

(No Model.)

C. H. GREEN.
MACHINE FOR SHARPENING DISKS.

No. 534,261.

Patented Feb. 19, 1895.

Fig. 1.

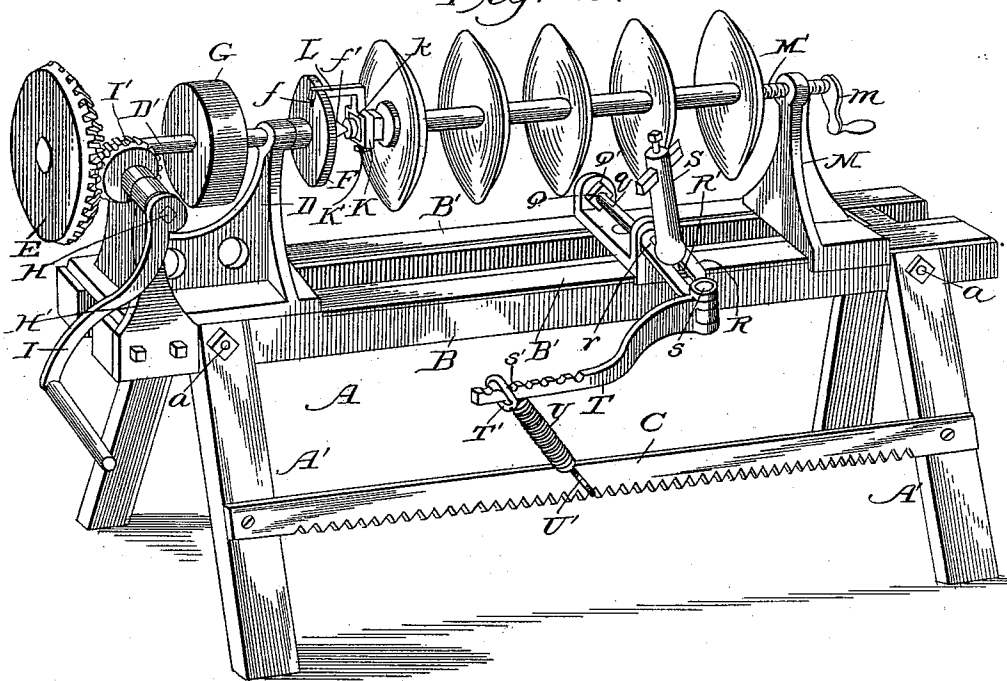


Fig. 3.

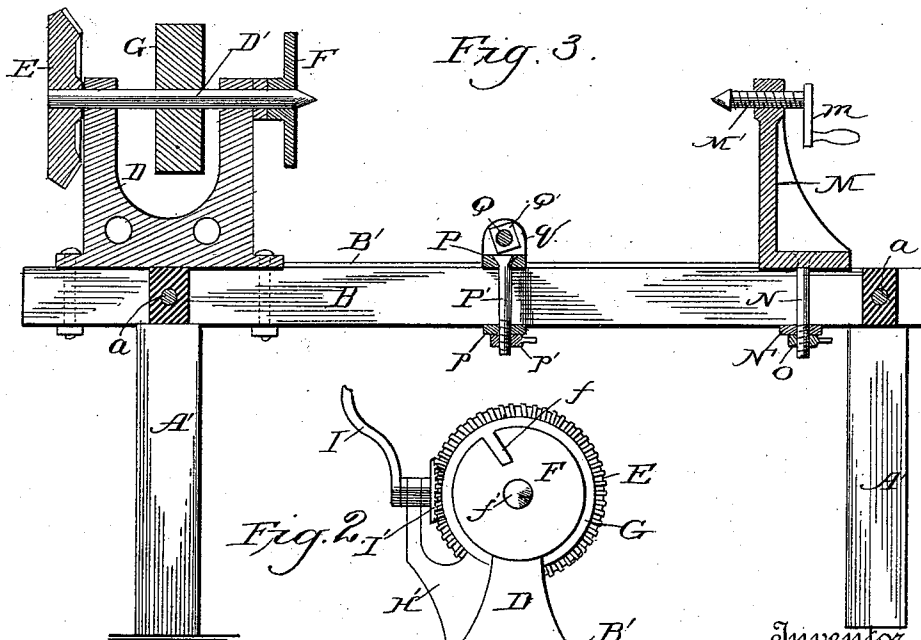
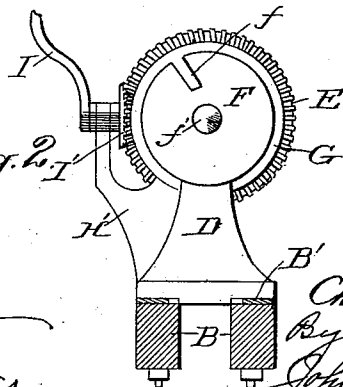


Fig. 2.



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MACHINE FOR SHARPENING DISKS.

SPECIFICATION forming part of Letters Patent No. 534,261, dated February 19, 1895.

Application filed June 22, 1894. Serial No. 515,353. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. GREEN, a citizen of the United States, residing at Swaledale, in the county of Cerro Gordo and State of Iowa, have invented certain new and useful Improvements in Machines for Sharpening Disks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in devices or machines for sharpening the disks of disk harrows, and it has for its objects among others to provide a simple and cheap portable device for sharpening the disks by which the same may be sharpened without removing the disks from their shaft.

It has for a further object to provide simple and efficient means whereby the cutter may be brought into operative position to act upon any one of the disks and at any desired angle so that it may serve for use upon any shaped disk blade. Suitable means are provided for locking the nut at the end of the disk, so that the disk will of necessity revolve with the face plate.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention in this instance resides in the peculiar combinations, and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved disk-sharpening apparatus with a harrow shaft with its disks shown in position for being operated upon thereby. Fig. 2 is a vertical cross section through the same looking toward the end where the gearing is located. Fig. 3 is a substantially central vertical longitudinal section through the apparatus.

Like letters of reference indicate like parts throughout the several views.

Referring now to the drawings A designates a suitable frame which in this instance is composed of the end legs A' and the longitudinal pieces B secured to the upper ends of the legs by the transverse bolts a, the upper faces of the longitudinal pieces being provided with metallic wear plates B', and the legs upon one side being connected by the longitudinal metallic bar C the under side of which is toothed as shown in Fig. 1.

Secured to the frame at the left hand end is the casting or bracket D in suitable bearings in which is journaled to revolve the shaft D' which extends lengthwise of the frame and upon one end of this shaft is fast a gear wheel E and upon the other end is fast a face plate F which is provided with a slot f for a purpose which will soon appear. The end of the shaft is provided with a conical center f' which is designed to engage the face of the nut on the end disk. On this shaft between the uprights of the bracket or casting is a grindstone G upon which the cutting tool may be sharpened when it becomes dull.

H is a short shaft mounted to revolve in suitable bearings in the upper end of the standard H', said shaft being at right angles to the shaft D' and provided with a crank handle I by which it may be revolved. Fast on this shaft is a small pinion I' meshing with the gear wheel as shown.

K is the disk nut dog. It is formed with a rectangular opening k adapted to receive the nut on the outside of the disk as shown and it is provided upon its under side with a set screw K' adapted to be engaged with the nut to hold the dog thereon and to adapt it for use with nuts of varying sizes. This dog is formed with a lateral arm L which is adapted to fit in the slot of the face plate so that when the longitudinal shaft is turned the face plate and disk must all turn together.

M is a bracket adapted to slide upon the upper face of the longitudinal pieces of the frame and has mounted in the upper end thereof the tail screw M' adjustable in its bearing by means of the crank handle m. This bracket has a depending screw threaded bolt N which

passes through a cross plate N' and is provided with a thumb nut O or its equivalent by which the bracket may be tightened and by the loosening of which the bracket may be
5 adjusted to any desired position.

P is the tool-carrying carriage. It is provided with a depending screw threaded rod P' which passes through the cross plate p which extends across the under side of the longitudinal bars of the frame and this rod is provided with a thumb nut p' or its equivalent by which the carriage may be tightened in its adjusted position. The upper face of the carriage is provided with the lugs or ears q in
15 which is mounted for rotation the tilting shaft Q, which, at one end, is provided with the set nuts Q' upon opposite sides of the ear or lug through which it passes and its other end is offset upward as seen at r and terminates in a horizontal flattened portion R which is provided with a longitudinal slot R' in which is
20 adjustably mounted the tool post S which is designed to support the tool in any of the well known ways. The end of this flattened portion is fitted between the bifurcated end of the curved bar T which is held thereto by a
25 vertical pin s while its other end is toothed as shown at s'. Over this toothed end engages a loop or link T' to which is connected one end of the spring U the other end of which is connected with the loop or link U' which embraces the toothed bar C as shown.
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With the parts constructed and arranged substantially as above set forth the operation
35 is as follows:—The harrow shaft is placed in position with the tail screw and the center point on the shaft of the face plate engaging in the ends thereof as shown and the tool-carriage adjusted in position for the tool to
40 operate upon the desired disk. The crank handle is then turned to revolve the small pinion which in turn meshing with the large gear revolves the same and the longitudinal shaft carrying the face plate and consequently

revolving the shaft of the disks and the disks. 45
The rocking or tilting shaft is given the desired position by means of the toothed arm connected therewith and the spring acting thereon. The tool post is adjusted in the slot of the flattened portion of the tilting shaft 50 and after one disk has been acted upon the tool-carriage is adjusted in position for the tool to act upon another, and so on.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages. 55

What I claim as new is—

1. The combination with the frame and the means for holding and revolving a harrow shaft, of a tool carriage, adjustably mounted 60 in said frame, a tilting shaft having a flattened extension provided with an elongated slot, and a tool post adjustable in said slot, substantially as described.

2. The combination with the frame, of the 65 tool-carriage adjustable thereon, and having ears, the shaft rotatably mounted in said ears, the set nuts upon said shaft upon opposite sides of one of said ears, the tool-post adjustably held in a slot in said shaft, and means 70 for rocking said shaft, as set forth.

3. The combination of the frame, the toothed bar connecting the legs thereof, the adjustable tail-screw, the face plate with its notch, the centering point, the means for revolving the 75 same, the adjustable tool-carriage, the rocking shaft thereon, the toothed arm pivotally connected therewith, and the spring connecting said toothed arm with the toothed bar, substantially as shown and described. 80

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES H. GREEN.

Witnesses:

E. J. WHITTLE,
J. T. JENKINS.