(No Model.)

S. W. WARDWELL, Jr.

KNIFE SHARPENER.

No. 469,615. Patented Feb. 23, 1892.

Fig. 1.

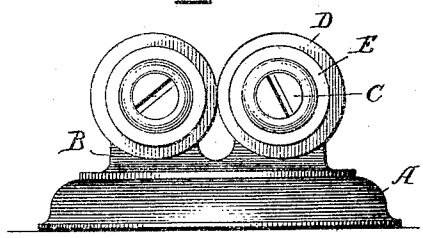


Fig. 2.

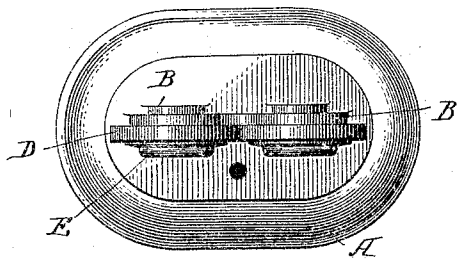


Fig. 3.

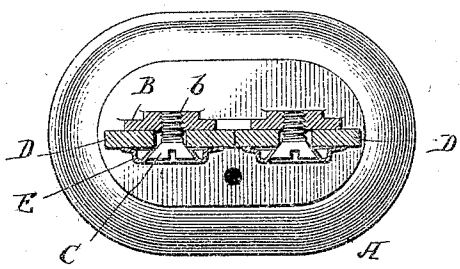
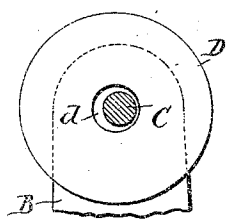


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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KNIFE-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 469,615, dated February 23, 1892.

Application filed November 9, 1891. Serial No. 411,311. (No model.)

To all whom it may concern:

Be it known that I, SIMON W. WARDWELL, Jr., a citizen of the United States, residing at Boston, Suffolk county, Massachusetts, have invented certain new and useful Improvements in Knife-Sharpeners, of which the following is a specification.

My invention relates to knife-sharpeners, and has for its object to improve the construction and arrangement of such devices and at the same time to furnish a simple, cheap, and effective sharpener; and to these ends my invention consists in a device embodying the features of construction and arrangement, substantially as hereinafter set forth.

Referring to the accompanying drawings, wherein I have illustrated the preferred embodiment of my invention, Figure 1 is a side view of a sharpener. Fig. 2 is a plan view. Fig. 3 is a horizontal section through the cutters and their attachments, and Fig. 4 is an enlarged detail.

Heretofore it has been common to make knife-sharpeners consisting, essentially, of two disks arranged in different relations to each other. Sometimes these disks are arranged so that their adjacent edges overlap each other. Sometimes disks have been arranged in the same plane with their beveled edges adjacent to each other. My invention differs from these and avoids some of the objections thereto; and it consists, practically, of two disks of hardened steel arranged diametrically in the same plane, the disks having edge surfaces at right angles to the diameter of the disk, so that when the edges are brought together the bearing-surfaces of the disks shall be substantially the thickness of the disks, and these disks are mounted upon a suitable support or base.

In the drawings, A represents a base of any suitable character and design having standards B rising vertically therefrom and having one at least of the faces of each standard parallel with the face of the adjacent standard. These standards are provided with screw-holes *b* for the reception of the screws C or other suitable device for attaching and holding the disks to the standards. The disks are preferably made from hardened steel and have their edges (which are relatively quite wide, an eighth of an inch more or less, for instance) at right angles to the diameter of the disk, so that when the two disks are placed diametrically in line with their edges together the edges will bear against each other practically throughout the thickness of the disk. This construction of disks gives two cutting-surfaces, one on each side of the bearing-surfaces. It increases the durability of the disk and also forms a bearing for the edge of the knife, so that nicks will not drop in and catch on the cutting-edge, which is liable to produce unevenness in the edge of the knife.

In order that the disks may be properly held in their position above described on the standards, I provide the disks with an enlarged opening *d*—that is, it is larger than the body of the screw C or other retaining device—so as to allow a certain adjustment of the disks with relation to each other. These disks are arranged on the standards, so that normally the sum of the radii of the two disks is greater than the distance from center to center of the screw-holes in the standards. In other words, the centers of the disks do not exactly correspond to the centers of the screws or screw-holes when the disks are in position on the standards. The screws or other securing devices C are provided with beveled heads, so that when they are passed through the openings in the disks the bevel portion of the heads strikes against the inner sides of the holes in the disks and forces the disks together, so that their adjacent edges will be held in close contact. By this means not only can the disks be properly held, but any wear or inequality in the edges of the disks can be compensated for. This furnishes a simple and effective means for adjusting the disk and to carry out the other features of my invention.

Sometimes I find it advantageous to provide washers E for the heads of the screws, as it makes a more ornamental finish and does not interfere with the operation of the parts. It will thus be seen that I provide a very simple and cheap sharpener having the desirable features set forth, and, as will be seen, the disks can be stamped or otherwise formed directly from sheet metal, requiring no tooling, and the parts can be readily put together and adjusted into operative position and retained

therein, compensating for the wear of the disks in use.

What I claim is—

1. A sharpener comprising two disks having their cutting-edges at right angles to the diameter of the disk, the disk being arranged in the same plane with their cutting-edges adjacent to each other, substantially as described.

2. A knife-sharpener comprising a base having two standards, each standard supporting disks diametrically arranged, the disks being provided with cutting-faces at right angles to the diameter of the disks, substantially as described.

3. In a knife-sharpener, the combination, with the standards and screws fitting the standards, of the disks having central openings, the sum of the radii of the disks being greater than the distance between the centers of the screw-openings, substantially as described.

4. A knife-sharpener comprising the base, the standards, the bevel-headed screws entering the standards, the disks having their edges at right angles to their diameters and provided with enlarged openings for the reception of the bevel portion of the screws, and washers interposed between the screws and the disks, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIMON W. WARDWELL, JR.

Witnesses:
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M. G. LARY.