Sept. 23, 1930. R. B. STANFORD 1,776,642

SHARPENER FOR RAZOR BLADES

Filed Aug. 6, 1927

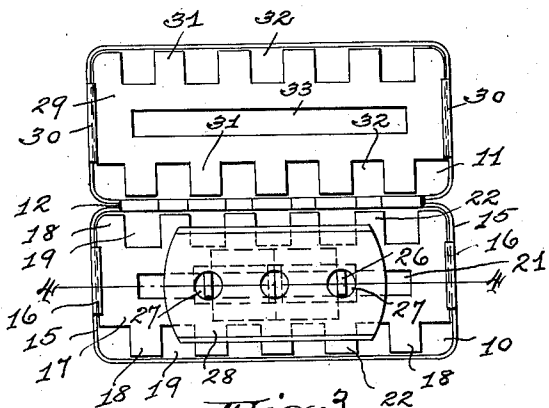


Fig. 3.

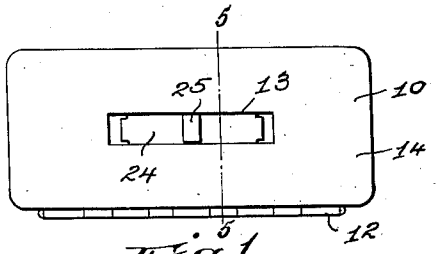


Fig. 1.

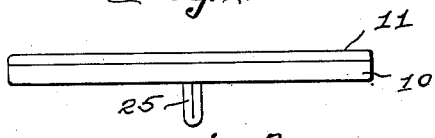


Fig. 2.

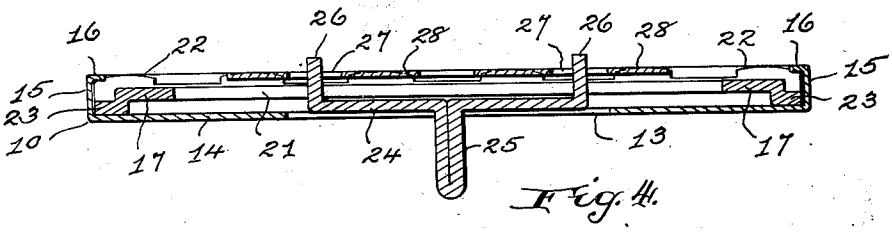


Fig. 4.

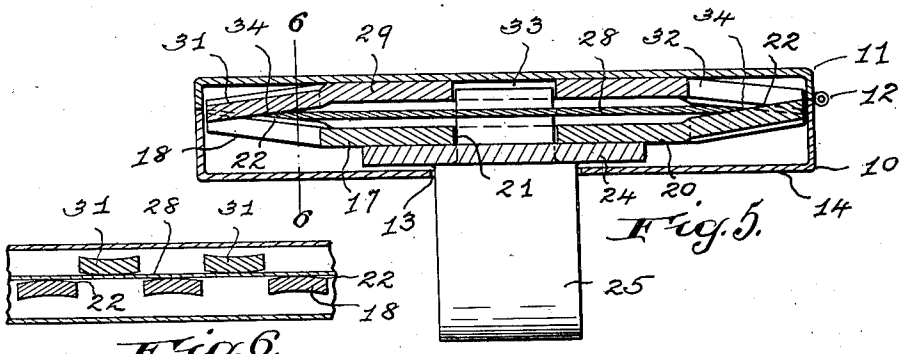


Fig. 5.

Fig. 6.

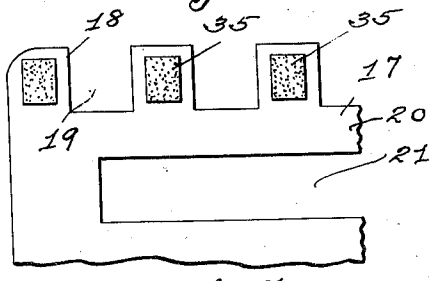


Fig. 7.

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UNITED STATES PATENT OFFICE

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SHARPENER FOR RAZOR BLADES

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This invention relates to an improved sharpener for razor-blades and has for one of its objects to provide an exceedingly simple and cheap structure for sharpening the cutting edges of razor-blades.

Another object of the invention is to provide a novel construction of razor-blade sharpener whereby the opposite faces of a beveled cutting-edge of the blade may be simultaneously operated upon in a quick and effective manner.

A further object is to provide a novel construction of blade sharpener whereby both cutting edges of a double-edge blade may be sharpened at the same time, a still further object is to provide a novel construction of sharpener in which the sharpening of the blade is effected without wearing away the steel of the blade.

With these, and other objects in view, the invention is illustrated in the accompanying drawing wherein,—

Fig. 1, shows the complete device in flat face view.

Fig. 2, illustrates the same in edge elevation.

Fig. 3, shows the device opened flat with a razor-blade laid therein.

Fig. 4, illustrates on an enlarged scale a central longitudinal section through one of the holder halves with the blade in place showing the same as though viewed on the line 4—4 of Fig. 3.

Fig. 5, shows the two halves of the device closed with a blade between them in readiness for sharpening, the view being a cross-sectional one as though taken on the line 5—5 of Fig. 1.

Fig. 6, illustrtaes a cross-sectional detail through the sharpening devices and the beveled edge of the blade, the section being taken on the line 6—6 of Fig. 5, and

Fig. 7, shows a modified form of sharpening device.

Referring to the drawing the numeral 10, designates one of the case halves and 11 the other half thereof. These two halves are united along one edge by a hinge 12, so the halves may be opened or closed.

Each half of the case has the form of a shallow receptacle with a bottom, and a marginal flange all the way around the bottom. The two halves however differ slightly in depth because one of them is to contain an actuating means which is not present in the other.

While it is not exactly correct to term one of the halves the bottom-half and the other the top-half because the reverse may be just as true when referring to the halves, yet to distinguish the one half from the other I shall nevertheless use those expressions.

The half which is designated 10 in the drawing I shall term the bottom-half because it is on that half that the blade is laid when it is placed for sharpening.

The bottom-half 10 is of a slightly greater depth than the top-half and has a longitudinal and centrally-located slot 13 in its bottom wall 14, and its opposite end flanges 15 have inturned lugs 16 at their upper edges, as clearly seen in Figs. 3 and 4 of the drawing.

In the bottom half 10 I locate one of my improved sharpening elements 17.

This sharpening element consists of a metal plate shaped to fit into the bottom half of the case and therefore, in this instance, being of a general rectangular shape, and has at its opposite longitudinal edges an alternate series of lugs 18 and recesses 19, such as are shown in Fig. 7 of the drawing.

By reference to Fig. 1 of the drawing it will be noted that the lugs 18 along one edge of the element are directly opposite recesses 19 along the opposite edge of the same element.

The element 17, it will be noted, particularly by reference to Fig. 5 of the drawing, has a flat central portion 20 with a longitudinal slot 21 therein while the lugs 18, at the opposite sides thereof are inclined upwardly from said flat central portion.

It will also be noted, by reference to Fig. 6, of the drawing, that in cross-section, the lugs 18 are concave-convex with the convex surface 22 of the lugs on the upper side of the lugs. It is not essential that the lower sides of these lugs be concave but to produce the convexity on the upper side it is more readily accomplished by a tool which leaves the lower side concave.

At the opposite ends, the sharpening element 17 has a stepped formation across its central flat portion which produces a foot 23 which rests upon the bottom wall 14 so as to hold the element in a slightly elevated position above the bottom wall, for a purpose that will presently be explained.

It will be noted however, that when the sharpening element 17 is in the bottom half of the case that it has a freedom of movement between the bottom wall 14 and the inturned lugs 16 on the end flanges 15.

Between the underside of the element 17 and the bottom wall 14 I locate an actuating slide 24 which latter has a finger-engaging loop or projection 25, which extends through the slot 13 in the bottom wall 14, as shown in Figs. 4 and 5 of the drawing.

The actuating element is therefore slidable over the bottom wall 14 and in the space between the under side of the sharpening element 17 and the bottom wall.

The actuating element is provided with laterally-turned end tangs or lugs 26, which are spaced so as to enter the perforations 27 which are usually provided in the well known razor blades 28 of the Gillette type so the blade may be laid on the sharpening element with the tangs or lugs 26 of the actuator extending through the perforations 27 whereby the blade may be reciprocated in a direction lengthwise of the element 17 and crosswise of the convex surfaces of the inclined lugs 18, as will presently be more fully explained.

The upper half 11 of the case also has a marginal flange and in this half I locate a second sharpening element 29 which latter is held in place by inturned lugs 30, on the opposite end flanges.

This second sharpening element 29 is constructed like the element 17 with which it coacts, in that it has a series of alternate lugs 31 and recesses 32 along its opposite side edges.

A longitudinal slot 33 is also provided along the center of this second sharpening element 29.

The lugs in this second element 29 are also convex on their upper faces and are inclined with respect to the central portion of the element just as in the element 17.

The positions of the lugs 31 and recesses 32 on this second element 29 with respect to the lugs 18 and recesses 19 on the element 17 are such that when these two elements 17 and 29 are brought together by swinging the half 11 over the half 10 with the razor-blade 28 between them, the lugs 31 on the element 29 will register with the recesses 19 of the element 17 while the lugs 18 on element 17 will register with the recesses 32 of element 29.

This causes the inclined lugs on the one element to intermesh with the inclined lugs on the other plate and produces a V notch 34 where the two sets of lugs lap, as indicated in Fig. 5, of the drawing.

These V notches along the opposite sides of the two coacting elements receive the beveled edges of the razor blade.

By then reciprocating the blade through the back and forth movement of the actuator 24, and applying a slight inward pressure against the actuator during the movement, will slide the cutting edges of the blade over the convex surfaces 22 of the intermeshed lugs and sharpen those edges on both sides of the bevel. Of course the two halves of the case will be held closed during the reciprocating movement of the blade so the latter will be clamped between the two sharpening elements and as the element 17 has a slight movement in the half 10 in a direction toward the element 29, the clamping pressure of the lugs 18—31 on the beveled edges of the blade may be varied.

In some instances I may provide the lugs 18 or 31 with blocks or inserts 35 of any suitable material that will either grind or act to polish the blade edge.

The entire device is compact and the insertion or removal of a blade is easily effected while the sharpening operation is quickly accomplished.

Having described my invention, I claim,—

In a razor-blade sharpener the combination with a casing comprising two receptacles, one of said receptacles having a central longitudinal slot, of means for hinging said receptacles together along one side edge; a sharpening element in each receptacle at least one of said elements having a slight movement in its receptacle transversely to its base and each element having alternate lugs and recesses along its side edges,—said elements being secured in the two receptacles so that when the latter are swung to a closed position the side edge lugs on one element will register with the side edge recesses of the other element; a slide in that receptacle which has the longitudinal slot, said slide having position between the receptacle and the sharpening element therein and said slide having a projection which extends outwardly through the slot of the receptacle and also having lugs at its inner side to engage and reciprocate a razor-blade between the two elements.

In testimony whereof I affix my signature.

RALPH B. STANFORD.