(No Model.)

W. PURDY.

DEVICE FOR SHARPENING EDGED TOOLS.

No. 570,337. Patented Oct. 27, 1896.

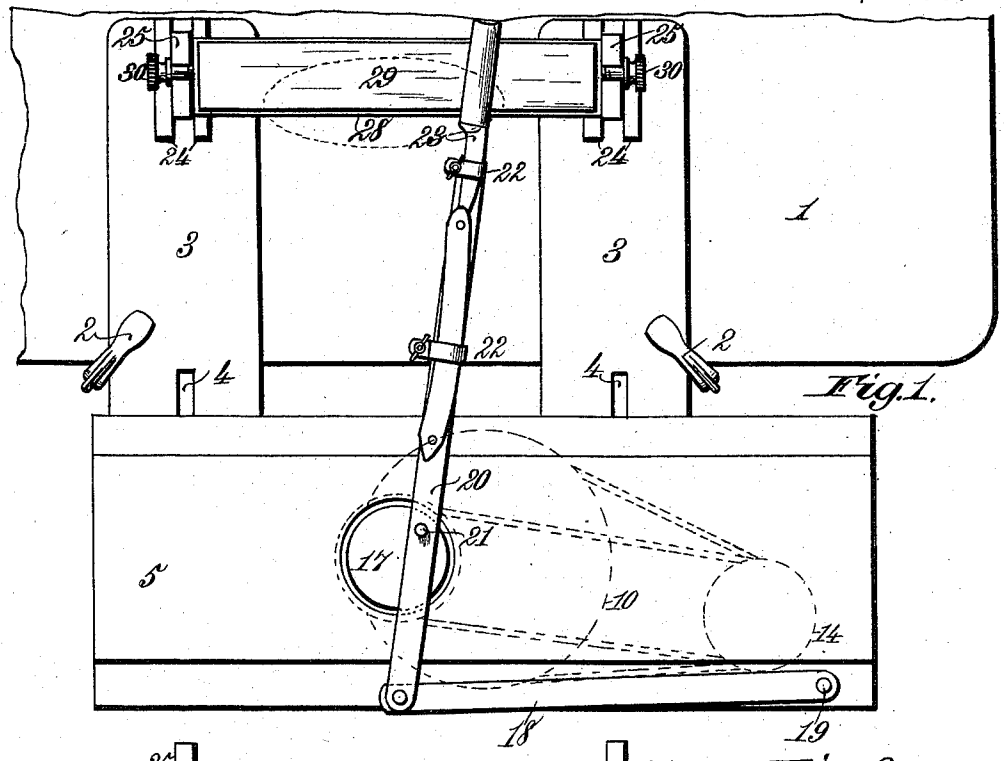

Fig. 1.

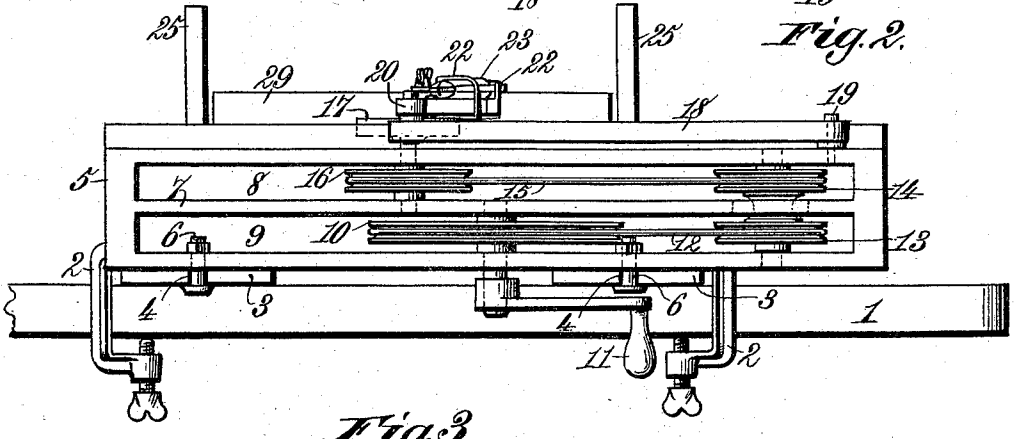

Fig. 2.

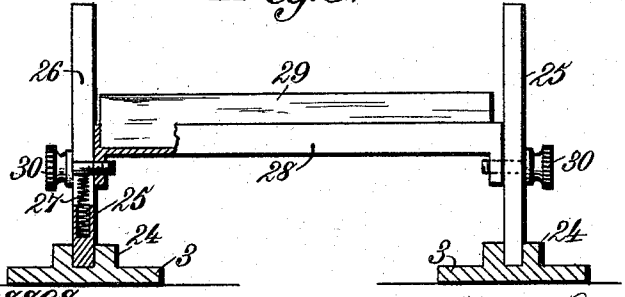

Fig. 3.

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UNITED STATES PATENT OFFICE.

WALTER PURDY, OF SOMERSET, PENNSYLVANIA.

DEVICE FOR SHARPENING EDGED TOOLS.

SPECIFICATION forming part of Letters Patent No. 570,337, dated October 27, 1896.

Application filed July 2, 1896. Serial No. 597,840. (No model.)

To all whom it may concern:

Be it known that I, WALTER PURDY, a citizen of the United States, residing at Somerset, in the county of Somerset and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Sharpening Edged Tools, of which the following is a specification.

My invention relates to devices for sharpening razors and other edged tools, and has for its object more particularly to provide a device for moving the article to be sharpened over the hone in such manner that its path of travel shall be in the form of an oval or ellipse, thus imitating the usual motion heretofore imparted by hand, which has been found in practice to give the best results.

A further object of my invention is to provide a yielding support for the hone, so that the same may at all times contact properly with the article being sharpened.

These objects I accomplish in the manner and by the means hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a table, showing my improved device attached thereto. Fig. 2 is a side elevation of the same. Fig. 3 is a detail elevation, partly in section, of the hone-support.

In the said drawings the reference-numeral 1 denotes a portion of the top of an ordinary table or other support. Fixed to the edge of this table by means of any ordinary clamps 2 are two boards 3, the same being centrally slotted at their outer ends at 4. As will be seen in Fig. 1, said boards are to be fixed to the table so that the slotted portions thereof shall project beyond the edge of said table.

A frame 5, having set-screws 6 projecting through its under side, is adapted to be placed upon the projecting ends of the boards 3, the said set-screws moving in the slots 4, thus adjustably connecting the parts together. This frame is divided by a central partition 7 into two sections 8 and 9, the lower section 9 having located centrally therein a wheel 10, the lower bearing for said wheel projecting through the bottom of the frame and having fixed thereto a handle 11. This wheel 10 is connected by a suitable cord or band 12 with a smaller wheel 13, mounted near one end of the section 9 and having its bearing passing through the partition 7 and into the section 8, where it carries a second wheel 14. This second wheel is also connected by a cord or band 15 with another wheel, 16, which in turn has mounted upon its shaft or bearing a wheel 17, lying in a recess in the top of the frame and projecting but slightly thereabove. The whole object of these parts is to impart a rapid rotary motion to the wheel 17 from the larger and slower-moving wheel 10, and at the same time to combine the structure in compact form.

Mounted upon the upper surface of the frame 5 is a lever 18, pivoted to said frame at one end at 19 and pivotally connected at its other end to an arm 20, which in turn is pivotally connected eccentrically to the wheel 17 at the point 21, as shown in Fig. 1. The free end of this arm 20 is provided with suitable clamps 22, adapted to retain the razor 23 or other edged tool thereon, as shown.

Mounted in suitable guideways 24, located on the boards 3 near their inner ends, are the uprights 25, the same being longitudinally movable in said guides. These uprights are slotted at 26 for the greater portion of their length and have seated in the lower ends of these slots the coiled springs 27, as clearly shown in Fig. 3. A suitable hone-support 28, having the hone 29 carried thereby, is adapted to be supported between these uprights 24 by means of set-screws 30, the latter being located in the slots 26 and resting upon the upper ends of the springs 27, thus providing a yielding support for the hone 29.

From the above description the operation of my improved construction will be understood to be as follows: The razor or other edged tool being fastened to the arm 20 by means of the clamps 22, and motion being imparted to the wheel 10 by the handle 11, a more rapid rotation will be imparted to the wheel 17 through the intermediate connections. This rotation of wheel 17 will, through the eccentric connection 21 and the lever 18, impart to the outer end of the arm 20 and the tool carried thereby a motion in the form of an oval or ellipse, as clearly shown by dotted line in Fig. 1, the same being substantially similar to the motion usually imparted by hand in the razor-honing process. The blade of the razor lying flat upon and contacting

with the hone 29 will receive in a very brief time the proper edge, the spring-support for the hone-carrier 28 compensating for the rigidity of the arm 20.

It will be understood that the motion to the device may be imparted by hand or by any other means, and that the mechanism intermediate the source of power and the wheel 17 may be varied at will, the essential features of this portion of the device being the wheel 17, the lever 18, and the arm 20, connected and operating as hereinbefore described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for sharpening edged tools, the combination with a frame, and a hone in fixed relation thereto, of an arm mounted on said frame and adapted to carry the tool to be sharpened in contact with the hone, and means for imparting to the end of said arm carrying the tool an oval or elliptical motion over the surface of the hone, substantially as described.

2. In a device for sharpening edged tools, the combination with a supporting-base, a frame mounted thereon, and a hone also mounted thereon, said frame and hone being adjustable with respect to each other, of an arm mounted on said frame and adapted to carry the tool to be sharpened in contact with the hone, and means for imparting to the end of said arm carrying the tool an oval or elliptical motion over the surface of the hone, substantially as described.

3. In a device for sharpening edged tools, the combination with a frame, and a hone in fixed relation thereto, of a lever pivoted at one end to said frame, an arm pivoted at one end to the free end of said lever and adapted to carry at its other end the tool to be sharpened in contact with the hone, a wheel in said frame to which said arm is eccentrically connected intermediate its length, and means for rotating said wheel, substantially as described.

4. In a device for sharpening edged tools, the combination with a frame, an arm mounted on said frame and adapted to carry the tool to be sharpened, and means for imparting to the end of said arm carrying the tool an oval or elliptical motion, of a hone with which said tool is adapted to contact in its motion, a hone-support, set-screws in the ends of said support, slotted uprights through which said set-screws pass, and springs in the bottoms of said slots upon which said set-screws rest, whereby a yielding support is afforded for the hone, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WALTER PURDY.

Witnesses:
CHAS. W. WALKER,
A. L. G. HAY.