Dec. 18, 1923.

1,477,820

T. T. GRASER

KNIFE SHARPENER

Filed Aug. 13, 1921

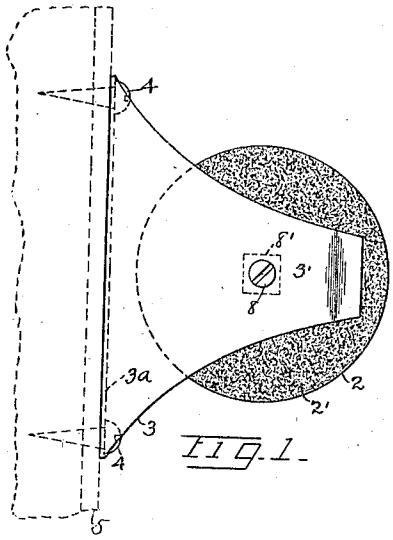



Fig. 1.

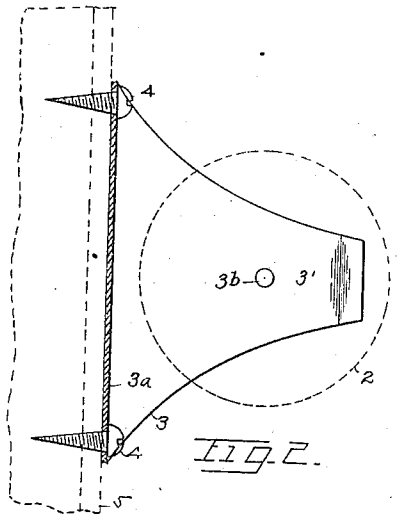



Fig. 2.

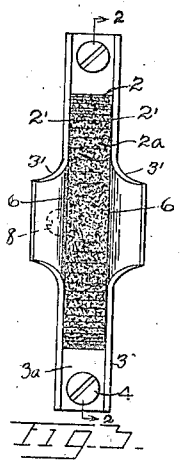



Fig. 3.

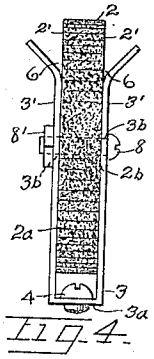



Fig. 4.

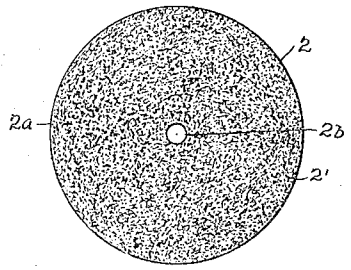



Fig. 5.

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# UNITED STATES PATENT OFFICE.

THOMAS T. GRASER, OF SYRACUSE, NEW YORK, ASSIGNOR TO SURE-CUT SHARPENER CO., INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

## KNIFE SHARPENER.

Application filed August 13, 1921. Serial No. 491,982.

*To all whom it may concern:*

Be it known that I, THOMAS T. GRASER, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Knife Sharpeners, of which the following is a specification.

This invention relates to improvements in knife sharpening devices, and has for its object to provide a novel, simple and handy device of the class, which may be mounted in stationary manner in any convenient place. A further object is to provide an abrading member which is mounted in a novel and simple holder, the said holder co-operating with the abrading member for holding knives, scissors, and the like, in the proper positions during the sharpening operations. And a further object is to provide simple means for adjusting the abrading member for shifting unworn surfaces to the sharpening position.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of the complete device mounted ready for use. Fig. 2 is a central vertical section, taken on line 2—2 of Fig. 3. Fig. 3 is a top-plan view of the sharpener. Fig. 4 is an end elevation of the same. And Fig. 5 is a side view of the abrading member.

In the drawing, 2 represents the abrading member, which is preferably circular, and having parallel sides 2′, and flat peripheral face $2^a$—a miniature of the well-known grind-stones. The member 2 is provided with a central bore or opening $2^b$. 3 represents the bracket or holder for the member 2, which is preferably made of sheet metal, and is folded upon itself for providing similar tapering parallel arms 3′; the arms being supported by an integral back $3^a$, which is perforated near its opposite ends to receive screws 4, by means of which the device may be rigidly secured to any suitable support, as 5. The space between the arms 3′ is preferably substantially the same as the thickness of the abrading member 2, and the said arms are provided with medial perforations $3^b$. The abrading member 2 is supported and adjustably held in place by a bolt 8, which passes through the perforations $3^a$ and the opening $2^b$, and by a nut 8′ which engages the threaded end of the bolt. In practice, the nut 8′ is preferably screwed up until the medial portions of the arms 3′ are drawn tightly against the opposite sides of the abrading member, for preventing the said member from rotating accidentally during the sharpening operations. By this construction and arrangement, the member 2 may be readily and quickly loosened and rotated in either direction by the operator, for bringing fresh and unworn abrading surfaces to the sharpening positions directly opposite and in registry with the free ends of the arms 3′. The arms 3′ are preferably bent outwardly at an angle not to exceed 45°, as best seen in Figs. 3 and 4, for providing similar V-shaped crevices or grooves 6 at the opposite sides of the member 2, into which the cutting edges of knives, or the blades of shears, and the like, may be inserted and held while the operator moves the said tools back or forth during the sharpening operations. At the bottoms of the crevices 6, the arms 3′ are preferably slightly curved, as shown in Fig. 4, for facilitating the entrance and guiding of the relatively thin cutting-edges of carving and other knives. By thus increasing the acuteness of the bottoms of the crevices 6, the edges of knife-blades may be forced and held more tightly against the abrading wheel 2, for effecting a more rapid and even sharpening of the tools. During the sharpening operations, the operator should exert a slight inward or downward pressure on the blades, and in order to properly sharpen knives, the blades should be regularly shifted from one crevice 6 to the other at the start of the alternate strokes. The free ends of the arms 3′ being relatively narrow, and the metal preferably being slightly flexible, tends to hold the cutting-edges of the knives against the member 2 with sufficient tension to effect the even abrading of the metal of the tools. My device is also intended to be utilized for sharpening scissors and similar tools, whose cutting edges are usually beveled. For this purpose the free ends of the arms 3′ are disposed at an angle of substantially 45°, as shown. To sharpen scissors, the operator places the plain flat sides of the blades fairly against the incline surface of the arm 3′, which positions the usual bevel (not shown)

parallel to the corresponding face of the abrading wheel 2. The blades should be then firmly held in the last described position, while being drawn through the crevices 6. The sharpening device being rigidly mounted on a suitable support, does not require to be handled, except for adjusting the abrading member, and the provision of the flaring arms 3′ at the opposite sides of the member 2, not only facilitates the ready and effectual sharpening of the different tools, but also serves to safeguard the operator, as well as to prevent injury to the tools.

Having thus described my invention, what I claim, is—

1. A knife sharpener comprising an abrading disk, a bracket bent up from sheet metal into substantially U-form the sides of the bracket being of triangular shape having broad lower edges joining a flat elongated base, said sides contacting the opposite sides of the disk, and means passing through the bracket sides a distance inwardly from the outer apices thereof for securing the disk in position, the outer apices of the triangular sides being deflected outwardly from the opposite sides of the disk to form work guides.

2. In a knife sharpener, a bracket having a long narrow base and substantially triangularly shaped sides, a circular abrading member held between the sides in flat contacting rotation therewith, the base underlying and extending at its opposite ends beyond the periphery of said abrading member to admit of easy access to the end portions of the base, and securing means passing through the end portions of the base at points beyond the periphery of the abrading member, the free ends of said triangular bracket sides diverging outwardly from the opposite sides of the abrading members and being resilient.

In testimony whereof I affix my signature.

THOMAS T. GRASER.