

(No Model.)

M. A. CAMERON & G. T. DAWSON.  
HARROW DISK SHARPENER.

No. 525,090.

Patented Aug. 28, 1894.

Fig. 5.

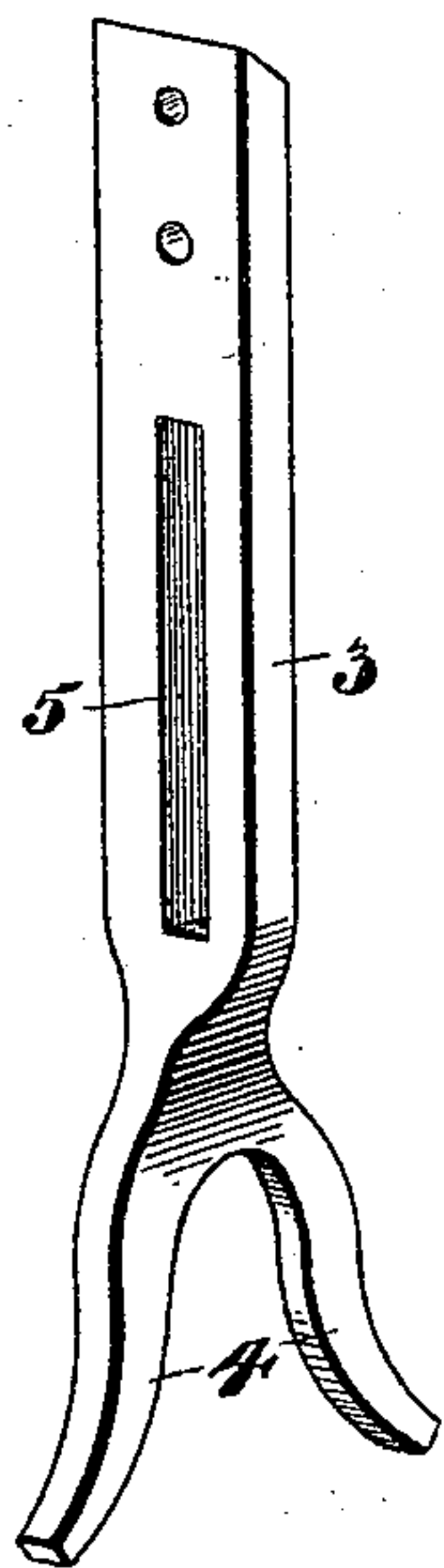


Fig. 1.

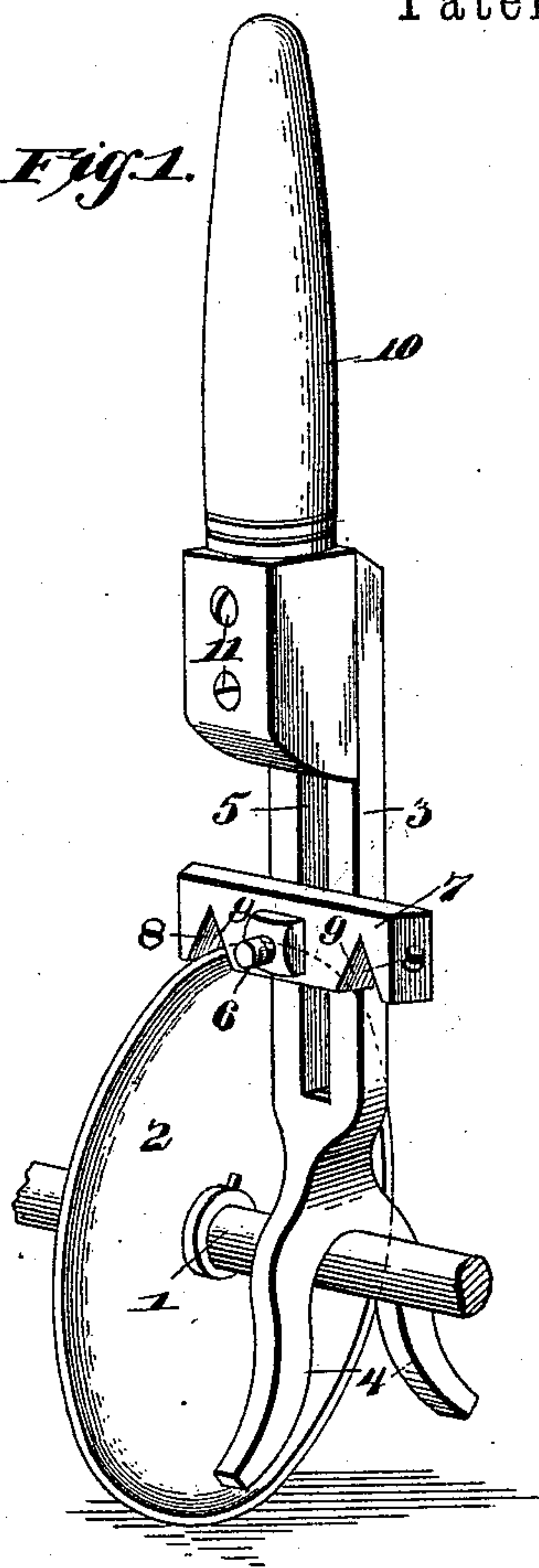


Fig. 2.

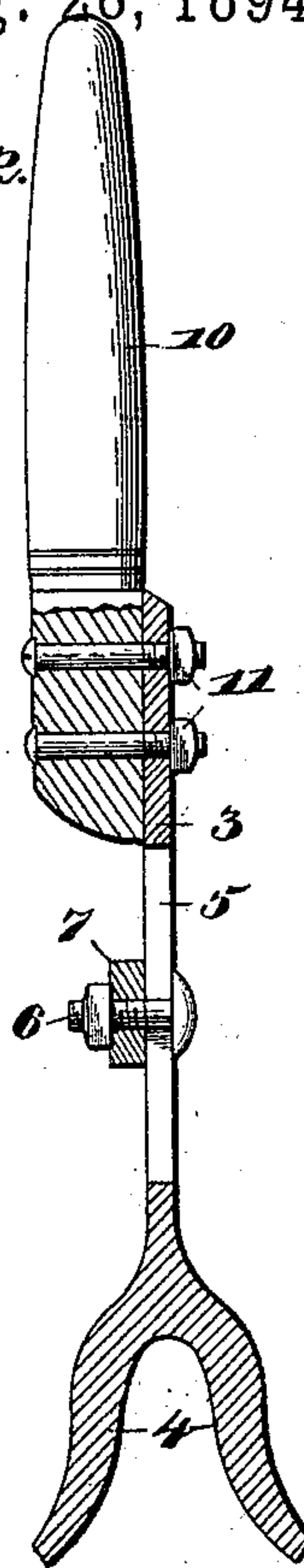


Fig. 3.

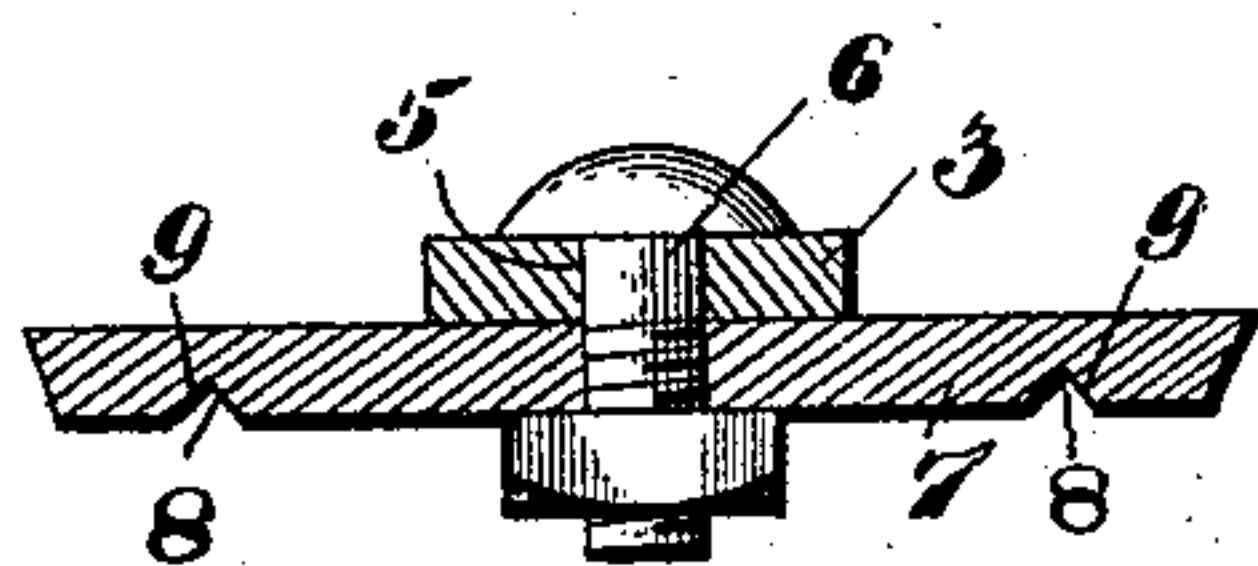
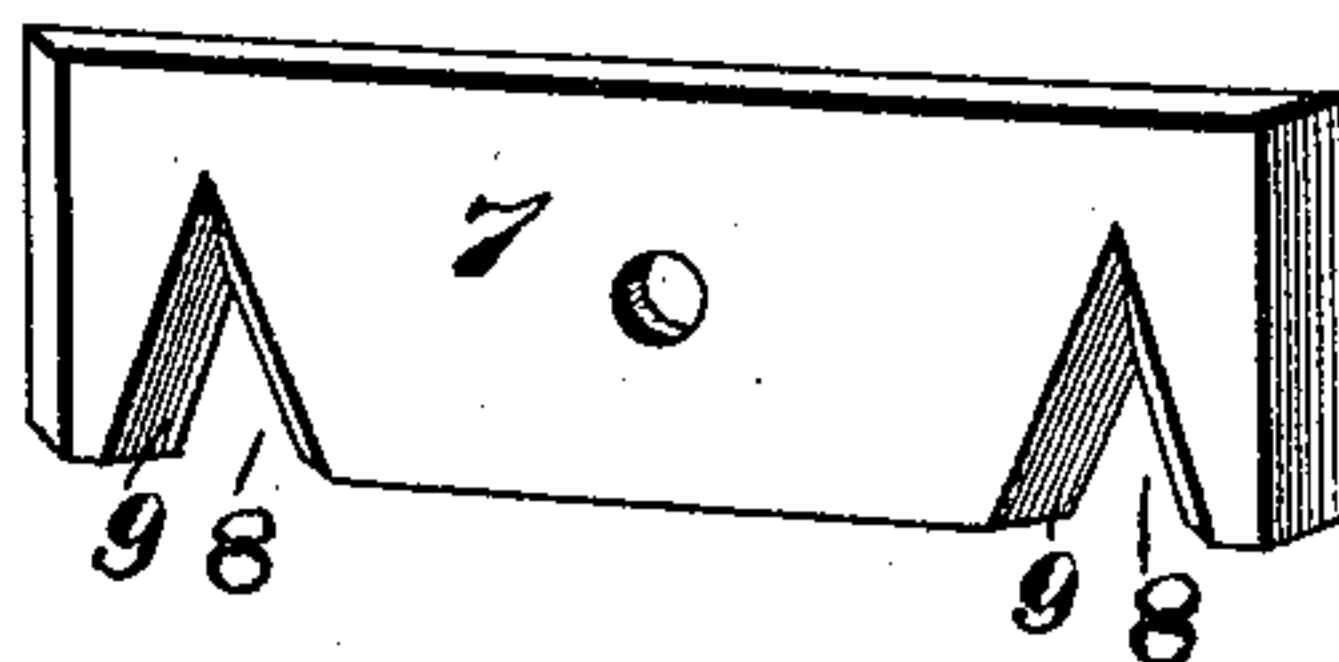


Fig. 4.



Witnesses

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J. B. Owens.

By Their Attorneys.

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Montroe A. Cameron and  
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# UNITED STATES PATENT OFFICE.

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## HARROW-DISK SHARPENER.

SPECIFICATION forming part of Letters Patent No. 525,090, dated August 28, 1894.

Application filed March 15, 1894. Serial No. 503,775. (No model.)

*To all whom it may concern:*

Be it known that we, MONROE A. CAMERON and GEORGE T. DAWSON, citizens of the United States, residing at Fulda, in the county of Murray and State of Minnesota, have invented a new and useful Harrow-Disk Sharpener, of which the following is a specification.

Our invention relates to an improvement in those harrow disk sharpeners, which are adapted to be connected to the axle or shaft of the disks and provided with knives adapted to engage the disks and sharpen their edges, either by turning the tool or by causing the disks to revolve; and it consists in certain improved features of construction and combination and arrangement of parts that will be more fully described hereinafter and finally embodied in the claim.

In the accompanying drawings—Figure 1 represents a perspective view of a harrow disk and axle, showing our improved tool in the act of sharpening them. Fig. 2 is a longitudinal section taken through the appliance. Fig. 3 is a cross section taken horizontally through the sharpening blade. Fig. 4 is a detail perspective of the knife. Fig. 5 is a similar view of the main or body portion stripped of its attachments.

The reference numeral 1 indicates the axle or shaft upon which the disk 2 is shown as mounted, and these two devices may be of any construction or kind, since our device is capable of use in connection with all harrow disks.

The sharpener consists of a main or body portion 3, formed preferably of cast steel and flattened or shaped rectangular in cross-section, as shown.

Formed at the outer end of the body 3 and disposed at right angles to the cross sectional disposition of the body are the arms 4, which constitute a fork and this is adapted to embrace the axle 1, so as to connect the axle and body 3, and yet make it possible to move them independently when so connected.

The arms 4 are formed with a substantially semi-circular juncture or fork so that they can better receive the axle 1. Formed in the body 3, and extending nearly its entire length

is the longitudinal slot 5, in which the binding bolt 6 of the sharpener 7 is adapted to operate, and to move longitudinally therein.

The sharpener or knife 7 consists of a thick plate of steel having a middle opening adapted for the bolt 6, by which it is connected to the body. Formed in the lower edge of the plate 7, and adjacent to each end respectively are the two openings 8, which are triangular in shape and provided with the beveled edges 9. These are formed on each of their sides, and constitute the means for sharpening the disks.

10 indicates a handle, preferably wood, which is secured to the upper end of the body 3, by means of the bolts 11, and by which the device is held when in use.

The use of our device is shown in Fig. 1; and, supposing that it is desired to sharpen the disk shown in such figure the device is placed on the right hand side of the disk so that the arms 4 will embrace the axle, 1. The blade 7 is then adjusted to engage the periphery of the disk, and the notch or opening 8, which is on the left hand end of the plate 7, allowed to receive such periphery. When so arranged the curve in the disk will cause its edge to lie in engagement with the left hand side of the notch in which it is arranged, while the right hand side of the notch will lie parallel with the right hand periphery of the disk.

To effect the operation of sharpening, after the tool has been adjusted, the device may either be oscillated on its arms 4, leaving the disk stationary, and by means of the handle 10, or the tool may be held stationary and the disk made to rotate. In event of the latter mode, the rotating of the disk may be effected by causing the harrow to be drawn as when in use, and holding the knife in position, with the help of an attendant seated on the harrow, or by turning the harrow over, and affixing to the axle a crank, whereby it, and its attached disks, may be turned against the stationary tool.

Movement either by the disks or tool will cause the edge 9, which is engaged with the disk, to cut it away and leave the disk with



its edge shaped, in cross-section, like the shape of the space between the edges 9 of the recess 8, and consequently sharpened.

It will be seen that the sharpening plate 7  
5 may be adjusted both longitudinally, in relation to the body, or axially, in relation to the bolt which holds the plate, thus making the appliance applicable to all sizes of disks, and capable of sharpening them with vari-  
10 ous degrees of edges; for by turning the plate 7 the notches 8 may be disposed so that they will make the bevel of the edge a long or short one. By means of the two notches 8, the tool can readily sharpen disks with their  
15 edges disposed either to the right or left and by the arrangement, which we employ the proper adjustment may be obtained by placing the tool on the side of the disk to which its edge is disposed, This is shown in Fig. 1,  
20 and needs, therefore no further description.

Having described our invention, what we claim is—

A sharpening device for harrow disks, and

consisting of a main or body portion provided with a longitudinal slot, a fork at one end of 25 the body portion and adapted to embrace the axle of the disk, and a plate connected to the main or body portion by means of a bolt passing through the slot in such portion, and capable of adjustment throughout the length 30 of said slot, whereby the plate may be moved toward and from the disk and adjusted axially on its bolt, the plate having formed therein a notch provided with a disk cutting edge, said notch being adapted to receive the pe- 35 riphery of the disk, and to sharpen the same by the movement of the plate or disk, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures 40 in the presence of two witnesses.

MONROE A. CAMERON.

GEORGE T. DAWSON.

Witnesses:

J. W. DICKSON,  
JOHN BUHNER.