

G. W. TRONE.
DISK SHARPENER.

APPLICATION FILED JUNE 10, 1912.

1,069,499.

Patented Aug. 5, 1913.

Fig. 1.

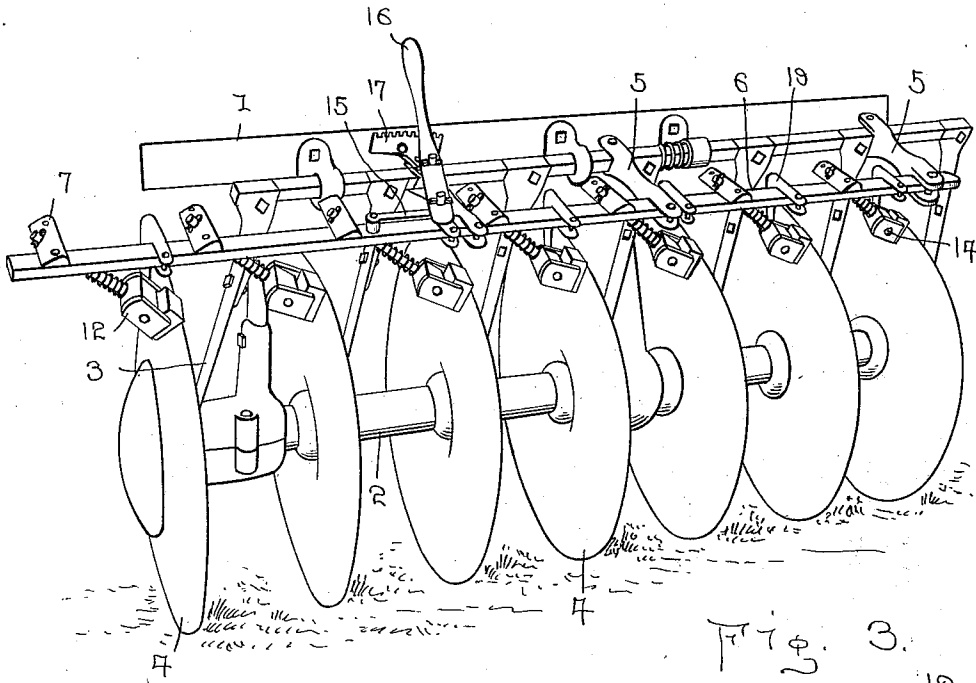


Fig. 3.

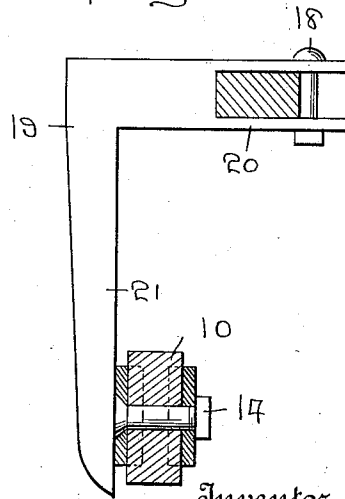
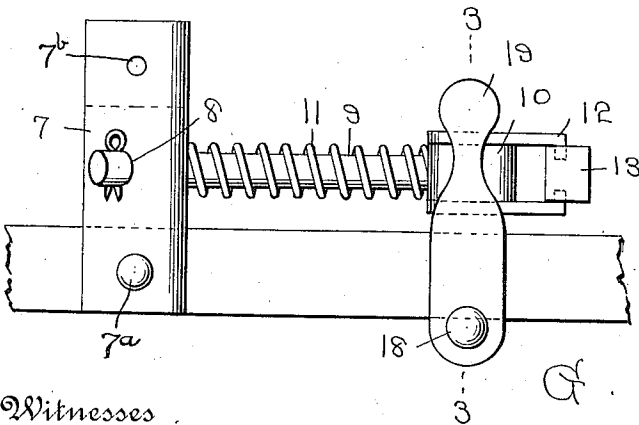


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. TRONE, OF RUSHVILLE, ILLINOIS.

DISK-SHARPENER.

1,069,499.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed June 10, 1912. Serial No. 702,827.

To all whom it may concern:

Be it known that I, GEORGE W. TRONE, a citizen of the United States, residing at Rushville, in the county of Schuyler and State of Illinois, have invented certain new and useful Improvements in Disk-Sharp-
5 eners; 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.

My invention relates to improvements in disk sharpeners, and one of the objects thereof is to provide a sharpener attachable
10 to any form of disk cultivator for sharpening the disks when the cultivator is in operation.

A second object is to provide means for manually shifting the sharpener into and out of engagement with the disks, and means for locking the device in adjusted position.

The third object is to provide a disk sharpener having adjustable parts, whereby the device may be employed for sharpening
25 either side of the disks.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a disk cultivator, showing my improved disk sharpener applied thereto. Fig. 2 is a detail plan view of the portion of the rack
30 and one of the sharpening devices carried thereby, and, Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Referring to the drawings, 1 represents
35 a portion of the frame of the cultivator and 2 the axle mounted in the bracket arms 3. Positioned in the usual or any preferred manner upon the shaft 2 are the disks 4. Connected by the straps 5 to the frame bar 1 is a slidable rack 6, the latter being positioned directly above the shaft 2 and spaced a short distance from the disks 4. Secured
40 by bolts 7^a at intervals to the rack 6, between each of the disks 4 are bracket arms 7, provided centrally with obliquely disposed openings 8, for receiving the upper ends of the spring actuated plunger rods 9, the latter carrying at their lower extremities heads 10. Each end of the bracket
45 members is apertured, as at 7^b, whereby when said members are secured at one end to the rack 6 to dispose the plunger 9 toward one side of a disk, they may be readily reversed or secured by the opposite end to
50 dispose the plunger toward the opposite side of the adjacent disk. Positioned about the

plunger 9 is a spring 11 for normally holding the head 10 thereof downwardly, and said head 10 is provided upon opposite sides with jaws 12, adapted to removably clamp
60 a grinding stone or file 13, by means of a bolt and nut 14.

As shown, the plunger bars 9 are disposed at an acute angle to the rack 6 in order that the grinding stone or file 13 will
65 engage directly upon the edge of the disks when the rack 6 is moved in the proper direction. For shifting the rack 6, and moving the grinding tool into and out of engagement with the disks, I provide the rack
70 6 with a pivoted crank 15, with which co-operates a hand lever 16, the latter being pivoted to the frame bar 1 and locked in adjusted position by means of the ordinary
75 tooth and rack mechanism 17.

Adjustably secured to the rack 6, by means of a bolt 18 is an L-shaped bracket arm 19, one portion thereof being bifurcated, as at
20, to receive the rack 6. One of these bracket members is adapted to be positioned
80 upon the rack 6 above each pair of clamping jaws 12, in such manner that the depending finger 21 of said bracket member will engage the jaws 12 and prevent the same being moved when in frictional en-
85 gagement with the disks.

To sharpen the disks, the hand lever 16 is shifted to one side and the cutting blades 13 are simultaneously engaged against the
90 edges of the disks under the tension of the spring 11. The sharpener may be held in operative position for any length of time and while the cultivator is in operation by means of the locking mechanism 17. When
95 it is desired to sharpen the opposite sides of the disks, it is simply necessary to detach the bracket arms 7 from the rack 6 and reverse their position upon said rack.

What I claim is:—

1. A disk sharpener comprising a rack, 100 reversible bracket arms carried thereby, spring actuated plungers carried by said bracket arms, clamping jaws carried by the lower ends of said plungers, and sharpening means carried by said jaws.

2. A disk sharpener comprising a rack, reversible bracket arms carried thereby, spring actuated plungers carried by said bracket arms, clamping jaws carried by the lower ends of said plungers, sharpening
110 means carried by said jaws, and bracket arms depending from said rack and engag-

ing said plunger for limiting the movement thereof.

3. A disk sharpener comprising a rack, bracket arms carried thereby, sharpening means, spring actuated plungers for normally retaining said sharpening means in extended position, and L-shaped bracket arms depending from said rack and adjustable longitudinally of the latter for engaging and limiting the movement of said plungers.
4. A disk sharpener comprising a rack, bracket arms carried thereby, sharpening

means, spring actuated plungers for normally retaining said sharpening means in extended position, and bracket arms depending from said rack and engaging said plungers for limiting the movement thereof.

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

GEORGE W. TRONE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."