Oct. 18, 1938. N. L. DOOTSON 2,133,284

RAZOR BLADE SHARPENER

Filed Dec. 12, 1936

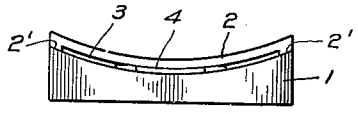


Fig. 1.

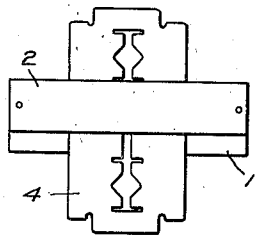


Fig. 2.

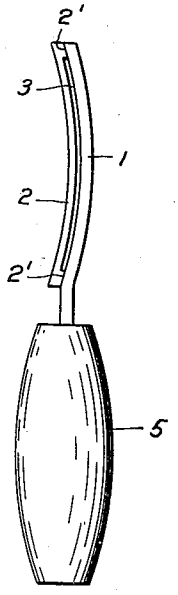


Fig. 3.

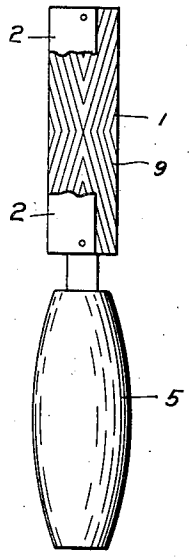


Fig. 4.

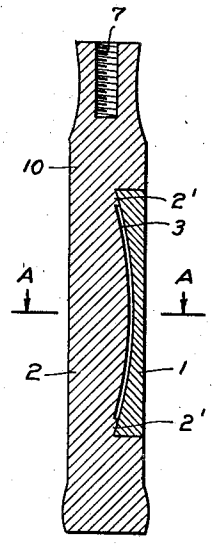


Fig. 6.

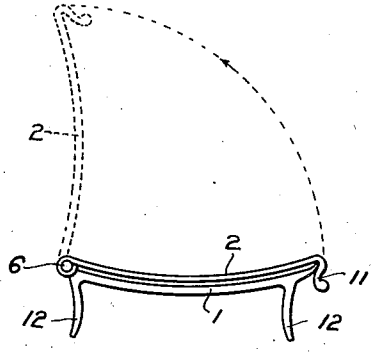


Fig. 5.

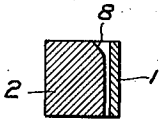


Fig. 7.

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Patented Oct. 18, 1938 2,133,284

UNITED STATES PATENT OFFICE

2,133,284

RAZOR BLADE SHARPENER

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Application December 12, 1936, Serial No. 115,624

8 Claims. (Cl. 51—211)

The invention relates to improvements in razor blade sharpeners and the object of the improvements is to provide a novel, cheap, simple and effective sharpening device for double-edged flexible type of safety razor blades. Other features of the invention will appear in the following description and accompanying drawings.

In the drawings Fig. 1 is a side view of a simple form of the invention with an end view of a razor blade in the sharpening position.

Fig. 2 is a plan view of Fig. 1.

Fig. 3 is a side view of a modified form of the invention.

Fig. 4 is a view from the left side of Fig. 3 with the blade holding down plate partially broken away.

Fig. 5 is a side view of a further modification.

Fig. 6 is a vertical section of a razor handle with one form of the invention incorporated therein.

Fig. 7 is a cross section of Fig. 6 on line A—A.

Before describing the drawings in further detail, it may be said that a feature of the invention is to provide a relatively narrow sharpening device across which a flexible safety razor blade is moved back and forth by holding the opposite protruding ends of the blade between the thumb and index finger, the device including a longitudinally concavely curved sharpening block adapted to contact the sides of the opposite cutting edges of a wafer type razor blade when the latter is bent or temporarily deformed into the concavity of the block, and a complementarily curved clamping plate or bar arranged to so deform the blade during its movement back and forth across the block.

In the various modifications shown in the drawings the curved sharpening block is designed 1 in the various views and the complementarily curved clamping bar is designated 2 in all views so as to preserve the identity of these parts.

In the drawings the sharpening block is shown as a relatively narrow strip of suitable material 1 concavely curved in a longitudinal direction to properly meet the opposite edges of the blade for sharpening when the blade 4 is bent or rather sprung into the concavity as indicated in Fig. 1 and so held by the curved clamping bar 2.

Clamping bar 2 is preferably suitably secured at its ends to the sharpening block 1, and is shown with very small lugs or bosses 2' at its ends so as to form between the block and bar a narrow curved crack or slot 3 of a breadth to freely admit a wafer-type safety razor blade to extend transversely of the block and bar and protrude from both sides of the slot as indicated by the blade 4 of Figure 2, so that upon grasping opposite ends of the blade with two fingers of the hand, the blade may be shoved back and forth through the slot while maintaining it substantially at right angles to the block and bar.

To provide for easy insertion of the blade, the block 1 is made a trifle wider than the bar, as clearly shown in Fig. 2 so that the end of the blade may be rested upon the extending shelf-like portion of the block and easily worked into and through the curved slot. In lieu of or in addition to this the edge of the block and/or bar may be rounded or beveled as indicated at 8 in Fig. 7.

In sharpening, the blade is alternately reversed in the slot by removal and turning over every few strokes, so as to sharpen both sides of the blade equally.

The sharpening block 1 may be made of any suitable cutting material of which razor sharpening devices or hones are made, though it is preferable that the deforming or clamping bar 2 be of a material of low friction value so that the blade will slide easily, and it may be somewhat flexible as in Fig. 1 or rigid as in Fig. 6.

Some of the possible modifications of the device are shown in the drawings, thus Figure 3 shows a device similar to that of Fig. 1 and has in addition a handle 5. The curved base 1 may be made of hard steel and with very slightly raised oblique sharpening ribs 9 as shown in Fig. 4, but which need be only under the cutting edges of the blade to be sharpened.

Fig. 5 also shows a similar device but the upper or curved clamping bar 2 is hinged at 6 to open the slot 3 for insertion of blade, in which case it is not necessary to have base 1 wider than top piece 2, as shown in Fig. 2. The lower or base plate 1 of this modification may conveniently be provided with downwardly extending finger gripping portions 10 at its opposite ends, and the upper hinged plate may have a frictional latching engagement at its free end with the lower plate as at 11.

In Fig. 6 the razor handle 10 forms the top piece 2 of slot 3, while inset 1 forms the curved sharpening block. Screw socket 7 provides for attachment to the usual razor blade holder. In Fig. 7 beveled or rounded edge 8 provides for easy insertion of the blade.

I am aware that sharpening stones and hones for the wafer type safety razor blades have been made heretofore with a concavely curved surface into which the blade is depressed by pressure of the fingers on the blade to deform it into the curve, and then the blade is moved back and forth on the curved face of the stone or hone, but such devices have a common defect that they are all of a surface area much greater than the area of the blade, and since the blade must first be laid upon the concavely curved block and then pressed into it, it is manifest that the very outermost cutting edges of the blade first come into contact with the concavely curved walls and must resist all the pressure put upon the blade to deform it and press it into the hollow, also that in releasing

the blade the very tips of the sharpened edges are forced against the stone as the blade springs out. This puts a very detrimental pressure directly on the extremely frail cutting edges to cause great injury to them and substantially negative the final excellence of the edges it is sought to secure.

With my device, however, since the concave sharpening block is only a narrow strip and the clamping bar is complementarily formed to provide a curved crack or slot for the blade, the curving of the end of the blade as it is inserted between the bar and block avoids any pressure on the cutting edge to injure the same, and as the blade freely projects at both sides of the block and bar, it may easily be grasped at opposite ends to work it longitudinally back and forth, something not possible with the concave hone sharpener as heretofore made.

Having thus described my invention, what I claim as new is:

1. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members.

2. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so as to provide a curved slot between them so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members.

3. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members, and means cooperating with the confronting edges of said members arranged and adapted to facilitate entry of an end of the blade between the members.

4. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members, one of said members being wider than the other member to provide a ledge upon which the end of the blade may be guided when inserting it between the members.

5. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members, and means hingedly connecting said members together at one end.

6. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members, the surface of the concavely curved member provided with very slight sharpening ribs, arranged to contact the sides of the edges of the blade.

7. A sharpening device for double-edged flexible wafer-type razor blades comprising a pair of elongated members of lesser width than the length of a wafer-type blade and of greater length than its width, said members longitudinally curved complementarily to one another and arranged in confronting relation so that a blade extending transversely between the members will be deformed transversely of the blade and will project at both sides of the members for grasping at both ends with the fingers for pushing back and forth transversely of the elongated members, the surface of the concavely curved member provided with very slight sharpening ribs obliquely arranged with respect to the longitudinal axis of the member, and to contact the sides of the edges of the blade.

8. A sharpeninng device for double-edged flexible wafer-type razor blades comprising an elongated sharpening block of lesser width than the length of a wafer-type razor blade and of greater length than its width, said block provided with raised sharpening portions at opposite ends adapted respectively to contact one side of opposite cutting edges of a wafer-type razor blade when the blade is extended transversely across said elongated block, and a pressure bar extending longitudinally of said elongated sharpening block formed to force the sides of opposite cutting edges of the blade into contact with said raised sharpening portions when the blade is extended transversely between the block and bar, the over-all width of the block and bar being such as to expose both ends of the blade for grasping by the fingers for sliding back and forth transversely of and between the block and bar.

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