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SHARPENING DEVICE

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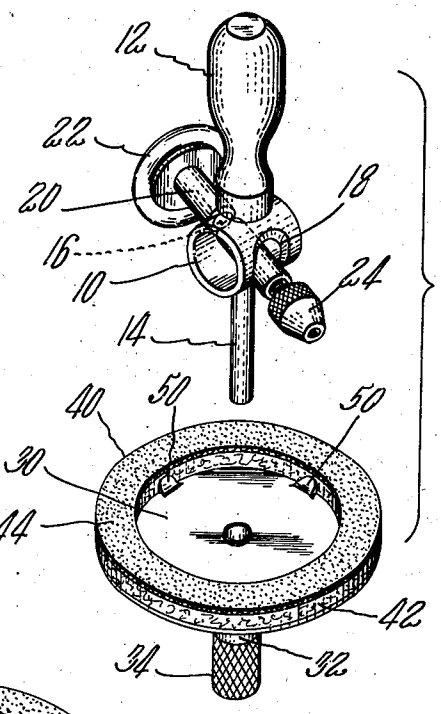

Fig. 1.

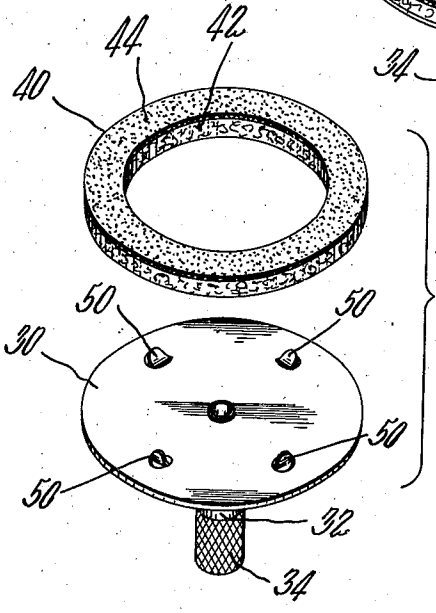

Fig. 2.

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SHARPENING DEVICE

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2 Claims. (Cl. 51—131)

This invention relates to improvements in a device for sharpening pointed articles such as phonograph needles.

It is an object of the invention to provide a sharpening device having an easily replaceable abrasive element in the form of a ring adapted to be held against the marginal portion of a supporting disk. To hold the ring in position, a circular series of lugs are provided on the disk to engage the inner diameter of the ring.

For a more complete understanding of the invention, reference may be had to the description thereof which follows and to the drawing of which

Figure 1 is a perspective view of a complete sharpening device.

Figure 2 is a perspective view of an abrasive ring and the supporting disk therefor.

As indicated in Figure 1, the sharpening device may consist of two separable portions, one portion comprising a hollow cylindrical member 10 from one side of which projects a handle 12, a stem 14 projecting from the other side of the member 10 in alinement with the handle 12. The cylindrical member 10 also has a pair of lateral apertures 16 and 18 through which extends a shaft 20. A reduced portion of the shaft 20 engages loosely in the aperture 16, preventing axial movement of the shaft but allowing limited rocking movement. The aperture 18 is somewhat elongated so that the shaft can rock through a limited angle. At one end of the shaft is a wheel 22. At the other end of the shaft is a chuck 24 which is adapted to grip a phonograph needle or other similar article to be sharpened.

The other portion consists of a plane disk 30 from the center of which a hollow shaft 32 projects. This shaft is adapted to receive the stem 14 so that the shaft 32 and disk 30 can be rotated on the stem. The outer end 34 of the shaft 32 is preferably knurled to facilitate rotation of the shaft and disk by the fingers of the operator. An abrasive member 40 is mounted on the face of the disk 30 remote from the shaft 32. The member 40 is preferably of substantial thickness and may comprise a ring or annulus 42 of fibrous material such as cardboard or the like having two annular plane faces, one of which engages the disk 30 when the ring is in position for use, and the other of which presents an abrasive surface 44 which may be in the form of abrasive granular material adhesively attached to a face of the ring or may be sandpaper, emery cloth or the like attached to the ring 42.

Any suitable means for releasably attaching the abrasive member 40 to the disk 30 may be employed. As shown, a plurality of ears 50 are struck up from the disk 30, these ears being arranged in a circular series and inclined outwardly toward the edge of the disk 30, so that, when the ring 40 is pushed into place, the inner edge of the ring is indented and gripped by the ears 50, firmly but releasably holding the ring in position against the face of the disk 30.

In using the sharpening device, a phonograph needle is inserted in the chuck 24 and the spindle is inserted in the hollow shaft 32 until the wheel 22 and the end of the phonograph needle rest against the abrasive surface 44 of the ring 40. The handle 12 is gripped in one hand of the operator while the shaft 32 is rotated in either direction by the other hand of the operator. The engagement of the wheel 22 against the rotating disk 40 causes the needle to rotate in a direction opposite to the movement of the abrasive surface with which it is in contact. Thus the pointed end of the needle is abraded to sharpen it.

It is evident that various modifications and changes may be made in the structure herein described and illustrated without departing from the spirit or scope of the invention as defined in the following claims.

I claim:—

1. In a sharpening device, a ring member of substantial thickness having two annular plane faces and inner and outer circular edges, abrasive material on one of said faces, a supporting disk concentric with said member, and means releasably holding said member in place on said disk, said means consisting of a plurality of ears struck up from said disk and engaging the inner edge only of said member.

2. In a sharpening device, a plane metal disk having a circular series of ears struck up therefrom and sloping outward, a ring of fibrous material having an annular face engaging said disk, a second annular face covered with abrasive material, and a circular inner edge engaged by said ears to hold said ring releasably in place on said disk.

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