E. F. KIRKSEY & J. T. STEGALL.

TOOL SHARPENER.

APPLICATION FILED SEPT. 28, 1908.

916,328. Patented Mar. 23, 1909.

Fig. 1.

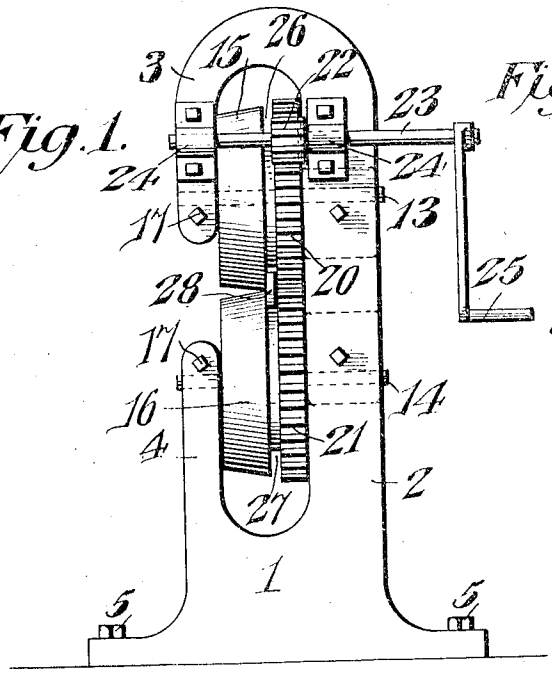


Fig. 2.

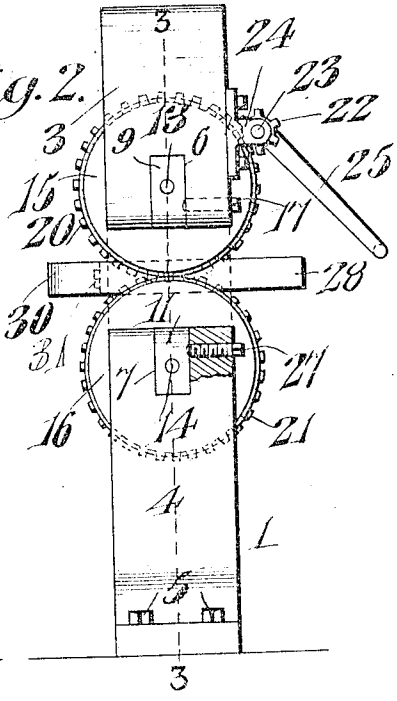


Fig. 3.

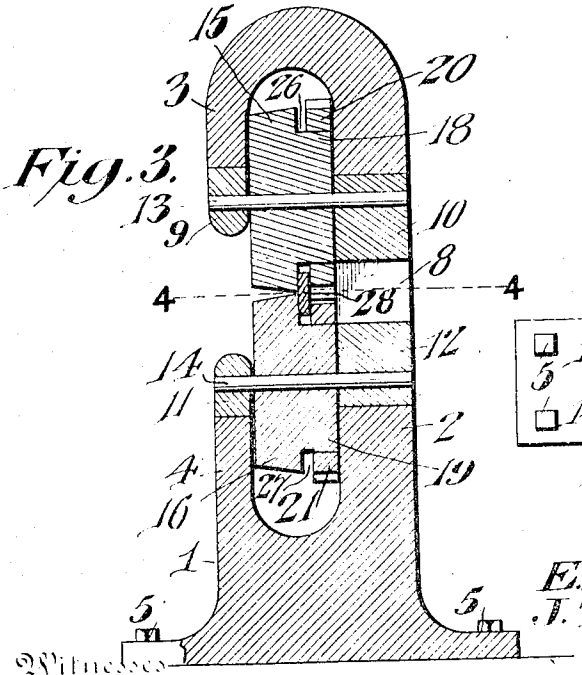
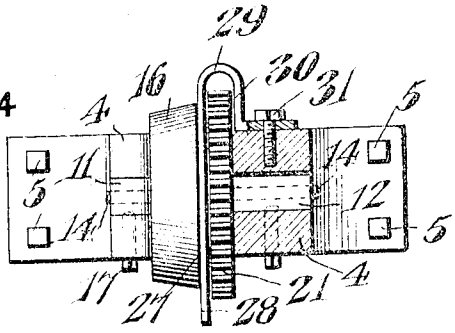


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

ELIJAH F. KIRKSEY AND JOHN T. STEGALL, OF CLARKSVILLE, TEXAS.

TOOL-SHARPENER.

No. 916,328. Specification of Letters Patent. Patented March 23, 1909.

Application filed September 28, 1903. Serial No. 455,009.

To all whom it may concern:

Be it known that we, ELIJAH F. KIRKSEY and JOHN T. STEGALL, citizens of the United States, residing at Clarksville, in the county of Red River and State of Texas, have invented a new and useful Tool-Sharpener, of which the following is a specification.

The invention relates to improvements in tool sharpeners.

The object of the present invention is to improve the construction of tool sharpeners, and to provide a simple and comparatively inexpensive one, adapted for sharpening various instruments, such as plows, disks, tools, etc., and capable of operating on the same either in a hot or cold condition.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a side elevation of a tool sharpener, constructed in accordance with this invention. Fig. 2 is a front elevation of the same. Fig. 3 is a central vertical sectional view on the line 3—3 of Fig. 2. Fig. 4 is a horizontal sectional view, taken substantially on the line 4—4 of Fig. 3.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

The machine comprises in its construction a supporting frame, having a base 1 and provided with a vertical standard 2, rising from the base and curved forwardly at the top and having a depending vertical arm 3, over-hanging the base and arranged in spaced relation with the upper portion of the standard. The frame is also provided with an arm 4, extending upwardly from the base in substantially the same vertical plane as the arm 3 and arranged in spaced relation with the said arm and with the lower portion of the standard 2. The base is extended in advance of the arm 4 and in rear of the standard 2, and is designed to be secured to the floor, or to any other suitable supporting surface by means of screws 5, or other suitable fastening devices, piercing the front and rear portions of the base. The arms 3 and 4 are provided with slots or bifurcations 6 and 7, and the standard is provided with a vertical head 8, the slots being provided for the accommodation of upper bearing blocks 9 and 10 and lower bearing blocks 11 and 12. The bearing blocks are provided with horizontally alined bearing openings for the reception of upper and lower shafts 13 and 14 upon which are mounted upper and lower grinding wheels 15 and 16. The bearing blocks are secured in the slots of the supporting frame by means of set screws 17, or other suitable fastening devices.

The grinding wheels 15 and 16, which are located in the upper and lower spaces between the arms 3 and 4 and the standard 2, are designed to be constructed of any suitable material, and they are forwardly tapered to present beveled faces to the plow, disk, tool, or other instrument to be sharpened. The grinding wheels are also provided with reduced rearwardly extending portions 18 and 19 on which are mounted gears 20 and 21, consisting of toothed rims or rings and meshing with each other. The upper gear also meshes with a pinion 22 of an operating shaft 23, journaled in suitable bearings 24 of the supporting frame and extended in rear thereof and equipped with a crank handle 25 by means of which the tool sharpener may be operated by hand. The operating shaft 23 may also be provided with a suitable pulley (not shown), or other means for enabling the tool sharpener to be operated by a suitable power.

The upper and lower gears 20 and 21 are spaced from the body portions of the tapered grinding wheels to form annular grooves 26 and 27 and also to off-set the gears from the grinding faces of the wheels 15 and 16. In order to prevent the tools, or other instruments from coming in contact with and being injured by the gears 20 and 21, the machine is equipped with a horizontally disposed guard 28, consisting of a bar extending through the contiguous portions of the grooves 26 and 27 and arranged between the upper and lower grinding wheels and interposed between the front grinding portions thereof and the meshing portions of the gears 20 and 21. The guard is curved rearwardly at one end to form a bend 29, and it is provided with a substantially L-shaped arm 30,

secured to one side of the standard by a screw 31, or other suitable fastening device, as clearly illustrated in Fig. 4 of the drawing. The guard extends horizontally beyond the gears, and it effectually prevents the instrument operated on from coming in contact with the gearing.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A tool sharpener including a supporting frame, upper and lower grinding wheels mounted in the supporting frame and provided with gears spaced from the grinding portions of the wheels and forming intervening grooves and meshing with each other, means for rotating the gears, and a guard arranged in the contiguous portions of the said grooves and interposed between the grinding portions of the wheels and the said gears to prevent an instrument operated on by the tool sharpener from coming in contact with the gearing.

2. A tool sharpener including a supporting frame, upper and lower grinding wheels mounted in the supporting frame and having reduced rear portions, gears consisting of toothed rings mounted on the reduced portions of the grinding wheels and spaced from the front portions of the same to form intervening annular grooves, means for rotating the gears, and a guard consisting of a horizontal bar extending through the contiguous portions of the grooves and arranged between the reduced portions of the upper and lower grinding wheels and interposed between the grinding portions thereof and the gears, said guard being extended around the gears at one side of the machine and secured to the supporting frame.

3. A tool sharpener including a supporting frame having a base and provided with a standard having a vertical slot and provided at the top with a depending arm over-hanging the base, the latter being also provided with an upwardly extending arm, said arms being arranged in spaced relation with each other and with the standard and provided with slots located opposite the upper and lower portions of the vertical slot of the standard, independent upper and lower bearing blocks arranged in the said slots, independent fastening devices piercing the arms and the standard and rigidly securing the blocks in the frame, upper and lower shafts journaled in the bearing blocks, grinding wheels mounted in the shafts and provided with gears meshing with each other, an operating shaft mounted on the exterior of the frame, and a pinion arranged on the operating shaft and meshing with one of the said gears.

4. A tool sharpener including a supporting frame, upper and lower grinding wheels mounted in the supporting frame and provided at the back with gears meshing with each other, said grinding wheels being also provided with corresponding annular grooves located at an intermediate point between the said gears and the grinding portions of the grinding wheels, means for rotating the gears, and a horizontal guard extending through the grooves and arranged in advance of the meshing portions of the gears and provided with a substantially L-shaped arm secured to the supporting frame.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ELIJAH F. KIRKSEY.
JOHN T. STEGALL.

Witnesses:
W. E. EDWARDS,
BELLA BURDETT.