(No Model.)

# J. L. SHAW.

## MACHINE FOR SHARPENING HARROW DISKS.

No. 517,810. Patented Apr. 3, 1894.

*Fig. 1.*

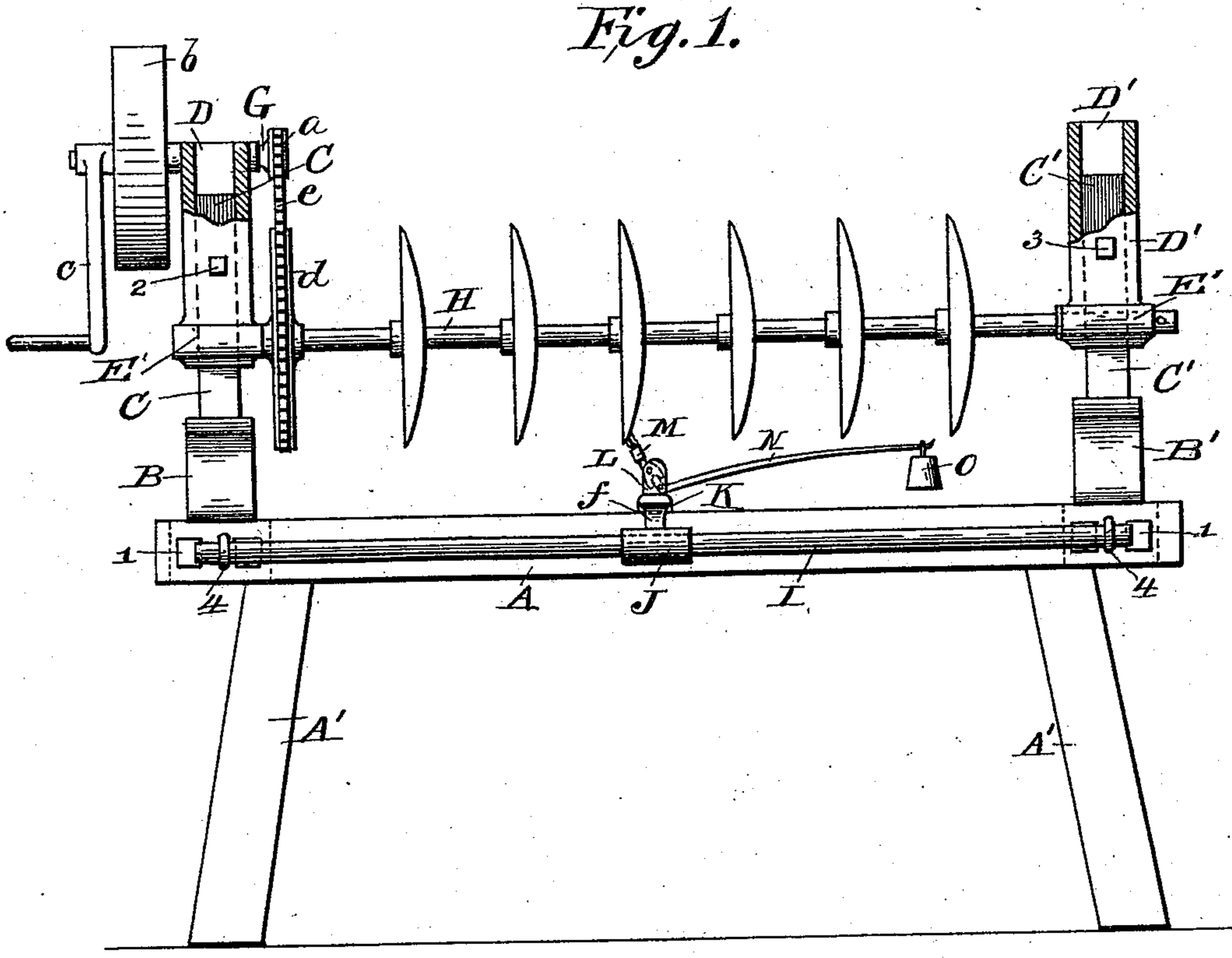



*Fig. 4.*

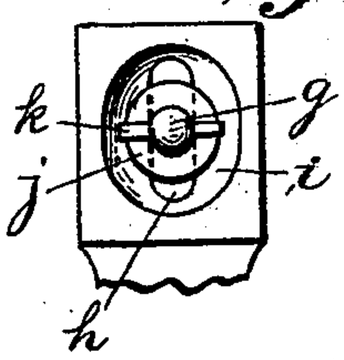
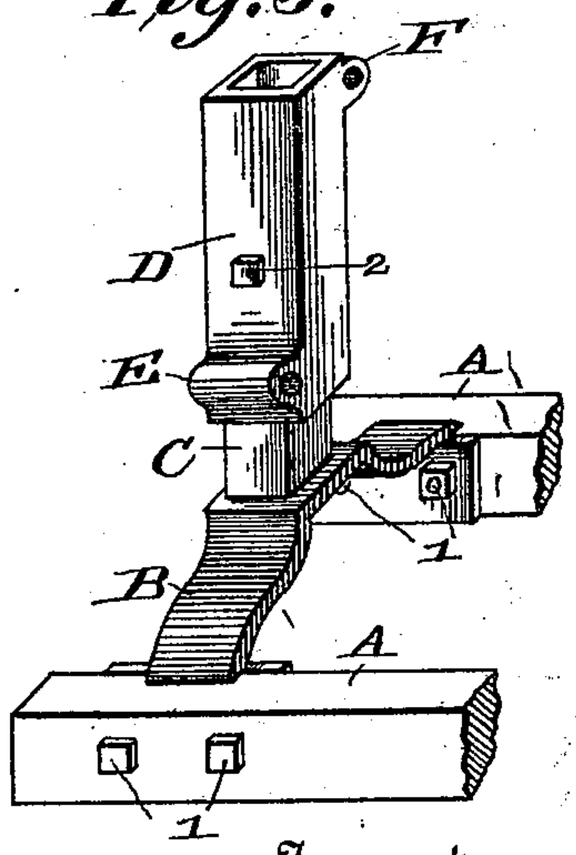



*Fig. 2.*




*Fig. 3.*

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# UNITED STATES PATENT OFFICE.

JAMES LEONARD SHAW, OF SENECA, ILLINOIS.

## MACHINE FOR SHARPENING HARROW-DISKS.

SPECIFICATION forming part of Letters Patent No. 517,810, dated April 3, 1894.

Application filed December 12, 1893. Serial No. 493,509. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES LEONARD SHAW, a citizen of the United States, residing at Seneca, in the county of La Salle and State of Illinois, have invented a new and useful Machine for Sharpening Harrow-Disks, of which the following is a specification.

My invention relates to a machine for sharpening harrow-disks, and consists in certain improvements whereby the machine is adapted to sharpen disks of different sizes.

The invention will first be described in connection with the accompanying drawings, and then pointed out in the claims.

Figure 1 is a front elevation of the machine, a portion of each sleeve being broken away to show the perpendicular posts. Fig. 2 is a perspective view of the knife-controlling mechanism, detached. Fig. 3 is a perspective view of the base-plate, showing the post and movable sleeves. Fig. 4 is a bottom plan view of the knife-rest, showing the manner of attaching the tool-post thereto.

Referring to the drawings, A represents the longitudinal bars of a frame-work for supporting the device, held at a convenient height by legs A'. Near one end of the bars A, there is securely attached, by means of bolts 1, a base-plate B having centrally attached thereto a square perpendicular post C.

D is a sleeve snugly fitting post C and held at any desired height by set-screw 2. On opposite sides and at opposite ends of sleeve D, there are attached journal boxes E and F respectively, as clearly seen in Fig. 3.

On the other end of the bars A there is similarly attached a base-plate B' carrying a square perpendicular post C', said post having a sleeve D', which is held at any desired height by a set-screw 3 and carries a journal box E' corresponding in position and size to box E on sleeve D.

In journal box F, there is journaled a shaft G, the inner end of which carries a sprocket wheel *a* and the outer end a belt wheel *b* or crank *c* according as power is to be applied by mechanism or hand.

In the journal boxes E and E', is journaled the central or disk-carrying shaft, on which the disks to be sharpened are placed. This central shaft H, also carries a sprocket wheel *d*, occupying a position in relation to sleeve D, corresponding to that of wheel *a;* and connected to the latter by means of an endless chain belt *e*.

On the front side of one of the frame-bars A, there is fastened by means of eye-bolts 4, a guide rod I, carrying a sleeve J. To this sleeve there is rigidly connected, through the medium of an arm *f*, the knife-rest K, the under side of which rests squarely on the upper side of frame-bar A.

The tool-post L is placed on the knife-rest K, and has a circular projection *g* on its under side which fits into a longitudinal slot *h* formed in the knife-rest, a concavity *i* is formed in the under side of the knife-rest K, to permit a washer *j* being placed over the circular projection *g*, after entering the slot *h*, and also to admit of a key *k* being passed through the circular projection after being placed in position. The tool-post L has an oval base resting on the upper surface of knife-rest K and carries two perpendicular tennants *l* and *m*. Pivotally secured between tennants *l* and *m*, is the knife-holder M, the upper end of which carries the knife while the lower end is forked as at 5, to permit the end of lever N, also pivoted between the tennants *l* and *m*, to be placed between the forks 5 of the knife-holder. O is a weight placed on the other end of the lever and acts, when the knife-controlling mechanism is in place, to hold the knife steadily against the disk being sharpened.

By means of the circular projection *g*, it is obvious that the tool-post and thereby the knife, can be turned at any angle to the disk being sharpened, thus cutting a long or short edge as desired. The circular projection fitting in the longitudinal slot *h* of the knife rest K, the tool-post can be moved at different distances from the central shaft *h*, thus permitting disks of different diameters to be sharpened.

By setting the mechanism controlling the movement of the central shaft, which is done by moving the sleeves D and D' and holding them in position by means of the set-screws 2 and 3, and setting the knife at the proper distance, it will be seen that harrow disks of any size can be readily sharpened.

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

1. In a device for sharpening harrow-disks, a frame-work, a central shaft mounted thereon, and means for giving the shaft vertical movement, in combination with a knife-rest, a guide for the knife-rest, a knife-carrying tool-post removably attached to said knife-rest, and means for holding the knife in operative position.

2. In a device for sharpening harrow-disks, a frame-work, a central disk-carrying shaft mounted thereon, and means for vertically moving said shaft, in combination with a knife-rest, a guide for the knife-rest, a tool-post removably attached to said knife-rest, a knife-holder pivotally connected to said tool-post, and means for holding the knife in operative position.

3. In a device for sharpening harrow-disks, a disk-carrying shaft, and means for revolving the same, in combination with, a knife-rest, a guide for the knife-rest, a tool-post removably attached to the knife-rest, a knife-holder carrying a knife at its upper end, a weighted lever pivoted to the tool-post and acting against the lower end of the knife-holder to keep it in operative position.

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

JAMES LEONARD SHAW.

Witnesses:

ELMER E. CONKLIN,

T. F. MCCOY.