

Nov. 6, 1934.

C. NEWMAN

1,979,282

RAZOR BLADE HONING AND STROPPING DEVICE

Filed Sept. 27, 1933

FIG. 1.

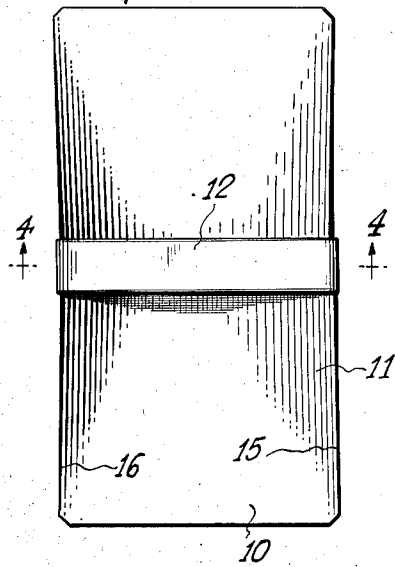


FIG. 5.

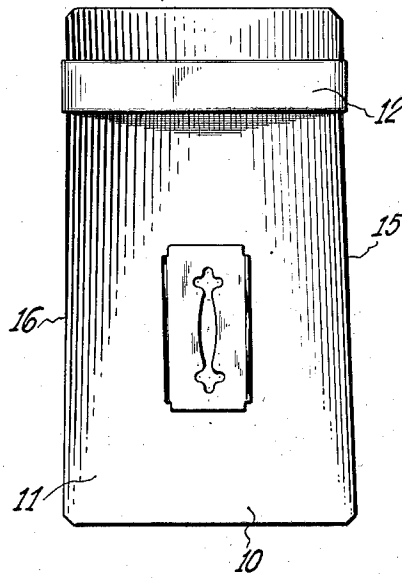


FIG. 2.

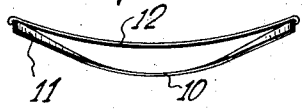


FIG. 6.

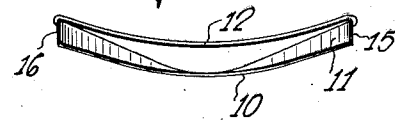


FIG. 3.

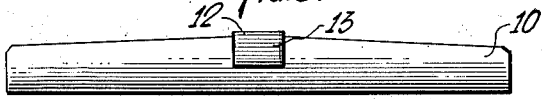


FIG. 7.

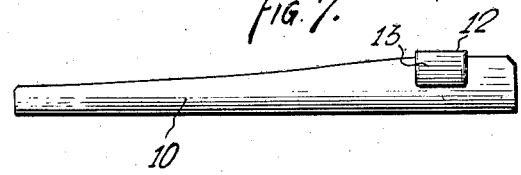


FIG. 4.



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UNITED STATES PATENT OFFICE

1,979,282

RAZOR BLADE HONING AND STROPPING DEVICE

Charles Newman, Elizabeth, N. J.

Application September 27, 1933, Serial No. 691,106

15 Claims. (Cl. 51-211)

One object of this invention is the provision of a device for both sharpening and stropping a razor blade, the former being accomplished by rubbing the blade on the sharpening surface under pressure, and the latter by rubbing the blade lightly thereon.

Another object of the invention is to provide a means for adjustably varying the sharpening surface of a normally arched concave honing device for sharpening razor blades of different sizes and thicknesses.

A further object is to provide greater flexibility to a flexible, normally arched concave honing device for sharpening single or double edged razor blades.

Still another object of the invention is to provide an adjustable shifting means for partly flattening the concave surface at either end of a normally arched flexible honing plate for sharpening razor blades.

A still further object is to provide means for intersectionally dividing the length of a concave sharpening surface in a flexible, normally arched honing device, for convenient and economical sharpening of a razor blade at either end of the surface.

Another object is to prevent the cutting edges of a razor blade of the double-edged type, used on this device, from becoming damaged in the alternate movement on the sharpening surface against the edges of the blade.

An additional object is to improve the sharpening of a razor blade by a means which gives additional free movement to the cutting edges of a blade on the concave sharpening surface of a flexible arched hone.

A further object of the invention is the provision of a razor blade sharpening device comprising a normally arched plate having a concave sharpening surface, and a yoke slidably mounted on the edges of the plate to retain the plate in arched condition, the slidability of the yoke providing means for varying the degree of concavity of the sharpening surface, the plate being readily removable from the yoke for replacement.

Referring briefly to the drawing, Figure 1 is a plan view of the device showing the slidable yoke in one position.

Figure 2 is an end view of the same.

Figure 3 is a side view of the same.

Figure 4 is a cross-sectional view taken on the line 4-4 of Figure 1.

Figure 5 is a plan view of the device, showing the slidable yoke in another position.

Figure 6 is an end view of Figure 5.

Figure 7 is a side view of Figure 5.

Referring in detail to the drawing, the numeral 10 represents a plate of flexible material normally arched to provide a concave side or surface 11, on which the razor blade is adapted to be sharpened. This concave surface 11 may be provided with an abrasive or other coat to enhance the sharpening quality thereof.

In order to retain the plate 10 in arched condition, a yoke is provided, having a main spanning body 14 whose ends are bent down to provide tongues 13, the extremities of the latter being turned outward, as shown at 14. The body 12 of the yoke may be arched as shown in the drawing, or it may extend straight across its span or be of any other desirable form.

In assembling the device, the plate 10 is arched and its side edges 15 and 16 are slid between the tongues 13 and the body 12 of the yoke. When the yoke is in the position shown in Figure 5, the radius of curvature of the sharpening surface 11 directly under the yoke will be at a minimum, and that at the opposite end at a maximum; that is, the plate will flatten out from the yoke toward the opposite end. Thus the curvature of the concave surface varies in accordance with the irregularities of the cutting edge or edges of the blade. The latter is frictionally rubbed from side to side in the direction of the arch, to sharpen the blade. As the degree of concavity lessens from the yoke toward the opposite end of the plate, so also the resiliency of the plate increases in the same direction. This resiliency or flexibility of the arched plate, causes the plate to flex in synchronism with the movement of the blade being rubbed thereon, thus tending to cause the surface 11 to be at all times in alignment with the razor edge surface, and thus preventing damage to the blade.

Obviously, modifications in form and structure may be made without departing from the spirit and scope of the invention.

I claim:

1. A razor blade honing device comprising a flexible plate member adapted to be fixed into arched condition, and a yoke member spanning the opposite parallel sides of said plate and retaining the same in arched condition, said yoke member having bent tongues frictionally engaging said parallel edges of the plate, said yoke member being slidably movable along said edges to vary the degree of concavity of said arched plate at points between said yoke and the ends of the plate.

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2. A razor blade honing device comprising a flexible plate member adapted to be flexed into arched condition, a yoke member spanning the opposite parallel sides of said plate and retaining the same in arched condition, said yoke member having bent tongues frictionally engaging said parallel edges of the plate, said yoke member being slidably movable along said edges, the degree of curvature of said arched plate varying from a maximum directly under said yoke to a minimum at the end of said plate, the resiliency of the plate causing the latter to flex in synchronism with the cutting edges of a razor blade being rubbed thereon in the direction of the arch to sharpen the blade.
3. A razor blade honing device comprising a flexible plate member adapted to be flexed into arched condition, a yoke spanning said plate in arched condition and having means thereon for retaining said plate in arched condition, said yoke being slidably mounted on said arched plate, the curvature of said arched plate varying from a maximum directly under the yoke to a minimum at the end of the plate, the degree of curvature of any section of said plate being varied by slidably moving said yoke thereon.
4. A razor blade honing device comprising a flexible plate adapted to be arched and having a yoke spanning the opposite parallel edges of said plate when arched, said yoke dividing the concave sharpening surface on said plate into sections of different curvature and retaining the same in normally arched condition, said sections at either end being flexible and free, the degree of curvature of said free end sections of the plate depending upon the longitudinal position of said yoke.
5. A razor blade honing device comprising a flexible plate adapted to be arched and having a yoke spanning the opposite parallel edges of said plate when arched, said yoke being slidably mounted on said plate and retaining the plate in normally arched condition, said yoke dividing the concave sharpening surface on said plate into sections of different curvature, said sections at either end of the plate being free and flexible, the degree of curvature of said free end sections of the plate depending upon the longitudinal position of said slidable yoke.
6. A razor blade honing device comprising a flexible plate adapted to be arched and having a yoke spanning the opposite parallel edges of said plate when arched, said yoke dividing the concave sharpening surface on said plate into sections of different curvature and retaining the same in normally arched condition, said yoke being arched, said sections at either end of the plate being free and flexible, the degree of curvature of said free end sections of the plate depending upon the longitudinal position of the yoke on said plate.
7. A razor blade honing device comprising a flexible plate adapted to be arched and having an arched yoke spanning the opposite parallel edges of said plate when arched, said yoke being slidably mounted on said plate and retaining the plate in normally arched condition, said yoke dividing the concave sharpening surface on said plate into sections of different curvature, said sections at either end of the plate being free and flexible, the degree of curvature of said free end sections of the plate depending upon the longitudinal position of said slidable yoke.
8. A razor blade honing device comprising a flexible plate member adapted to be flexed into arched condition, and a yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said tongues being slidably mounted on said edges and said yoke retaining said plate in normally arched condition.
9. A razor blade honing device comprising a flexible plate adapted to be flexed into arched condition, and an arched yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said tongues being slidably mounted on said edges, said yoke spanning said edges and retaining said plate in normally arched condition.
10. A razor blade honing device comprising a flexible plate member having a yoke adapted to flex said plate into normally arched condition, said yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said yoke dividing said plate into two separate sections each having a concave sharpening surface and situated one on either side of said yoke, said yoke and said tongues thereon retaining said plate in normally arched condition.
11. A razor blade honing device comprising a flexible plate member having a yoke adapted to flex said plate into normally arched condition, said yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said yoke being slidably mounted on said plate by having said tongues frictionally engaging said edges, said yoke dividing said plate into two separate sections each having a concave sharpening surface and situated one on either side of said yoke, said yoke and said tongues thereon retaining said plate in normally arched condition.
12. A razor blade honing device comprising a flexible plate member having an arched yoke adapted to flex said plate into normally arched condition, said arched yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said yoke dividing said plate into two separate sections each having a concave sharpening surface and situated one on either side of said yoke, said yoke and said tongues thereon retaining said plate in normally arched condition.
13. A razor blade honing device comprising a flexible plate member having an arched yoke adapted to flex said plate into normally arched condition, said arched yoke having tongues formed by bending the ends thereof around the opposite parallel edges of said plate, said yoke being slidably mounted on said plate by having said tongues frictionally engaging said edges, said yoke dividing said plate into two separate sections each having a concave sharpening surface and situated one on either side of said yoke, said yoke and said tongues thereon retaining said plate in normally arched condition.
14. A razor blade honing device comprising a flexible plate member, a yoke spanning the opposite parallel edges of said plate thereby arching said plate and retaining the same in normally arched condition, the concave surface of said arched plate providing a sharpening surface, said surface being utilized to sharpen a blade by moving the blade back and forth frictionally thereon, the pressure of said moving blade partially flattening said concave surface, the radius of curvature of said concave surface increasing progressively from said yoke toward either end of said plate, the resiliency of the

arched plate causing said arched plate to flex in synchronism with the frictional pressure of said moving blade thereon, said synchronal flexing of the arched plate preventing damage to the cutting edges of the blade in its movement thereon.

15. A razor blade honing device comprising a flexible plate member, a yoke spanning the opposite parallel edges of said plate thereby arching said plate and retaining the same in normally arched condition, said yoke being arched and being slidably mounted on said plate, the concave surface of said arched plate providing a sharpening surface, said surface being utilized

to sharpen a blade by moving the blade back and forth frictionally thereon, the pressure of said moving blade partially flattening said concave surface, the radius of curvature of said concave surface increasing progressively from said yoke toward either end of said plate, the resiliency of the arched plate causing said arched plate to flex in synchronism with the frictional pressure of said moving blade thereon, said synchronal flexing of the arched plate preventing damage to the cutting edges of the blade in its movement.

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25	100
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35	110
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45	120
50	125
55	130
60	135
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70	145
75	150