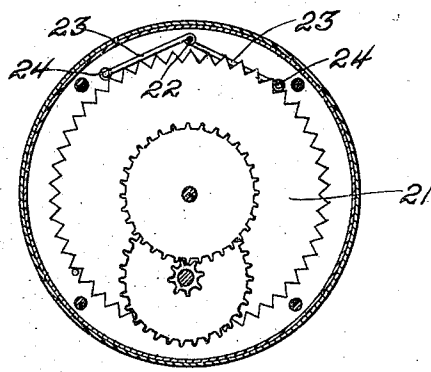


Fig. 8.

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UNITED STATES PATENT OFFICE.

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RAZOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIS G. SHOCKEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Razors, of which the following is a specification.

This invention relates to a mechanism for imparting a vibratory movement to the razor blade longitudinally of itself, whereby the blade, in addition to the usual movement imparted to it by the operator during the shaving operation, will have a vibratory movement at right angles to the movement imparted to it by the operator, so that, when drawn across the beard, it will cut at an angle with respect to the direction of movement imparted to it by the hand of the operator.

The objects of the present invention are, to provide a mechanism for producing this movement of the razor blade, which is cheap and simple of operation; to so arrange the parts that the razor will be as easy of manipulation as one of the ordinary type; to utilize the casing inclosing the mechanism as a handle for the razor; to provide a connection between the stationary mounting and the razor guard, whereby longitudinal movement of the guard with respect to the mounting is provided; to provide means for firmly and accurately locking the guard and the blade together and holding the blade in desired position with respect to the guard; and to provide a simple connection between the guard and the vibratory mechanism.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

It is a well known fact that in the operation of shaving, when drawn in a line directly parallel with the movement of the hand of the operator, the razor blade bends the beard down into the skin, so that only the upper portion of the beard is cut off by this stroke, and this necessitates going over the surface with a series of strokes to cut through the beard at an angle whereby it is cut relatively close to the skin.

It is the design of the present invention to mechanically impart movement to the blade to take the place of the short after-stroke necessary in the usual shaving operation, so that, as the instrument is passed over the skin, the blade will operate on the beard with a movement at substantially

right angles to the movement imparted thereto by the hand of the operator, thus drawing the blade across the beard with a shearing movement and insuring the cutting of the beard as close as desirable to the surface of the skin.

In the drawings, Figure 1 is a view of the assembled device; Fig. 2 is a vertical section of the parts shown in Fig. 1; Fig. 3 is an enlarged vertical sectional detail of the blade and guard and the connection between the guard and the member which imparts vibratory motion thereto, and also showing the connections between the guard and its support; Fig. 4 is a face view of the parts shown in Fig. 3; Fig. 5 is a perspective of the guard; Fig. 6 is a perspective of the razor blade; Fig. 7 is a perspective of the cap or locking plate; and Fig. 8 is a section on line 8—8 of Fig. 2, looking in the direction of the arrow.

The device comprises a casing 8', preferably formed of leather or some other suitable attractive substance which is capable of absorbing sound, and said casing surrounds an inner casing 9 comprising outer walls 10, preferably of suitable metallic material, and said inner casing is divided into chambers 11 and 12 through the medium of partition walls 13, interposed between which is a layer of sound-absorbing substance 14. The chamber 11 has located therein a ribbon spring 15, which is secured at one end to one of a plurality of pins 16 which join the inner casing together, and at its other end to a shaft 17, attached to the outer end of which shaft is a handle 18, said handle being composed of a plurality of screw-threaded stems 19, which by suitable manipulation may be made to engage or lie free of the shaft 17, so that said shaft may revolve in unison or independent of the handle. This arrangement is provided in order that during the shaving operation the operator will not be interfered with by reason of the continued rotation of the handle 18 as the spring unwinds. The chamber 12 contains a train of gearing 20, which is connected to a disk 21 having its periphery serrated, and adjacent to the upper edge of the inner casing 9 is a pivotally mounted pin or stem 22, which embodies arms 23 extending in opposite directions therefrom, each of which arms has mounted thereon a roller 24 adapted to be engaged by the serrated periphery of the disk 21. As shown

in Fig. 8, one of the rollers is lying upon the point of one of the teeth of the serrated edge of the disk 21, the other roller lying in the depression between the teeth; hence, as the disk is rotated, the pin or stem 22 is moved with a short rocking movement, due to the alternate rise and fall of the arms 23 as the serrated edge of the disk 21 passes beneath the rollers 24.

Extending from the pin or stem 22 is a connecting member 25, which enters a depending lug 26 attached to a razor guard 27; and extending from one of the partitions 13 is a supporting member 28 provided with a transversely extending bead 29, adjacent to the upper edge thereof; and depending from the guard 27 and lying upon the opposite side of the support 28 from that on which the lug 26 lies are rollers 30, as shown, two in number, each of which is provided with a groove 31 adapted to register with the bead 29. The material composing the support 28 is sufficiently flexible so that the rollers may be easily pushed down and snapped into proper position thereon; but when so positioned the rollers will be held sufficiently firm upon the support so that, during ordinary usage, the accidental displacement of the guard and blade from the rest of the instrument would be impossible. The bead jointly with the groove in the rollers forms a slidable mounting between the guard 27 and the support 28, so that longitudinal movement of the guard with respect to the support is permitted. The contacting surface between the guard and the support being of a circular formation, and the attaching members of the guard being in the form of rollers, a practically frictionless engagement is provided between the guard and the support. The guard is formed, as shown more clearly in Fig. 5, with companion upwardly extending ears 32, each provided with a slot 33, and the blade 34 is cut away upon its ends to provide members 35, which are of a size to be accommodated within the slot 33 in the ears 32. The ears being formed of spring metal, the blade can be easily pressed into position, so that the members 35 will spring into the slots 33 and thus the blade will be secured in proper manner to the guard. Positioned above the blade is a cap or locking piece 36, provided upon its end with members 37 adapted to enter the slots 33. This cap piece is sprung down into position upon the blade after the blade has been placed upon the guard, and thus the entire device is locked together in a compact and desirable manner. The blade is provided with pins 38, and the cap piece is provided with pins 39, which register when the two members are assembled, and further assist in the locking operation. This feature, however, is old and well known in

razors upon the market to-day, and is not claimed as a part of my invention.

The operation is as follows: The train of gearing is set in motion through the winding of the spring 15, and the disk 21 rotated to cause its toothed edge to pass beneath the rollers 24. This imparts a vibratory motion to the connecting member 25, and through the medium of the lug 26 imparts a vibratory motion to the guard 27. This in turn moves the blade 34 and causes it to operate with the angular movement referred to in the first part of the specification.

I claim:

1. In a razor, the combination of a razor blade, a guard for the blade secured thereto, a fixed supporting member for the guard and blade, means for moving the guard and blade transversely of the supporting member, said means comprising a serrated edge member, tension actuated mechanism operatively connected for actuating said serrated edge member, and a member attached to the guard and terminating in an arm resting upon said serrated edge member, whereby said attached member is rocked by the movements of said serrated edge member, substantially as described.
2. In a razor, the combination of a razor blade, a guard for the blade secured thereto, a fixed supporting member for the guard and blade, means for moving the guard and blade transversely of the supporting member, comprising a disk having a serrated edge member, tension actuated mechanism operatively connected for actuating said serrated edge member, and a member attached to the guard and terminating in an arm resting upon the periphery of said disk, whereby said attached member is rocked by the movements of said serrated member, substantially as described.
3. In a razor, the combination of a razor blade, a guard for the blade secured thereto, a fixed supporting member for the guard and blade, means for moving the blade guard transversely of the supporting member, comprising a disk having a serrated edge, tension actuated mechanism operatively connected for rotating said disk, a casing containing said tension mechanism and disk, a member attached to the guard and pivotally mounted within the casing, oppositely extending arms connected to said member, the free ends of the arms resting against the periphery of the disk, whereby the rotation of the disk imparts a rocking movement to said attached member, substantially as described.
4. In a razor, the combination of a razor blade, a guard for the blade secured thereto, a fixed mounting to which the guard and blade are secured, means for moving the blade transversely of the mounting, compris-

ing a serrated edged member, tension actuated mechanism for operating said member, a connection between the guard and the serrated member, whereby the rotation of the serrated member imparts a rocking movement to the guard and blade, a casing for containing the serrated member and the tension mechanism, a hollow partition within said casing dividing the interior of said casing into a chamber for the tension mechanism, a chamber for the serrated member, and a sound-deadening substance within the space in the hollow partition, substantially as described.

5. In a razor, the combination of a blade, a guard therefor connected thereto, mechanism for moving said blade and guard with a vibratory movement, a casing inclosing said mechanism, a partition within said casing dividing the interior thereof into a

chamber for the tension mechanism, and a chamber for the serrated member, said partition extending beyond the outer wall of said casing and forming a support for the blade and guard, a transversely extending bead adjacent the upper edge of said partition, a grooved roller carried by the guard and traveling upon said bead, and a member depending from the guard and lying upon the opposite side of the partition from the roller, and serving as a portion of the connection between the guard and the serrated member, said member and roller serving to prevent crosswise movement of the guard transversely with respect to the partition, substantially as described.

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