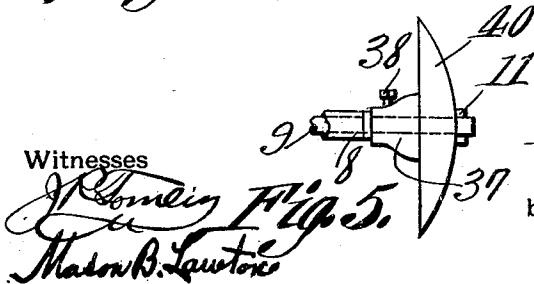
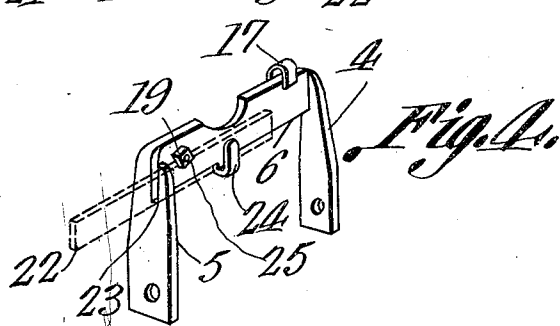
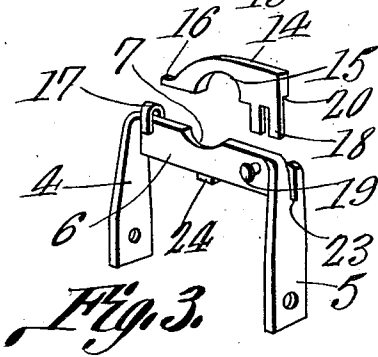
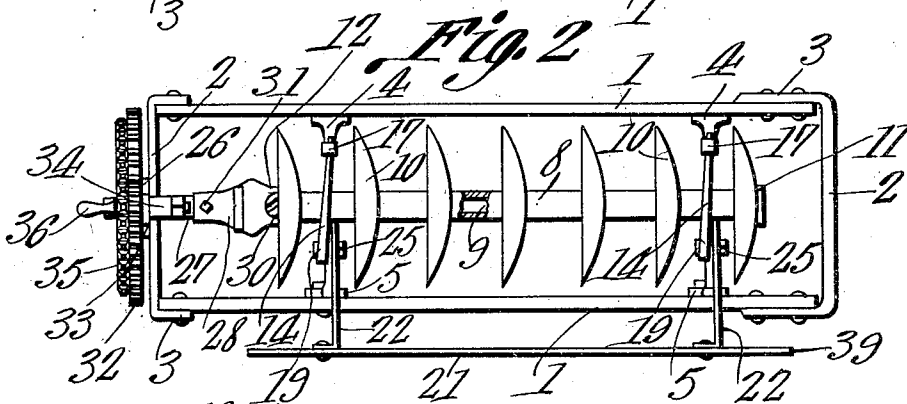
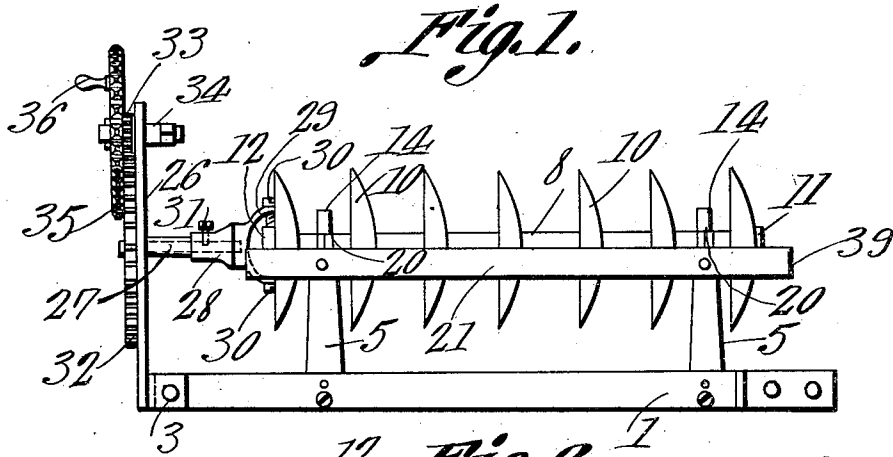


H. H. VERNON.
DISK SHARPENER.
APPLICATION FILED OCT. 24, 1910.

1,005,487.

Patented Oct. 10, 1911.



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UNITED STATES PATENT OFFICE.

HENRY H. VERNON, OF HAWARDEN, IOWA.

DISK-SHARPENER.

1,005,487.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed October 24, 1910. Serial No. 588,803.

To all whom it may concern:

Be it known that I, HENRY H. VERNON, a citizen of the United States, residing at Hawarden, in the county of Sioux and State of Iowa, have invented a new and useful Disk-Sharpener, of which the following is a specification.

The device forming the subject matter of this application is a disk-sharpener of the type disclosed generally in my former Patent #580,168.

It is the object of this invention to provide novel means for holding the drive shaft for rotation, to provide a novel form of tool rest, to provide novel means for holding the tool rest in position, and means for holding a single disk upon the drive shaft.

Another object of the invention is to provide novel means for operating the drive shaft.

A further object of the invention is to provide a means whereby both the bridge piece which holds the drive shaft upon the support, and the tool rest, may be simultaneously clamped in position upon the support.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 is a side elevation; Fig. 2 is a top plan parts being broken away; Fig. 3 is a perspective showing one of the supports and the bridge piece which is mounted thereon; Fig. 4 is a perspective showing the opposite side of the support from that depicted in Fig. 3, a portion of the tool rest being shown in dotted line; and Fig. 5 is a fragmental side elevation showing the means whereby a single disk may be held upon the drive shaft.

The frame or supporting structure upon which the movable elements of the device are mounted, is preferably fashioned from parallel side bars 1 and end bars 2, the ends of the bars 2 being overlapped upon and secured to the side bars 1, as shown at 3. Two supports are provided, one of these supports being seen most clearly in Figs. 3 and 4. Each support consists of legs 4 and 5, connected by a cross bar 6, ordinarily formed

integrally with the legs. The upper edge of this cross bar 6 is recessed, as shown at 7, to receive for rotation, sleeves 8, which are removably mounted upon a shaft 9. The disks 10 which are to be sharpened, are located between the adjacent ends of the sleeves 8, the shaft 9, of course, being inserted through the disks. At one end of this drive shaft 9 there is a head 11, and upon the other end of the drive shaft a nut 12 is threaded. It will be seen that when the nut 12 is rotated, all of the disks 10 will be bound against the sleeves 8, so that the disks will rotate when the drive shaft 9 is rotated.

In order to hold the shaft 9 and the disks 10 for rotation upon the bars 6 of the supports, each support is equipped with a bridge 14. Each bridge 14 is recessed upon its lower edge, as shown at 15, this recess coöperating with the recess 7 in the bar 6 of the support, to form a bearing in which the sleeves 8 and the shaft 9 rotate. The bridge 14 is reduced at one end, to form a finger 16, this finger 16 being adapted to be inserted beneath an eye 17 straddled upon and secured to the bar 6 adjacent one end of the bar. Near its other end, the bridge 14 is equipped with depending, spaced fingers 18. These fingers 18 lie along one side of the bar 6 of the support. In its side face, the bridge 14 is recessed to form a shoulder 20, this shoulder 20 engaging the upper edge of the bar 6 of the support to hold the bridge in place. A securing member, ordinarily a headed bolt 19 is extended through the bar 6. The fingers 18 of the bridge 14 straddle this bolt 19 and the head of the bolt, clearly seen in Fig. 3, overlaps the fingers 18.

The invention further includes a tool rest, denoted generally in Figs. 1 and 2 by the numeral 39. This tool rest is adapted to support the knife or attrition member, which, being applied to the disks 10 as the same are rotated, serves to sharpen the disks. This knife or attrition element may be of any desired construction; the specific form of knife referred to in my former patent, will be found efficient in operation.

Passing now to a specific description of the tool rest, it will be seen, noting particularly Figs. 1 and 2, that the rest includes a bar 21, extended longitudinally of the machine, rectangularly disposed spaced arms 22 being secured at their outer ends to the bar 21. In the upper edges of the legs 5 of

the supports there are notches 23. The arms 22 of the tool rest slide in the notches 23 and in upstanding hooks 24, located upon the bars 6 of the supports intermediate the legs 4 and 5. The bolts 19 overhang the upper edges of the arms 22 of the tool rest and serve to hold the tool rest in place for sliding movement in the notches 23 and in the hooks 24. Upon the ends of the bolts 19 are nuts 25. When these nuts 25 are rotated, they will bear against the arms 22 of the tool rest, and draw the heads of the bolts 19 against the fingers 18 of the bridges 14. Therefore, when the nuts 25 are rotated to a firm seat upon the arms 22 of the tool rest, the tool rest will be held against sliding movement, and, at the same time, the bridges 14 will be clamped in place upon the bars 6 of the supports. Obviously, by sliding the bar 21 of the tool rest toward and away from the side bar 1 of the frame, different diameters of disks may be sharpened, and different forms of sharpening tools may advantageously be supported upon the bar 21.

Fixed to and rising from one of the end bars 2 of the supporting frame, is a standard 26 in which an auxiliary shaft 27, in axial alinement with the shaft 9, is journaled for rotation. Over the inner end of the auxiliary shaft 27 a collar 28 is slipped, the collar 28 being held in place upon the auxiliary shaft 27 by means of a set screw 31. The collar 28 at its inner end terminates in spaced arms 29, adapted to straddle the nut 12 which is upon the inner end of the shaft 9. Into these arms 29 set screws 30 are inserted, radially of the shaft 9. The set screws 30 bear upon the nut 12 and serve to connect the auxiliary shaft operatively with the drive shaft 9. Secured to the outer end of the auxiliary shaft 27 and located beyond the standard 26, is a pinion 32 in mesh with a pinion 33 secured to a stub shaft 34 rotatable in the standard 26 above the auxiliary shaft 27. Secured to the stub shaft 34 and outstanding beyond the vertically alined pinions 32 and 33, is a sprocket wheel 35, carrying an outstanding handle 36. The handle 36 may be manipulated to put the drive shaft 9 in motion, or if desired, a sprocket chain (not shown) may operatively connect the sprocket wheel 35 with a gasoline engine or other prime mover, so that the shaft 9 may be power driven. Should it be desired to sharpen one disk only, as shown in Fig. 5, instead of a gang of disks, as shown in Fig. 1, a collar 37 may be slipped over the inner end of the shaft 9 and held in place by means of a set screw 38. The single disk, denoted specifically by the numeral 40 in Fig. 5, is slipped over the end of the shaft 9 into abutment with the collar 37. The nut 12 is then mounted in place upon the shaft 9, the disk

40 being bound between the collar 37 and the nut 12.

In practical operation, by loosening the set screws 30 in the arms 29, and by loosening the nut 25, the drive shaft 9 together with the disks 10 may readily be lifted off the bars 6 of the supports, the loosening of the nuts 25 obviously freeing the bridges 14, so that the fingers 16 thereof may be withdrawn from beneath the eyes 17.

The tool rest 39 may be advanced toward the supporting frame, or retracted therefrom by loosening the nuts 25, and when the nuts 25 are rotated to bear against the arms 22 of the tool rest, the tool rest will be held in its adjusted position.

Having thus described the invention, what is claimed is:—

1. In a machine for sharpening disks, a frame including a transverse support; a bridge piece upon the support; a disk-carrying shaft held for rotation between the support and the bridge; a tool rest slidable upon the support; and a clamping device located in the support and adjustably engaging both the bridge piece and the rest.

2. In a machine for sharpening disks, a frame including a transverse support provided at one end with an eye and with a notch at the other end; a bridge removably engaged at one end beneath the eye and provided at the other end with a depending finger lying along the side of the support; a disk-carrying shaft journaled for rotation between the support and the bridge; a tool rest slidable in the notch; and a clamping device in the support adjustably engaging the finger and the tool rest to bind the same upon the support.

3. In a machine for sharpening disks, a frame including a transverse support provided with an eye at one end, with a notch at the other end, and with a hook between its ends; a bridge engaged at one end beneath the eye and provided with a finger to lie along the side of the support; a tool rest slidable in the notch and in the hook; a securing member engaging the support and the finger and overhanging the rest to hold the same in the notch and the hook; and a disk-carrying shaft journaled between the support and the bridge.

4. In a machine for sharpening disks, a frame including a transverse support provided with an eye at one end, with a notch at the other end, and with a hook between its ends; a bridge piece removably engaged at one end beneath the eye and provided with spaced depending fingers adapted to lie along the side of the support, the bridge having a shoulder to engage the upper edge of the support; a tool rest slidable in the notch and the hook; a securing member inserted through the support and straddled by the fingers, the securing member over-

hanging the tool rest to hold the same in the notch and the hook, the securing member having a head at one end adapted to overlap the fingers; adjustable means upon
5 the other end of the securing member adapted to bear against the tool rest to hold the same against sliding movement and to draw the head of the securing member against the fingers; and a disk-carrying shaft jour-

naled for rotation between the bridge and 10 the support.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY H. VERNON.

Witnesses:

JOHN K. OFSTAD,
J. L. CRUMBAUGH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."