No. 715,637. Patented Dec. 9, 1902.

C. A. BROSTROM.

LISTER CULTIVATOR.

(Application filed Sept. 22, 1902.)

(No Model.) 2 Sheets—Sheet 1.

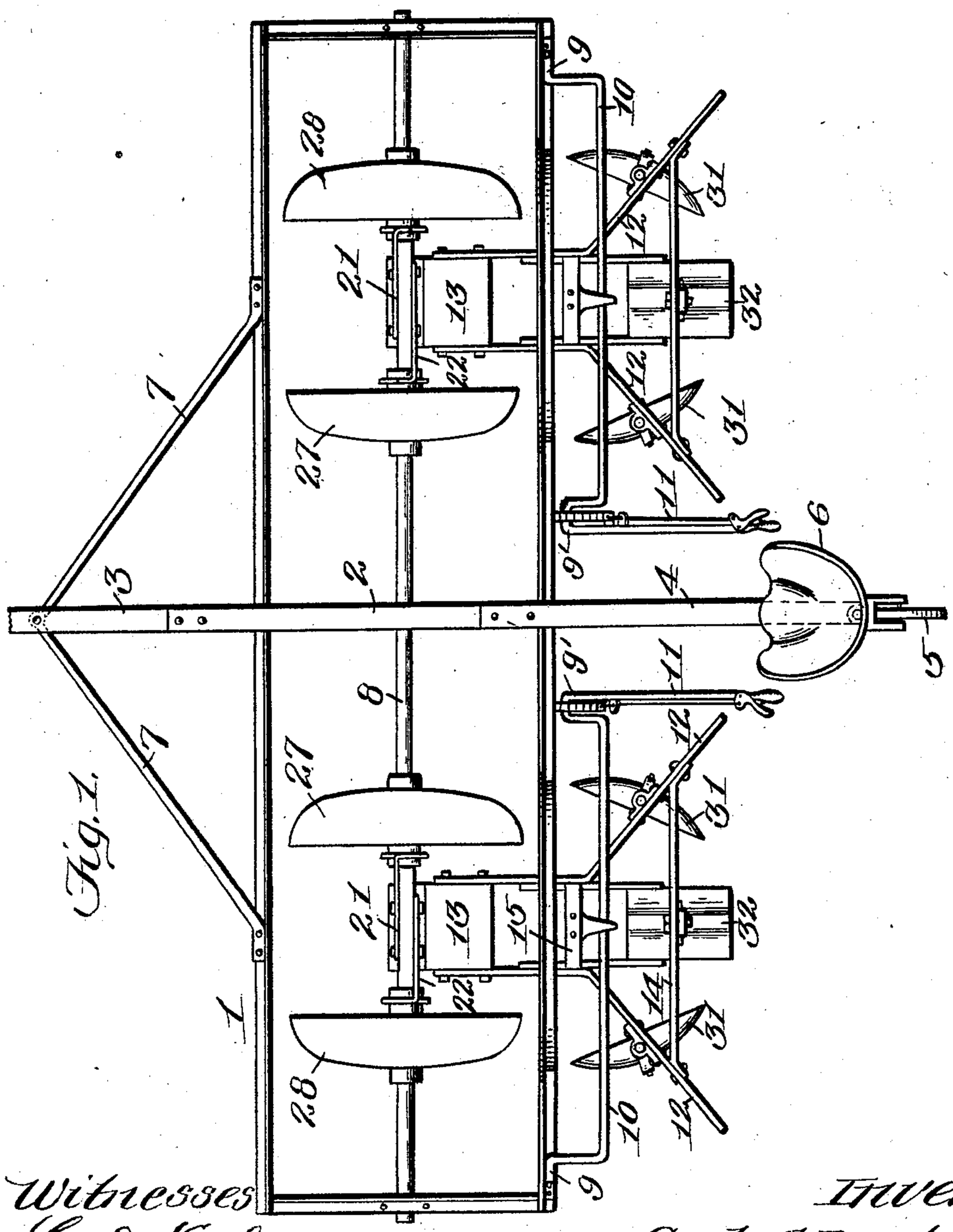


Fig. 1.

Witnesses
C. D. Kesler.
Dennis Sumby.

Inventor
Carl A. Brostrom
By James L. Norris.
Atty.

No. 715,637. Patented Dec. 9, 1902.

C. A. BROSTROM.

LISTER CULTIVATOR.

(Application filed Sept. 22, 1902.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

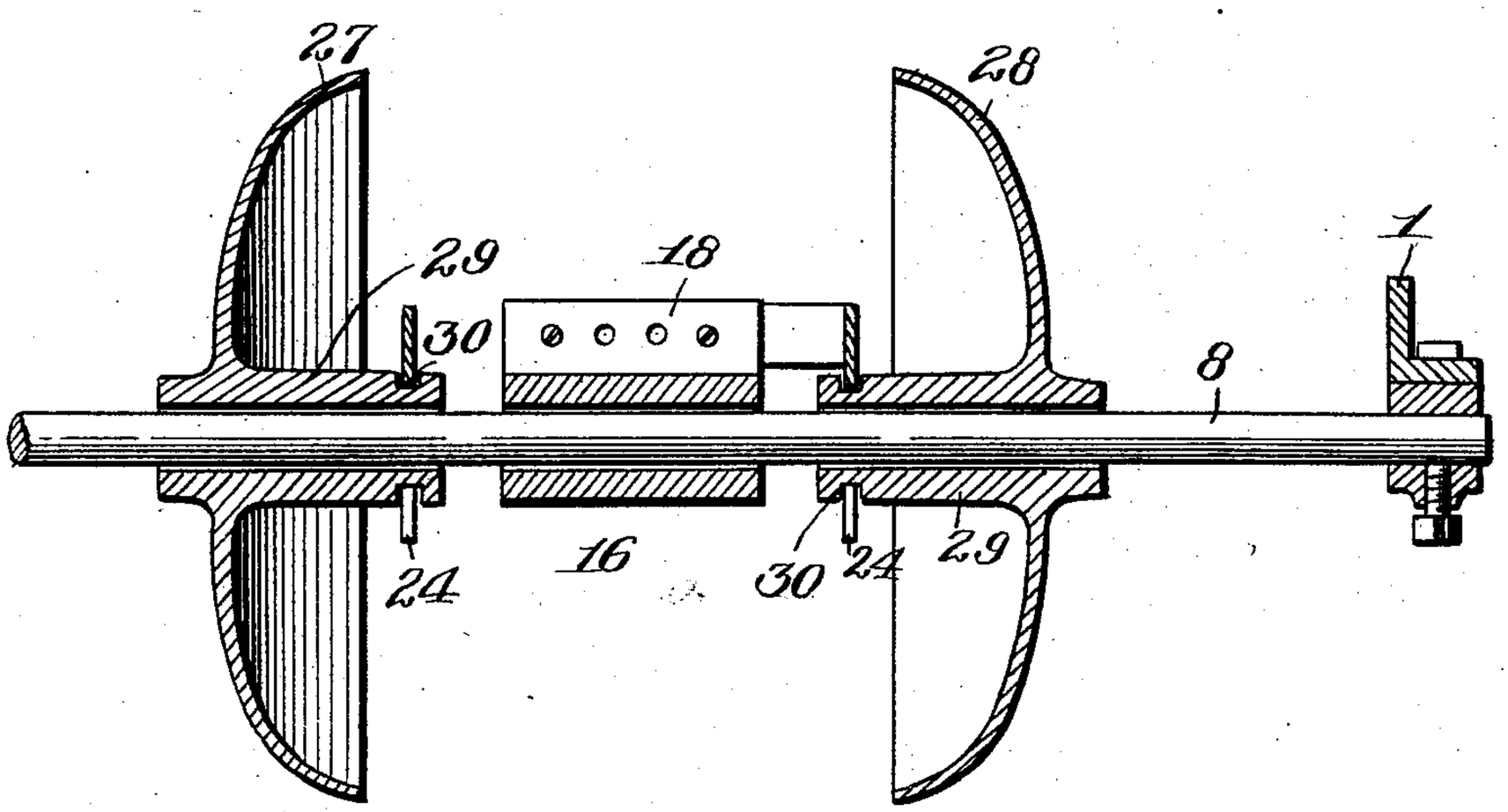
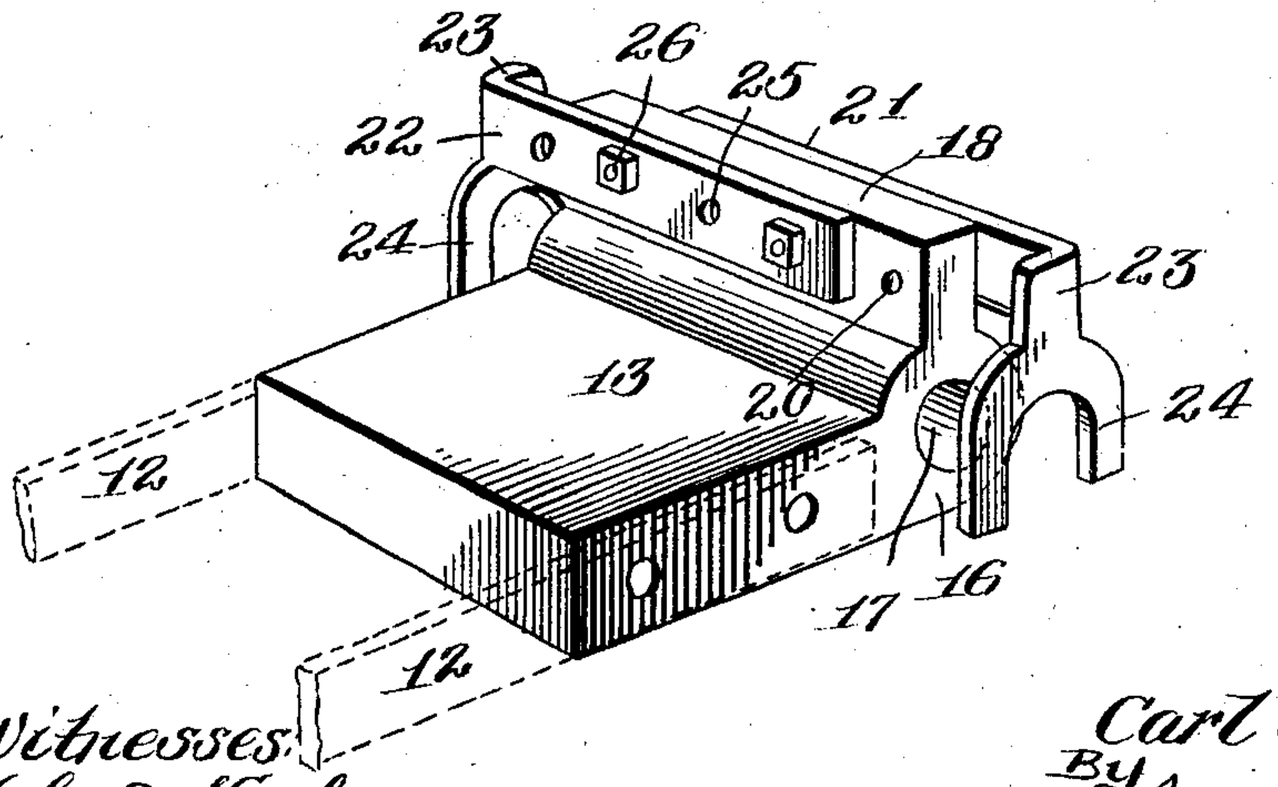


Fig. 3.



Witnesses:
C. D. Kesler.
Dennis Simby

Inventor
Carl A. Brostrom
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

CARL A. BROSTROM, OF SIOUX CITY, IOWA, ASSIGNOR TO CHARLES L. BROSTROM, OF KANSAS CITY, MISSOURI.

LISTER-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 715,637, dated December 9, 1902.

Application filed September 22, 1902. Serial No. 124,391. (No model.)

To all whom it may concern:

Be it known that I, CARL A. BROSTROM, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented new and useful Improvements in Lister-Cultivators, of which the following is a specification.

This invention relates to certain new and useful improvements in lister-cultivators.

The invention aims to construct a lister-cultivator in such a manner that the cultivator-disks will be in themselves laterally movable, so that two parallel rows of growing plants can be cultivated simultaneously.

Furthermore, the invention aims to construct a lister-cultivator which shall be more compact than cultivators of this character now in general use, strong, durable, efficient in its operation, constructed of comparatively few parts and comparatively inexpensive to set up; and to this end the invention consists of the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

Figure 1 is a plan view of a lister-cultivator embodying my improvements. Fig. 2 is a longitudinal sectional view through the shaft carrying the cultivating-disks, and Fig. 3 is a detail of the bearing-block for the disks, the block being mounted upon the disk-carrrying shaft.

Referring to the drawings by reference characters, 1 denotes the frame of the machine, which is constructed of bars of suitable material and substantially rectangular in contour. The frame 1 is divided by the partition-bar 2, to which the tongue 3 is adapted to be suitably connected and to which is also connected the seat-post or supporting-bar 4, the latter extending rearwardly of the machine. The seat-post or supporting-bar 4 is supported by means of a caster-wheel 5, which extends under the seat 6 and is suitably connected with the bar 4. The tongue 3 is braced from the front of the machine by means of the stay-rods 7, the latter being secured at one end to the front of the frame 1 and at their other end to the tongue, as shown.

Extending longitudinally of the frame 1 the entire length thereof and fixed from movement in the side bars of the frame, as well as the partition-bar 2, is a cultivator-disk-supporting shaft 8. Extending rearwardly of the frame 1 and connected to the rear bar of the frame by means of the bearing-brackets 9 and segmental bearing-racks 9′ is a pair of rock-shafts 10, one of which is arranged at each side of the bar 4 and seat 5. The shafts 10 project outwardly from one side of each of the segmental bearing-racks 9′ and have connected to the said projecting ends an elevating-lever 11, the latter being in such position so it can be engaged and moved by the operator when upon the seat 5. The elevating-levers 11 each carry a lever-rod and pawl connection, the pawls adapted to engage in the racks 9′ for retaining the elevating-lever in its set position when the shafts 10 are rocked. The shafts 10 are adapted to support the cultivator-frames, which are each constructed of two beams 12, connected at their forward ends to the sides of the bearing-blocks 13 and rigidly secured together by the cross-bars 14 15. Each of the bearing-blocks is constructed of a rectangular piece of suitable material, having its forward end constructed in a cylindrical manner, as at 16, this cylindrical portion being bored, as at 17, so as to permit of loosely mounting the bearing-block upon the shaft 8. The top of the cylindrical portion 16 is formed integral with a vertically-extending arm 18, provided with a series of openings throughout its length, as at 20.

The reference characters 21 22 denote the disk-adjusting arms. Each of these arms is constructed of a rectangular strip of suitable material, having its outer end bent at an angle, as at 23, and formed integral with a downwardly-projecting yoke 24. Each of the arms 21 22 is provided with a series of openings 25, adapted to register with the openings

or recesses 20 in the vertical arm 18, so that the arms 21 22 can be adjustably secured to the arm 18 by means of the bolts 26.

The reference character 27 denotes the inner disk, and the reference character 28 denotes the outer disk. These disks are constructed in a concavo-convex manner and are each provided with a hub 29, the inner portion of which is formed with an annular groove 30, in which is seated the yoke 24 of its respective adjusting-arm. The disks 27 28 are loosely mounted upon the shaft 8, and, as before stated, the bearing-block 13 is loosely mounted on the shaft 8, so that the block 13 and disks 27 28 will be laterally and bodily movable upon the shaft 8.

It will be evident that by the employment of the adjusting-arms 21 22 each pair of disks 27 28 can be adjusted to the proper width desired, and at the same time the disk and bearing-block will be laterally and bodily movable upon the shaft 8, thus overcoming the lateral movement of the shaft 8 and permitting two parallel rows of growing plants to be cultivated simultaneously. It will also be evident that the cultivator-frames will also be laterally movable, owing to their connection with the bearing-blocks 13—that is to say, laterally movable upon the shaft 8. It will furthermore be evident that the cultivator-frames can be adjusted vertically to the position desired by means of the elevating-levers 11. The cultivator-frames have suitably connected thereto the disk cultivators 31 and the fenders 32.

It is thought the many advantages of a lister-cultivator constructed in accordance with the foregoing description, taken in connection with the accompanying drawings, can be readily understood, particularly the advantage of building compactly a lister-cultivator for cultivating two parallel rows of growing plants simultaneously by reason of the fact that the shaft upon which the cultivator-disks are mounted has no lateral movement, the disks being laterally movable and adjustable upon the disk-carrying shaft instead of the latter being laterally movable. Such a construction, it is obvious, will lessen the cost of setting up the machine, and, as before stated, makes it possible to cultivate two parallel rows of growing plants instead of every alternate row, as is done with the machines now generally employed, and it will also be evident that I have devised a simple, inexpensive, and novel construction of lister-cultivator. It will, furthermore, be evident that changes, variations, and modifications may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages, and I therefore do not wish to restrict myself to the details of construction hereinbefore described and as shown in the accompanying drawings, but reserve the right to make such changes, variations, and modifications as come properly within the scope of the protection prayed.

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

1. An agricultural implement comprising a fixed shaft, and a pair of cultivator-disks laterally adjustable, loosely mounted and laterally movable upon said shaft.

2. A lister-cultivator comprising a pair of cultivator-disks, and supporting means therefor, said disks laterally adjustable upon, laterally movable upon, loosely mounted upon, and rotatable upon said supporting means.

3. In an agricultural implement, a shaft, a frame for supporting said shaft, a cultivator-frame, a pair of cultivator-disks, and connections between the said disks and cultivator-frame, said connections being loosely mounted upon the said shaft so as to permit of the said connections, disks and cultivator-frame to be bodily movable laterally upon said shaft.

4. In a lister-cultivator, a frame, a shaft, cultivator-disks loosely mounted upon said shaft, and adjustable means for said disks suitably connected thereto, said adjusting means loosely mounted upon said shaft, said disk and adjusting means capable of lateral movement upon said shaft.

5. In a lister-cultivator, a frame, a shaft fixed therein, a bearing-block loosely supported upon said shaft, a pair of adjusting-arms carried by said block, and disks loosely mounted upon said shaft and adapted to be connected to said adjusting-arms, said block, arms and disk adapted to be bodily movable laterally upon said shaft.

6. In an agricultural implement, a frame, a fixed shaft supported thereby, a cultivator-frame loosely connected with the shaft and capable of lateral movement upon the shaft, and laterally movable and adjustable disks loosely mounted upon said fixed shaft.

7. In an agricultural implement, laterally movable and adjustable cultivator-disks, a laterally-movable cultivator-frame, and suitable connections between said cultivator-frame and disks.

8. In an agricultural implement, the combination with the frame and a shaft fixed therein, of cultivator-disks loosely mounted upon said shaft and provided with grooved hubs, and means carried by the shaft and engaging in the grooves of the hubs for adjusting the position of said disks.

9. A lister-cultivator, comprising a frame, a shaft fixed therein, a bearing-block loosely mounted on said shaft, adjusting-arms carried by said block, cultivator-disks loosely mounted upon said shaft and adapted to be engaged and adjusted by the said arms, a cultivator-frame connected to said block, said cultivator-frame, block, arms and disks capable of being laterally movable bodily upon said shaft, a seat supported from said frame, a caster-wheel for supporting the seat, and means for vertically adjusting said cultivator-frame independently of the said disks.

10. In a lister-cultivator, a frame, a shaft

mounted therein, a bearing-block loosely mounted upon said shaft and provided with a vertically-extending arm, adjusting-arms suitably connected to said vertical arm and each provided with a yoke, and cultivator-disks loosely mounted upon said shaft and adapted to be engaged by the said yokes for adjustably connecting the disks to the said block, said block, arms and disks capable of lateral movement bodily upon the said shaft.

11. In a lister-cultivator, a frame, a shaft mounted therein, a bearing-block loosely mounted upon said shaft and provided with a vertically-extending arm, adjusting-arms suitably connected to said vertical arm and each provided with a yoke, cultivator-disks loosely mounted upon said shaft and adapted to be engaged by the said yokes for adjustably connecting the disks to the said block, and a vertically-adjustable cultivator-frame connected to the said block, said cultivator-frame, block, arms and disks capable of lateral movement bodily upon the said shaft.

12. In an agricultural implement, a frame, a shaft fixedly connected thereto, cultivator-disks loosely mounted upon said shaft, a cultivator-frame, and means loosely mounted upon the said shaft and adapted to connect the said cultivator-frame with said disks, said means laterally movable upon said shaft.

13. In an agricultural implement, a vertically-adjustable and a laterally-movable cultivator-frame, rotatable cultivator-disks suitably connected with said frame, and a fixed support for the said disks, said disks being laterally movable and laterally adjustable upon said fixed support.

14. In an agricultural implement, a frame, a fixed shaft carried thereby, and a vertically-adjustable cultivator-frame loosely mounted upon said fixed shaft, said cultivator-frame being laterally movable upon said fixed shaft.

15. In a lister-cultivator, a frame, a shaft fixed therein, and a pair of laterally-movable concavo-convex disks loosely mounted upon said shaft and adjustably connected together.

16. In a lister-cultivator, a frame, a shaft suitably mounted therein, a pair of disks loosely mounted upon said shaft, and means for adjustably connecting the disks together.

17. In an agricultural implement, laterally-movable and laterally-adjustable ground-working devices, and a fixed support for said devices, said devices rotatable upon said fixed support.

18. In an agricultural implement, a laterally-movable cultivator-frame, laterally-movable and laterally-adjustable ground-working devices suitably connected with said cultivator-frame, and a fixed support for said devices, said devices rotatable upon said fixed support.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARL A. BROSTROM.

Witnesses:

C. W. TAYLOR,

GRANT J. ROSS.