Feb. 13, 1940. E. B. CONNERAT 2,189,883

SHARPENER FOR SINGLE-EDGED RAZOR BLADES

Filed Jan. 20, 1938 2 Sheets-Sheet 1

Fig. 1.

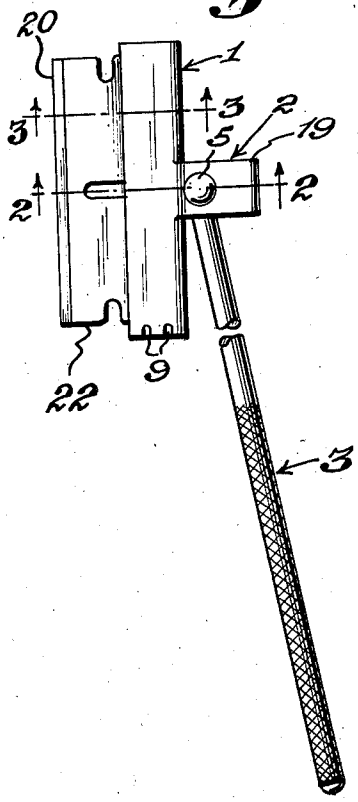


Fig. 2.

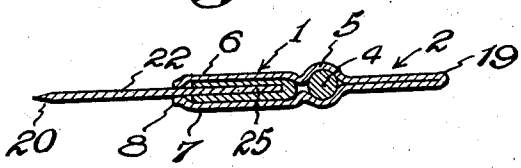


Fig. 3.

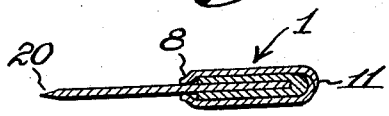


Fig. 4.

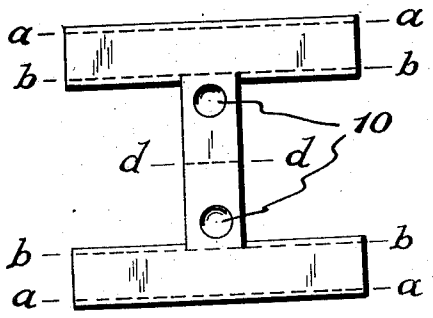


Fig. 5.

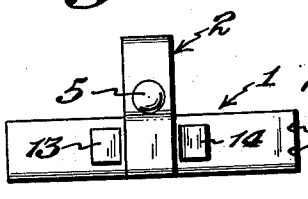


Fig. 8.

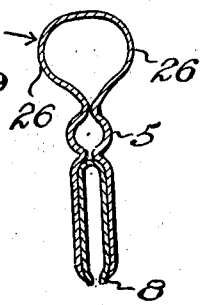


Fig. 6.

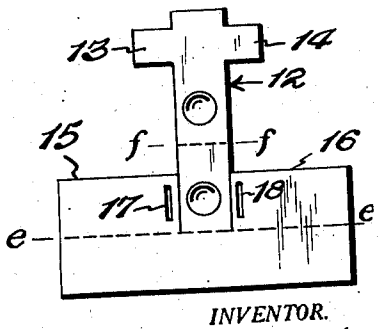
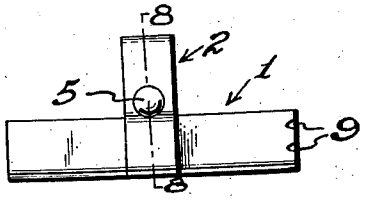


Fig. 7.



INVENTOR.

Edwin B. Connerat

BY

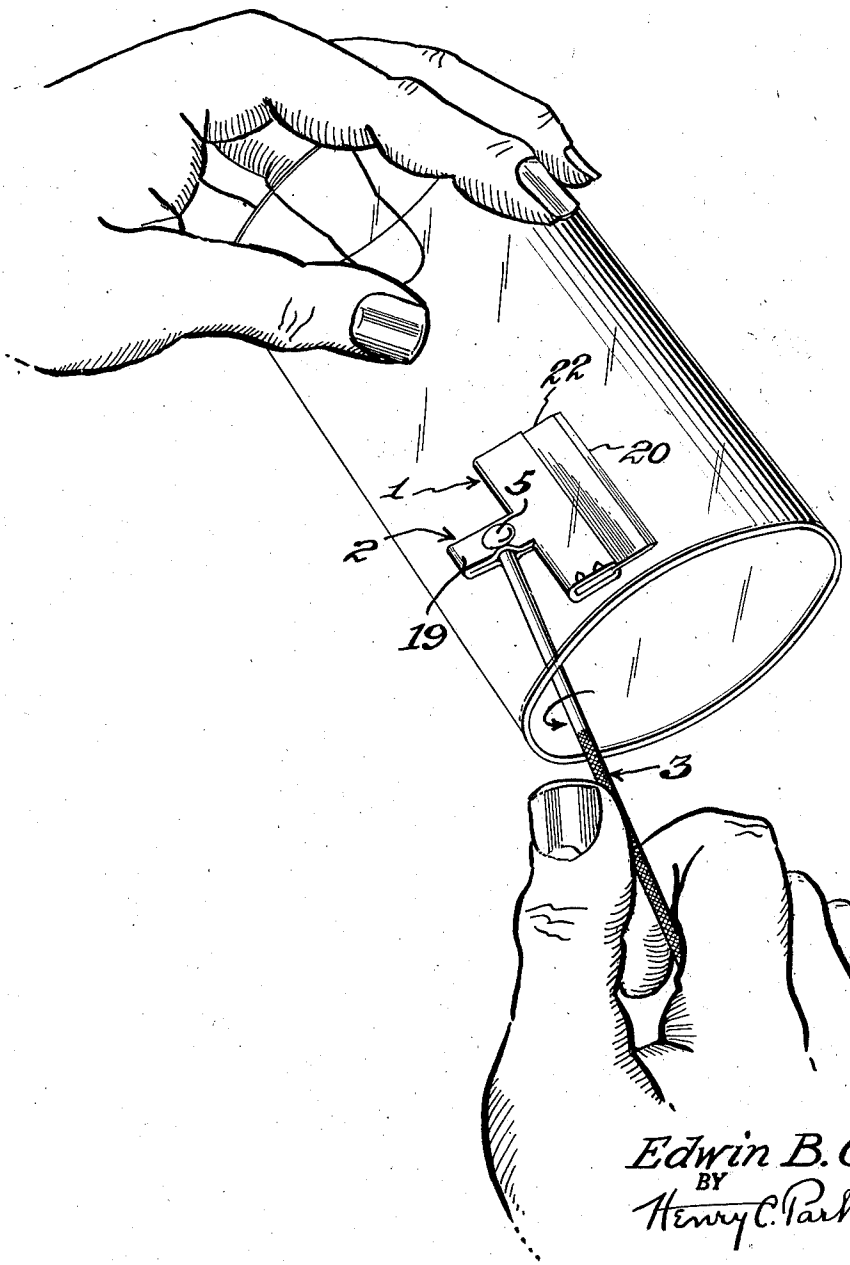
Henry C. Parker ATTORNEY

Feb. 13, 1940. E. B. CONNERAT 2,189,883

SHARPENER FOR SINGLE-EDGED RAZOR BLADES

Filed Jan. 20, 1938 2 Sheets-Sheet 2

Fig. 9.



INVENTOR.
Edwin B. Conneraat
BY
Henry C. Parker
ATTORNEY

Patented Feb. 13, 1940

2,189,883

UNITED STATES PATENT OFFICE

2,189,883

SHARPENER FOR SINGLE-EDGED RAZOR BLADES

Edwin B. Connerat, Richmond, Va.

Application January 20, 1938, Serial No. 185,998

6 Claims. (Cl. 51—221)

This invention relates to sharpener for single-edged razor blades; and it comprises, in combination, a conditioning surface and a blade holder, the said blade holder having a pocket portion for receiving the usual thick back of a single-edged razor blade, a central rear extension, secured to said pocket portion and having a ball-socket adjacent the center of said pocket portion, and a handle provided with a ball at one end engaging said ball-socket and forming a ball-and-socket joint therewith, said handle normally extending in the plane of said blade holder in a line substantially parallel with the cutting edge of said razor blade; the said blade holder being adapted to hold a razor blade with its cutting edge bearing against a conditioning surface, such as the inner surface of a glass tumbler, for example, the end of said rear extension also bearing against the conditioning surface during the sharpening operation; all as more fully hereinafter set forth and as claimed.

Sharpeners of all types have been suggested for safety razor blades. While many of the sharpeners suggested have been found perfectly satisfactory for use in sharpening the double-edged type of blade, most of these sharpeners operate on a principle which cannot be adapted readily to the sharpening of the single-edged blades. The single-edged blades are usually somewhat more expensive than the double-edged blades but, when sharpened, they are more economical to use. The lack of a wholly satisfactory sharpener for single edged blades has, to at least some extent, prevented the more wide spread use of this type of blade.

I have developed an improved sharpener for single-edged razor blades which includes a blade holder for holding such a blade while it is being rubbed against a conditioning surface, such as the internal surface of a tumbler, for example. My sharpener is provided with a handle which is pivoted to the holder by means of a ball-and-socket joint at a point just in the rear of the back of the blade. The blade holder comprises a folded-over, rectangular section which forms a jaw member or pocket for receiving the thick back portion of the usual single-edged blade. This pocket section is provided with a rearwardly extending portion which is usually rectangular in shape and is folded over and pressed in such manner as to produce a central ball-socket just to the rear of the pocket section. This rear extension advantageously projects a short distance beyond the ball-socket and at its end is provided with a rear bearing surface which contacts the conditioning surface during the sharpening operation. The handle is provided with a ball on its end which engages the ball-socket forming a ball-and-socket joint therewith. The handle, the pocket portion and the rear extension of the holder all lie in a common plane and the handle normally but not necessarily extends in a line parallel with the cutting edge of the blade and also parallel with the bearing surface of the rear extension. The ball-and-socket joint enables the entire cutting edge of the blade to contact the conditioning surface during the sharpening operation even though the hand may draw the handle considerably out of line with this cutting edge. The handle is positioned approximately midway between the two surfaces which bear against the conditioning surface during sharpening. The rear extension is made sufficiently long and is so shaped that the ball-and-socket joint does not touch the sharpening surface.

My invention can be explained more readily by reference to the accompanying drawings which show several modifications of sharpeners within the purview of my invention. In this showing,

Fig. 1 is an elevation of my preferred form of sharpener, showing a blade in the holder,

Fig. 2 is an enlarged sectional view along the line 2—2 of Fig. 1,

Fig. 3 is an enlarged sectional view along the line 3—3 of Fig. 1,

Fig. 4 is a showing of the metal blank used in making the holder embodiment of Fig. 1,

Fig. 5 is a modified form of holder,

Fig. 6 is a metal blank which can be used in making the modified holder of Fig. 5.

Fig. 7 is a further modified form of holder,

Fig. 8 is an enlarged cross-section of the holder shown in Fig. 7, taken along the line 8—8, while

Fig. 9 is a perspective view showing my sharpener in use.

In the various figures like parts are designated by like reference numerals. The folded-over jaw or blade-holding portion of my holder is shown generally at 1, while the rearwardly extending portion or tongue element is shown at 2. The handle 3 is provided at the end with a ball 4 (Fig. 2) while the rearward extension is provided with a socket 5, these elements forming a ball-and-socket joint. As shown in Figs. 2 and 3 the blade-holding portion of the holder is formed in two halves 6 and 7, these elements forming a pocket or jaw to receive the back 25 of the razor blade 22. The foreward edges of this portion are bent together in order to bear upon the blade, as shown at 8 in Figs. 2, 3 and 8. The upper end of

the blade-holding portion is freely open to receive the razor blade while the lower end is provided with indentations 9 which prevent the blade from slipping too far into the holder.

The holder shown in Figs. 1, 2 and 3 can be made conveniently from the metal blank shown in Fig. 4. This blank is first punched from a sheet of metal and may be stamped in the same or in a subsequent operation, whereby it is bent along the lines *a*—*a* and *b*—*b*. The bends along the lines *a*—*a* serve to form the foreward bent edges 8 of the blade-holding portion, while the right-angled bends along the lines *b*—*b* are for the purpose of forming the rear of the blade-holding pocket. In the stamping operation the two halves 10 of the socket 5 are also formed. The two halves of the blank are then folded together along the line *d*—*d*. If desired the rear edges of the pocket portion may be soldered or riveted together, as shown at 11 in Fig. 3.

In Fig. 5 a modified form of holder is shown. This modification can be made from the blank shown in Fig. 6. In making the holder from the blank of Fig. 6, the upper part 12 of the rear extension is bent through an angle of 180° in a forward direction along the line *f*—*f*. The two ears 13 and 14 are then bent at right angles upwardly from the plane of the drawings. The upper part of the pocket portion of the holder, which in this embodiment is made in two parts 15 and 16, is then bent forwardly through an angle of 180° along the line *e*—*e*, the two ears 13 and 14 being passed through the corresponding slots 17 and 18. The ears are then bent outwardly against the pocket portion, as shown in Fig. 5 and may be soldered to the latter if desired. This embodiment enables a saving of metal but requires more bending operations than the other embodiments.

Still another modification of my holder is shown in Fig. 7. This embodiment is made from two rectangular pieces of sheet metal, one of which is folded double to make the jaw portion and the other of which is likewise folded to make the rear extension. The latter piece is folded around the former and may be secured to the latter by soldering or riveting, for example.

The rear extension 2 of the embodiment of Figs. 7 and 8 is enlarged, approximately in the form of a cylinder, as shown in Fig. 8. This embodiment can therefore be employed in connection with a planar conditioning surface, since the rear extension is sufficiently large so that its bearing surfaces 26 hold the cutting edge of a blade against a planar conditioning surface at the proper angle to produce sharpening. With this type of holder it is convenient to employ a conditioner having a honing surface on one side and a stropping surface on the other side, both of these surfaces being planar.

One method of using my sharpener is shown, more or less diagrammatically, in Fig. 9. A razor blade 22 is first slipped into the holder. Then a glass tumbler is grasped in the left hand, as shown, while the end of the knurled handle 3 is held in the right hand. The holder and razor blade are then slipped into the open end of the tumbler and pressed against the inner glass surface. Owing to the concave surface of the tumbler the holder and blade touch the tumbler in only two places, namely at the cutting edge 20 of the blade and at the rear bearing edge 19 of the rear extension of the holder. The friction of these bearing surfaces against the glass tends to hold the blade with its cutting edge parallel to the inner cylindrical surface of the tumbler. The holder is then rotated by the right hand in the direction shown by the arrow while the tumbler is held stationary, the bearing edges 19 and 20 rubbing against the inner surface of the glass. This procedure conditions only one side of the blade. The blade must be turned over and the rotation of the holder reversed to condition the other side of the cutting edge. In order to turn the blade it is merely necessary to move the holder from one side of the glass surface directly to the opposite side without rotating the handle or blade. The holder may then be rotated in a reverse direction with the blade bearing upon the other side of its cutting edge. This operation may be repeated as frequently as may be required to give the proper edge to the blade. I have found that it usually requires no more than two to five rotations in each direction to properly sharpen a blade. It is evident, of course, that this can be accomplished in a minimum of time.

While I have described what I consider to be the preferred embodiments of my invention, it is evident, of course, that many modifications can be made in the specific structures which have been disclosed without departing from the purview of my invention. While the usual 6 ounce tumbler has a diameter which provides approximately the optimum amount of curvature on its inner surface to be used with my holder, it is possible to vary this diameter to some extent in either direction without seriously damaging the effectiveness of my sharpener. For best results, however, it is desirable that the distance between the bearing edges 19 and 20 should be correlated with the inner diameter of the conditioning surface. For this reason a standard tumbler or sharpening surface may be supplied with my sharpener, having an inner diameter coordinated with the distance between bearing surfaces 19 and 20. If desired a special concave honing surface or stropping surface may be supplied. It is possible to provide a detachable, enlarged rear extension, substantially of the shape shown in Fig. 8, which clasps over a flattened extension of the shape shown in Fig. 2, for example, so that the holder can be adapted to be used either with a glass tumbler or with a flat conditioning surface merely by removing or attaching the enlarged extension. The rear extension can be made substantially the length of the blade-holding portion of the holder, if desired, but in this case the lower end of this extension must be enlarged to provide sufficient space for the movement of the handle about the ball-and-socket joint. The blade holder of my invention can be made from sheet metal blanks having shapes other than those shown in the drawings. Various metals can be employed but I usually prefer brass which may be plated with nickel, chromium or gold, for example. The rear extension of the holder can be made solid if desired and may be weighted in order that the razor blade will always face upwardly when the handle is held horizontally, unless the blade is pressed against the conditioning surface. Other modifications within the scope of the following claims will be immediately evident to those skilled in this art.

What I claim is:

1. A holder for the usual single-edged razor blade provided with a thick back, comprising a pocket portion for receiving said thick back and a handle attached to said pocket portion by means of a ball-and-socket joint at a point in the plane of the razor blade and to the rear of

the center thereof, said handle normally extending to one side of said pocket portion in a line substantially parallel with the cutting edge of said razor blade, said holder and handle being so constructed and arranged that, when a blade is inserted in said holder and the assembly is pressed against a surface, the blade is held with its cutting edge pressed against said surface and can be drawn along said surface by moving said handle substantially in the plane of said surface in a direction substantially perpendicular with its axis.

2. A sharpener for the usual single-edged razor blade provided with a thick back comprising a blade holder, having a folded-over portion adapted to receive the thick back of said razor blade, a central, rearwardly-extending, flat tongue portion provided with a ball-socket adjacent said folded-over portion and having a bearing surface on each side at its rear end, and a handle provided with a ball at one end engaging said ball-socket and forming a ball-and-socket joint therewith, the axis of said handle normally extending from said ball-and-socket joint adjacent to and parallel with the back edge of said blade, the said blade holder being adapted to hold a razor blade with its cutting edge bearing against the cylindrical inner surface of a glass tumbler, the rear end of said tongue portion also bearing against the inner surface of said tumbler during the sharpening operation.

3. A blade-holder useful for sharpening single-edged safety razor blades comprising a pocket portion for receiving the thick back of the usual single-edged razor blade and a tongue element extending to the rear of said pocket portion and provided with a bearing surface on each side adapted to contact a conditioning surface during the sharpening operation, and a handle extending to one side of said blade holder and connected to said blade holder by means of a ball-and-socket joint at a point between said bearing surfaces and the cutting edge of the blade, the said blade-holder being so constructed and arranged that sharpening of a razor blade can be accomplished by pressing the holder with the cutting edge of a razor blade and one of said bearing surfaces against a conditioning surface and moving the handle in a direction perpendicular to its axis and to the axis of the cutting edge of said blade substantially in the plane of the conditioning surface.

4. The blade-holder of claim 3 wherein the rearwardly extending tongue element is so constructed that, when a blade is inserted in said holder and the assembly is pressed against the inner surface of a glass tumbler, the cutting edge of the blade and the bearing surface of said tongue element will be the only points contacting the inner surface of said tumbler.

5. A blade-holder useful for sharpening single-edged safety razor blades comprising a pocket portion for receiving the usual thick back of a single-edged razor blade, a bearing element extending to the rear of said pocket portion provided with a ball-socket centrally located adjacent said pocket portion, and a handle provided with a ball at one end engaging said ball-socket and forming a ball-and-socket joint therewith, said handle normally extending in the plane of said blade holder in a line substantially parallel with the cutting edge of said razor blade; the said blade-holder being adapted to hold a razor blade with its cutting edge bearing against a conditioning surface and with the rear end of said bearing element also bearing against said conditioning surface during the sharpening operation.

6. A sharpener for single-edged razor blades comprising a blade holder having a pocket portion for receiving the usual thick back of a single-edged razor blade, a central, rearwardly-extending portion in the same plane as said pocket portion having a substantially cylindrical surface forming two rear bearing surfaces for holding a razor blade against a conditioning surface, said pocket portion and said rearwardly-extending portion being symmetrical about the plane of said blade, and a handle connected to said blade holder by means of a ball-and-socket joint at a point between said pocket portion and said rear bearing surfaces normally extending to one side of the blade holder in a line substantially parallel with the cutting edge of said razor blade and being adapted to be moved in a direction substantially perpendicular to its axis and in a plane substantially coinciding with the plane of said conditioning surface during the sharpening operation.

EDWIN B. CONNERAT.