Oct. 31, 1967 O. SIESS ETAL 3,349,646

RAZOR BLADE SHARPENING DEVICE

Filed May 20, 1966

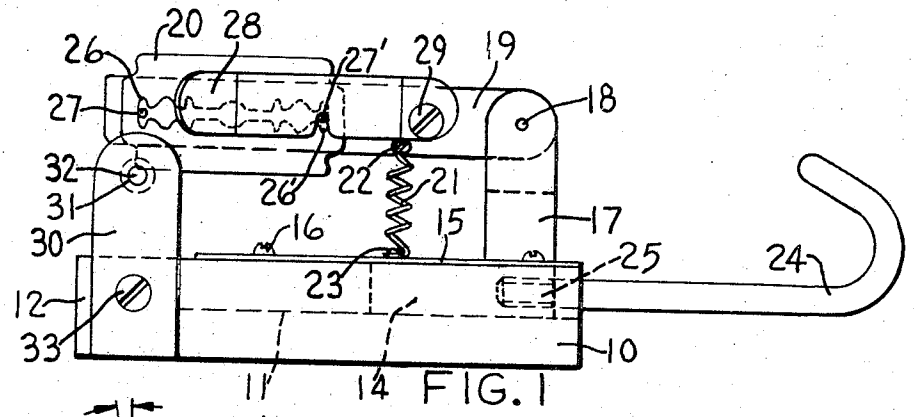


FIG. 1

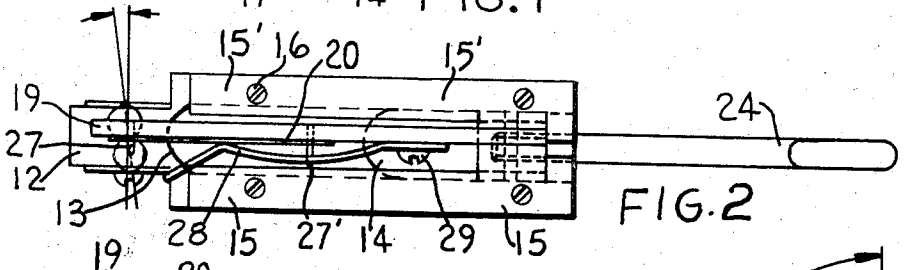


FIG. 2

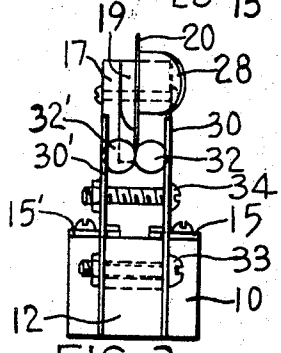


FIG. 3

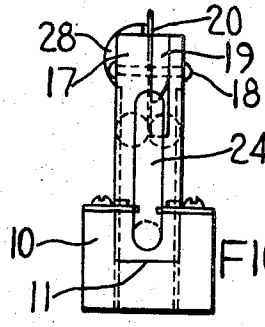


FIG. 4

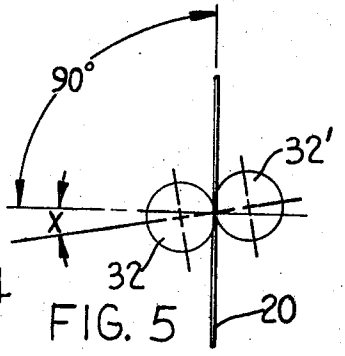


FIG. 5

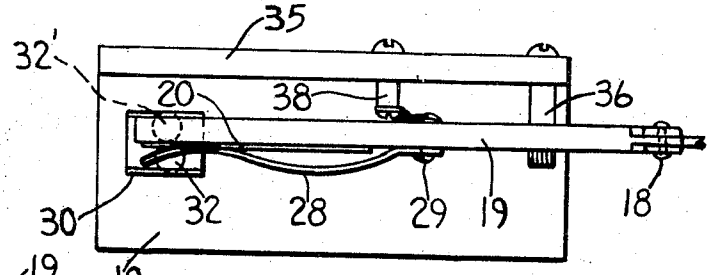


FIG. 7

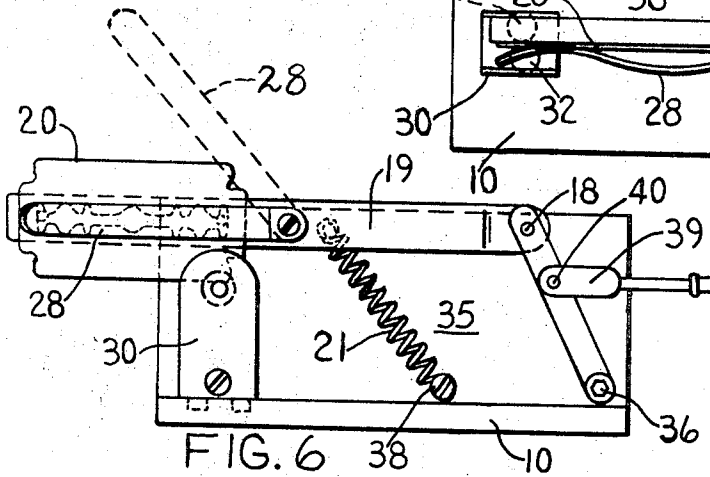


FIG. 6

INVENTORS
OTTO SIESS
WALTER E. BRACH
Peter J. Taylor
ATTORNEY

United States Patent Office 3,349,646
Patented Oct. 31, 1967

3,349,646

RAZOR BLADE SHARPENING DEVICE

Otto Siess, 503 Franklin St., Elizabeth, N.J. 07206, and Walter E. Brach, 1008 Sheridan Ave., Roselle, N.J. 07203

Filed May 20, 1966, Ser. No. 551,634
5 Claims. (Cl. 76—89.2)

This invention relates to a sharpening device for razor blades. More specifically, it deals with a sharpening device in which the blade is reciprocated while its edge slides between two spherical bodies which are slightly offset laterally. Other features of the invention include means for reciprocating said blade, means for mounting and holding said blade, and means for maintaining an even pressure on said edge.

Various devices have been proposed in the art for sharpening razor blades. Among these, is a unit wherein two spherical members are held against each other, while being positioned directly opposite one another in a clamp or frame. The razor blade is passed by hand between the spheres until the edge is satisfactorily sharpened.

According to the present invention, it has been found that a keener edge may be obtained in a shorter time by laterally offsetting one of the spheres so that the line passing through their centers is displaced about 3° to about 7°, preferably 5°, with respect to the perpendicular to the plane of the blade. Also, novel means are provided to reciprocate the blade between the spheres while maintaining a substantially even pressure of the edge on the spheres.

The invention will be more readily understood by reference to the accompanying drawing in which a preferred embodiment is described, and in which the same numerals refer to similar parts in the various figures.

In the drawing:

FIGURE 1 depicts a side elevational view of a preferred embodiment of the invention.

FIGURE 2 illustrates a top or plan view thereof.

FIGURE 3 presents the front elevational end view thereof.

FIGURE 4 shows the rear elevational end view thereof.

FIGURE 5 depicts a schematic top view representation of the positioning of the sharpening balls with respect to the blade being sharpened.

FIGURE 6 illustrates a side elevational view of another modification of the invention.

FIGURE 7 shows a top or plan view of the unit depicted in FIGURE 6.

Referring again to the drawing, numeral **10** represents a flat base having a narrowed forward end **12**. A groove **11** is cut in the upper portion of base **10**, beginning at its rearward edge, and terminating at the point **13** where the narrowed portion begins. Slide **14** is disposed in groove **11** and is designed to reciprocate therein. Bracket plates **15** and **15'** are attached, by screws **16**, to the top of base **10** and they partially overlap groove **11** and slide **14** so as to prevent displacement of slide **14** out of the groove.

Attached to slide **14** is vertical support **17**. Pivotally attached at its end to the top of support **17**, at **18**, is mounting arm **19**, which is designed to carry the razor blade **20** to be sharpened. Spring **21** is attached to arm **19** at **22**, and to slide **14** at **23**, and it serves to impress a substantially even tension on arm **19** as it is reciprocate. The reciprocation is effected by hook **24**, which is moved by one hand, while base **10** is held in the other. Hook **24** is attached at **25** to slide **14**.

Blade **20** is mounted on arm **19** by sliding blade holes **26** and **26'** over pins **27** and **27'** which project from the side of arm **19**. Flat spring **28**, which is pivoted at

29 to arm **19**, serves to lock blade **20** onto arm **19** and prevent its slippage off pins **27–27'**.

On each side of forward end **12** of base **10** are mounted, by screws **33**, mounting support straps or plates **30** and **30'**. Holes **31** and **31'** serve to hold hardened steel balls **32** and **32'** tightly against each other, holes **31–31'** being of smaller size than the diameter of the balls. Balls **32–32'** are desirably of the same size, and one of the balls, say ball **32**, is disposed laterally in offset position with respect to the other ball, as is apparent from FIGURE 5, so that the line through the centers of the balls is displaced at an angle X of about 3° to about 7°, preferably about 5°, from the line perpendicular to the plane of the blade **20**, on which line the centerline of the balls would be were the balls disposed exactly opposite each other. It is desirable that balls **32–32'** be held tightly together so that blade **20** will not slip therebetween. For this purpose, it may be desirable to insert screw **34** between plates **30–30'** adjacent said balls.

In order to operate the sharpener, spring **28** is raised by turning it on pivot **29**, and blade **20** is inserted over pins **27–27'**. These pins may be spaced so as to enable mounting thereon either the single or the double-edged blades. Other means for holding different types of blades may be employed, such as holding means mounted on the side of mounting arm **19** opposite the side on which pins **27–27'** are disposed. Then spring **28** is slipped over to cover the blade which is held down over the juncture of balls **32–32'** by spring **21**. Thereafter, the blade is reciprocated between balls **32–32'** by means of hooked handle **24**.

Base **10** may have dimensions of 1" x 2⅞" to the narrowed portion **12** which may be ⅝" long and about 7/16" wide. Balls **32–32'** may be of ¼" diameter, and the plates **30–30'** holding the balls may be about 1½" long and ⅝" wide. Slot **11** may be ½" wide by ⅜" deep. Support **17** may be 1" high to pivot **18**, while arm **19** may be 3" long. It is thus seen that the sharpening device of the present invention is compact and very easy to handle.

In the unit depicted in FIGURES 6–7, a vertical wall **35** is attached to the side of base **10**. This serves to hold pivot **36** to which is attached the end of rocking arm **37**. To the other end of arm **37** is pivotally attached, at **18**, the rearward end of mounting arm **19** which carries blade **20**. The lower end of spring **21** is attached to wall **35** at **38**. A yoke **39**, pivoted at **40** onto arm **37**, is pulled back and forth by handle **41**, attached to yoke **39**, which movement serves to sharpen the edge of blade **20**.

It has been found that, by use of the offset sharpening balls **32–32'**, it is necessary to reciprocate arm **19** only about 6 times for each shave. By use of this sharpening device it has been possible to use the same blade for a month, or even more.

Although manual reciprocation has been shown, it is apparent that a battery driven motor may be employed for the same purpose, using conventional mounting and linking arrangements. Also, although the lower end of said spring **21** has been shown as attached to the base or wall **35**, it is to be understood that it may be attached to other elements, such as support **17**.

We claim:

1. A razor blade sharpening device, comprising, in combination:

a base,

a pair of upright oppositely-disposed plates attached at their bottoms to said base and each having ball mounting means,

a pair of spherical bodies mounted in said mounting

means opposite each other and in tightly pressing and laterally offset relation,

a mounting arm having razor blade mounting means disposed at one end in sharpening position above said spherical bodies,

reciprocating means attached to the other end of said mounting arm to reciprocate said blade-carrying arm over said spherical bodies, and

spring tension means attached to said mounting arm in order to impress pressure upon a razor blade edge being sharpened between said spherical bodies.

2. A razor blade sharpening device, according to claim 1, in which the lateral offset of said spherical bodies is a deviation of about 3° to about 7° for the line between spherical centers when compared to the line between spherical centers if the bodies had been disposed directly opposite each other.

3. A razor blade sharpening device, according to claim 2, in which said lateral offset is a deviation of about 5°.

4. A razor blade sharpening device, according to claim 1, in which said base has a groove in its upper portion and leading to said plates,

a slide disposed in said groove for reciprocation therein,

a vertical support attached to said slide,

a pivot connection connecting the other end of said mounting arm and the upper portion of said support, and

handle means attached to said slide in a manner such as to allow reciprocation over said spherical bodies of a blade mounted on said arm while said arm is under spring tension.

5. A razor blade sharpening device, according to claim 1, in which said base has a pivot connection,

a vertical rocking arm swivelly attached at one end to said base pivot connection,

a pivot connetcion pivotally connecting the other end of said mounting arm with said rocking arm,

a saddle attached to near the central portion of said rocking arm, and

a handle attached to said rocking arm in a manner such as to enable rocking of said rocking arm and thus reciprocating over said spherical bodies of a blade mounted on said mounting arm while said latter arm is under spring tension.

References Cited

UNITED STATES PATENTS

1,469,147	9/1923	Bird	76—89.2
1,916,600	7/1933	Benson	76—89.2

FOREIGN PATENTS

216,752	1/1942	Switzerland.

GRANVILLE Y. CUSTER, JR., *Primary Examiner.*