(No Model.)

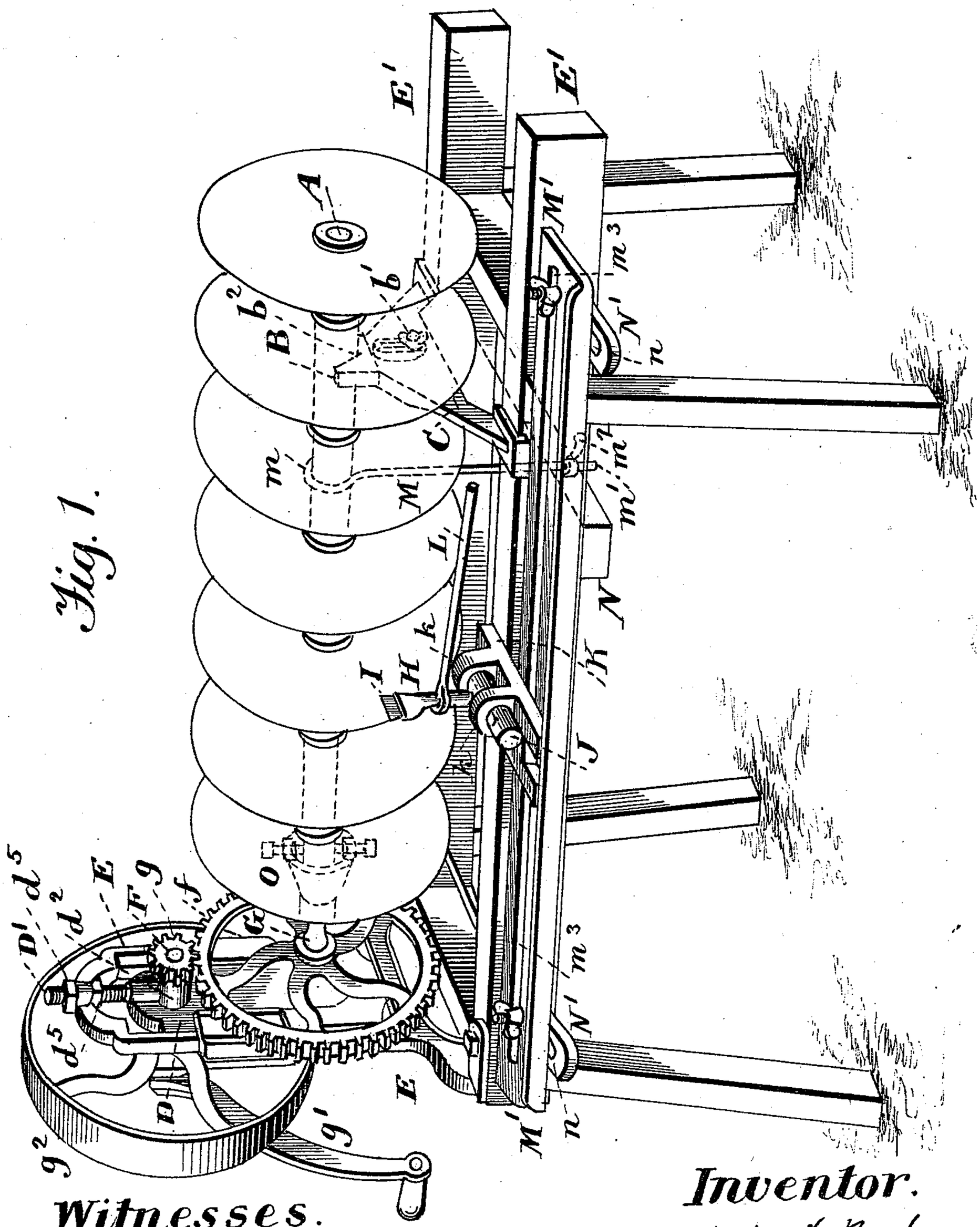
2 Sheets—Sheet 1.

J. T. BARKER.

HARROW DISK SHARPENER.

No. 518,215. Patented Apr. 17, 1894.

Fig. 1.



Witnesses.
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H. A. Daniels

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(No Model.) 2 Sheets—Sheet 2.

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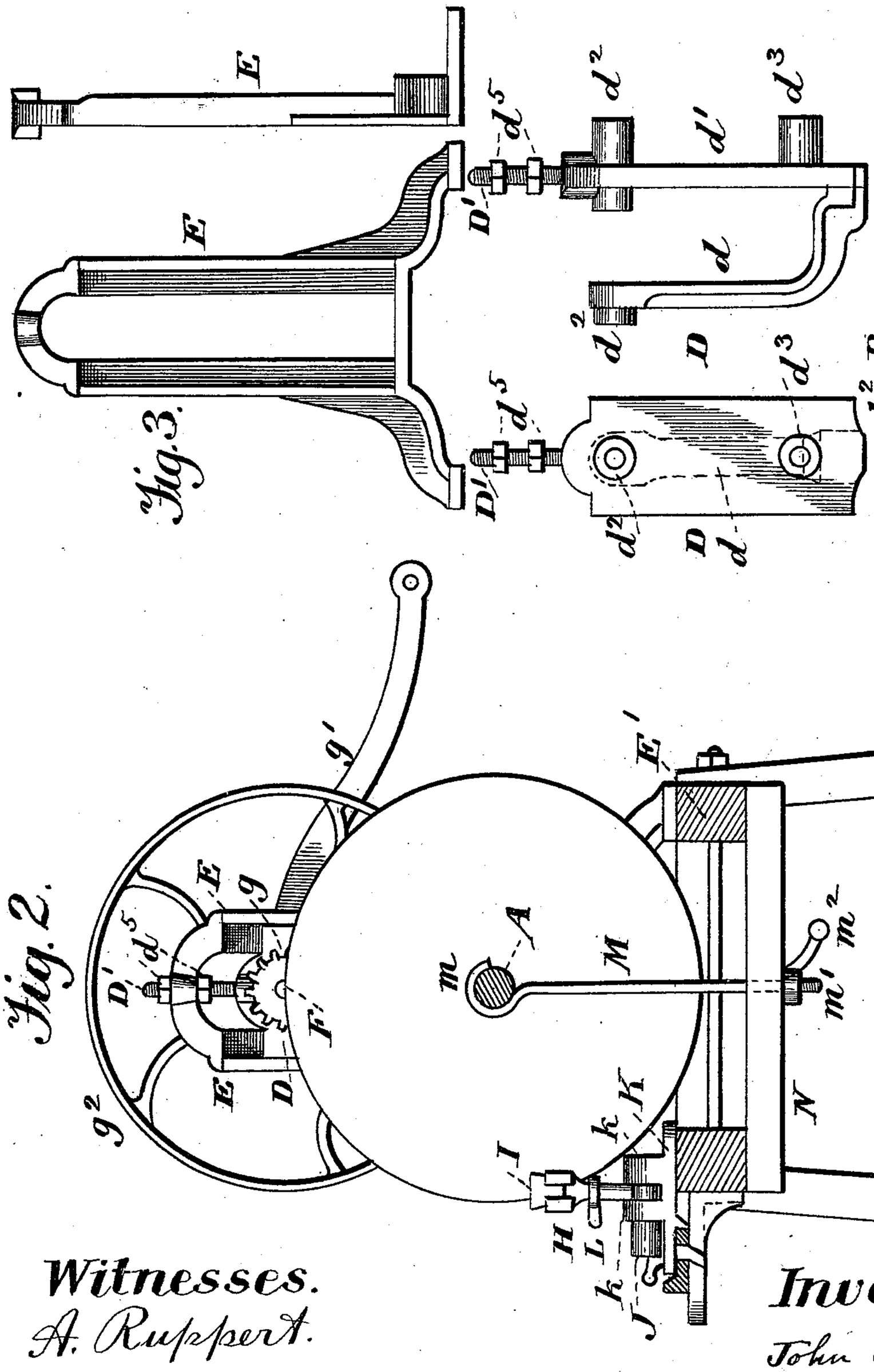

Fig. 3.

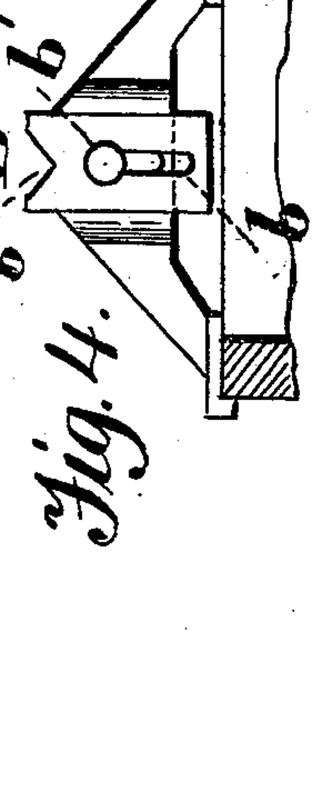

Fig. 4.

Fig. 2.

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UNITED STATES PATENT OFFICE.

JOHN T. BARKER, OF SENECA, ILLINOIS.

HARROW-DISK SHARPENER.

SPECIFICATION forming part of Letters Patent No. 518,215, dated April 17, 1894.

Application filed December 20, 1893. Serial No. 494,194. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. BARKER, a citizen of the United States, residing at Seneca, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Harrow-Disk Sharpeners; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The invention relates to sharpeners for circular disk-cutters generally, and particularly to harrow-disks which vary in diameter.

The special object of the invention is to make the operative and supporting mechanism correspondingly adjustable as well as the toolholder, so that disks of any size may be sharpened by the same tool on the shaft to which they are attached on the harrow.

Figure 1 of the drawings is a perspective view, showing a number of harrow-disks on the shaft just as they were taken from the harrow; Fig. 2 a vertical cross-section thereof; Fig. 3 detail views of the frame which carries the driving mechanism, and Fig. 4 detail views of the supporting frame which is bolted at bottom to the stand.

In the drawings, A represents the harrow-shaft which is rotated to carry the disks against the sharpener. I support one end of this shaft upon the upright B in any suitable open bearing at the top. This upright is vertically slotted at *b* and may be raised or lowered by simply moving it up or down and holding it at the desired adjustment on a bridge-piece C by the clamp-screw *b'*.

D is a frame supporting the shafts F G which carry respectively the spur wheel *f* and pinion *g* that mesh together. The shaft F has a handcrank *g'* and a pulley g^2 so that they may be rotated by hand or otherwise. The frame D has two arms *d d'* parallel and integral at bottom; also provided with two opposite bearings d^2 d^2 for the pinion-shaft and a bearing for the spur-wheel shaft.

E is an upright frame which I bolt at the bottom to a stand E' or to any other suitable support. In this frame is supported at any vertical adjustment the frame D, the same being held together by a screw D' and nuts d^5. The screw D' passes through the upper parts of the two frames D E so that by moving the nuts d^5, the bearings d^2 d^3 may be raised or lowered to correspond with the height of the bearing *b''* in the upright B.

H is a tool-carriage having a slot at the upper end in which fits the shank of a sharpener I whose abrading surface is pressed against the edge of disk as it revolves. J is a bottom-shaft in which the holder H is made fast and which turns in the bearings *k k* of the slide K so as to be pushed forward against the disk or pulled away therefrom by a handle L. The slide K has a tenon beneath to travel in the slot m^2 of the plate or board M' and carry the tool from one disk to another, while the plate M' is held to cross-pieces N' N' by screw and nut which may travel in slots *n n* so that the tool may approach the edge of disk more or less.

M is a rod which has a round hook *m* at one end and at the other a thread on which works the lever nut m^2, the hook engaging the disk shaft so that it may turn therein while its shank passes down through the cross-bar N and receives the nut m^2 on its thread *m'*.

O is a well known form of chuck where four screws clamp and center one end of a shaft, while on the opposite side of the chuck is a non-circular socket in which fits the correspondingly shaped end of a spur wheel shaft. By this means, the disk shaft is connected with the power mechanism so as to be conveniently rotated.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is—

The frame D having two parallel arms *d d'*, opposite bearings d^2 d^2 at the upper end and the single bearing d^3 at the lower end, in combination with the frame E having a vertical slot or opening in the middle and above it a hole through the top, the screw D threaded at both ends and passing through said hole, and the nuts d^5 d^5 arranged on the opposite ends of said screw; whereby the operative mechanism and the disk shaft may be all correspondingly adjusted to suit the height of the disk-shaft as described.

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

JOHN T. BARKER.

Witnesses:

ELMER E. CONKLIN,

FREDERICK H. PEECHIM.