M. L. LUEBBEN.

KNIFE SHARPENER.

APPLICATION FILED DEC. 2, 1920.

1,415,375. Patented May 9, 1922.

Fig. 1.

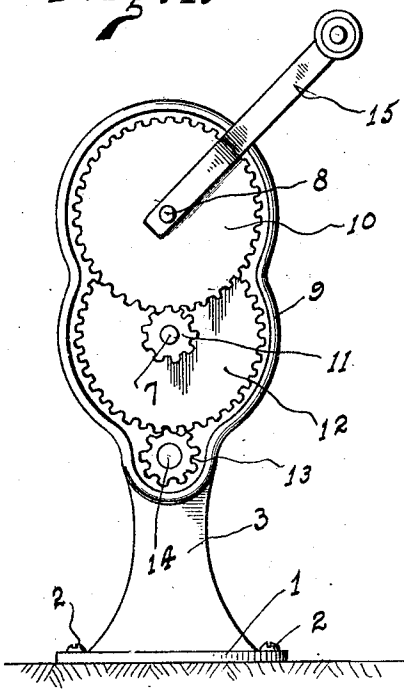
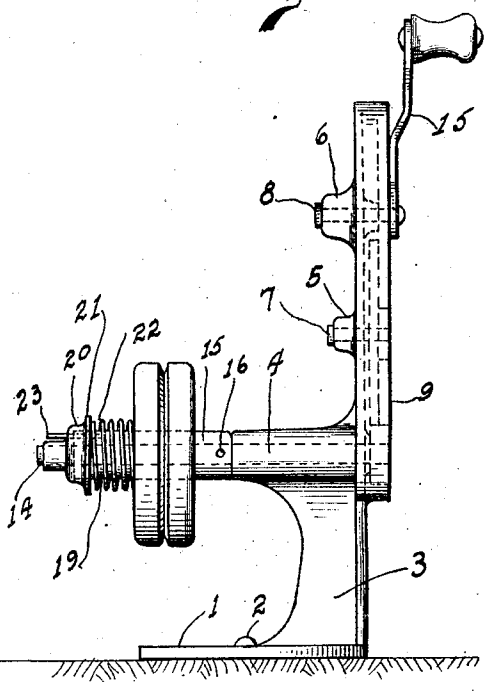


Fig. 2.



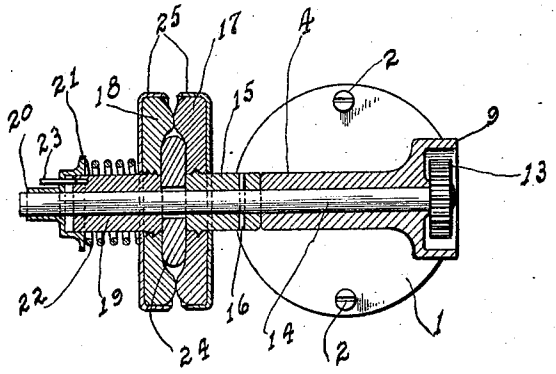


Fig. 3.

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KNIFE SHARPENER.

1,415,375. Specification of Letters Patent. Patented May 9, 1922.

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To all whom it may concern:

Be it known that I, MELCHIOR L. LUEBBEN, a citizen of the United States, residing at Long Beach, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Knife Sharpeners, of which the following is a specification.

The object of this invention is to provide a simple device intended more particularly for household use by the use of which knife blades and similar edged tools may be easily and effectually sharpened. The invention seeks to provide a device for the stated purpose by the use of which the cutting edge of the blade will be sharpened evenly on its opposite faces and will be prevented from being ground along its extreme edge whereby destruction of the cutting points will be avoided. Another object of the invention is to provide a device of simple and inexpensive construction in which the coacting abrading members will be automatically held in engagement with the opposite faces of the blade and may be separated to accommodate the blade and act thereon merely by the insertion of the blade between them. All these stated objects and other incidental objects which will hereinafter appear are attained in such a device as is illustrated in the accompanying drawings.

In the drawings—

Figure 1 is a front elevation of one embodiment of my invention;

Fig. 2 is a side elevation of the same;

Fig. 3 is a horizontal section.

In carrying out my invention, I employ a frame which is preferably cast in one integral structure and comprises a base plate 1 having openings formed therein through which fastening devices, indicated at 2, may be inserted into a fixed support so as to secure the frame rigidly in position for use. A standard 3 rises from the base plate and is formed above the base plate with a sleeve or elongated bearing 4 in which the main shaft is journaled. Above the sleeve 4, the standard is expanded laterally and provided with bosses 5 and 6 to support stub shafts 7 and 8 respectively and around the edge of the said expanded portion is a rib or flange 9 which houses the train of driving gearing. The shaft 8 is journaled in the upper boss 6 and carries a gear 10 which meshes with a pinion 11 on the front end of the lower stub shaft 7 which is journaled in the boss 5, as shown and as will be readily understood. The said pinion 11 is fixed to or formed integral with a gear 12 which in turn meshes with a pinion 13 fixed on the front end of the main shaft 14. A handle member 15 of any preferred form is secured upon the gear 10 or the front end of the shaft 8 so that the said shaft and pinion thereon may be easily rotated to drive the train of gearing and thereby rotate the main shaft 14 in an obvious manner.

The main shaft 14 extends rearwardly beyond the rear end of the elongated bearing 4, as shown clearly in Fig. 3, and upon the said shaft, adjacent the rear end of the said bearing 4, I secure a hub 15 in any convenient manner, as by a pin 16 inserted through the hub and the shaft. A disk 17 of carborundum or other abrading material is fixed to the rear end of the hub 15 so as to rotate therewith and a similar mating disk 18 is fixed to the front end of a hub 19 which is loosely fitted upon the shaft 14 in rear of the hub 15, as clearly shown. Upon the rear end of the shaft 14, I mount a cap 20 which may be stamped from sheet metal and forced upon the extremity of the shaft so as to be locked thereto through its frictional engagement therewith and the said cap is so shaped as to provide an annular abutment flange 21 between which and the disk 18 a spring 22 is coiled around the hub 19. A pin or stud 23 is rigidly secured in the rear end of the hub 19 and passes slidably through the body of the cap 20, as shown most clearly in Fig. 3, so that while the disk 18 and its hub may slide longitudinally upon the shaft 14 it will be forced to rotate therewith. Between the abrading disks 17 and 18, a washer 24 of leather or similar material is loosely mounted upon the shaft 14, and the outer face and the periphery of each abrading disk are covered by a cap 25 of light leather or some equivalent material.

It is thought the manner of using the device will be readily understood. The blade to be sharpened is inserted between the opposed faces of the abrading disks thereby forcing the disk 18 from the disk 17 against the tension of the spring 22 so that the edge of the blade will be yieldably clamped between the opposed coacting surfaces of the abrading members, and if the handle 15 be

then manipulated, the main shaft 14 will be rotated through the action of the train of gearing and the abrading members will be caused to rotate and act upon the opposite faces of the blade so as to produce the desired bevel thereon and polish the same. The blade should be drawn toward the operator while it is between the rotating abrading disks so that the sharpening action will be distributed along the blade and not concentrated at one point of the same and the entire edge of the blade thus sharpened evenly as is obvious and is desirable. The covering caps 25 will prevent direct contact of the cutting edge with the peripheries of the abrading members and the beveled form of the edge will be thereby preserved as well as unnecessary wear upon the abrading members avoided. Should the operator exert unnecessary or excessive pressure upon the blade, the edge thereof will not ride through the space between the abrading members into contact with the hard unyielding main shaft but will be brought into contact with the loose yielding washer 24 and the wearing away of the cutting edge will be thus avoided. The device is exceedingly simple and may be produced and installed at a very low cost, and when in use will be found highly efficient for the purpose for which it is designed. The abrading members may be secured to their respective hubs in any convenient or preferred manner, the only essential being that they shall be rigidly fixed to the hubs in order to rotate therewith. In the drawings, I have indicated the opposed ends of the hubs as being provided with somewhat roughened surfaces around and onto which the abrading members are formed and compressed, but it will be understood that the particular manner of securing the disks to the hubs is immaterial.

Having thus described the invention, what is claimed as new is:

1. In a knife sharpener, the combination of a support, a main shaft mounted therein, means for rotating said shaft, a pair of co-acting abrading members carried by said shaft, and a non-abrading body of yieldable material loosely mounted upon the shaft between said abrading members.

2. A device for the purpose set forth comprising a support, a shaft mounted in and extending rearwardly from the support, a hub secured on said shaft in rear of the support, an abrading member carried by said hub, a second hub mounted loosely on the shaft in rear of the first-mentioned hub, an abrading member carried by said second-mentioned hub, a cap secured on the shaft in rear of the second hub and fitting over the end of said hub, a spring coiled around the second hub and having its ends bearing respectively against the rear face of the second-mentioned abrading member and the front end of the cap, and a pin secured in the rear end of the second hub and projecting longitudinally therefrom parallel with the shaft and slidably engaging the cap.

3. In a device for the purpose set forth, the combination of a main shaft, an abrading member fixed thereto, a co-operating abrading member loosely mounted upon the said shaft, a cap secured on the shaft beyond the second-named abrading member, a pin fixed to the said second-named abrading member and slidably engaging the said cap, and a spring disposed between the said cap and the said second-named abrading member and normally holding said abrading member in operative relation to the first-named abrading member.

In testimony whereof I affix my signature.

MELCHIOR L. LUEBBEN. [L. S.]