

No. 689,574.

Patented Dec. 24, 1901.

H. M. BURDICK & C. H. ROBINSON.

DISK HARROW.

(Application filed Sept. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.

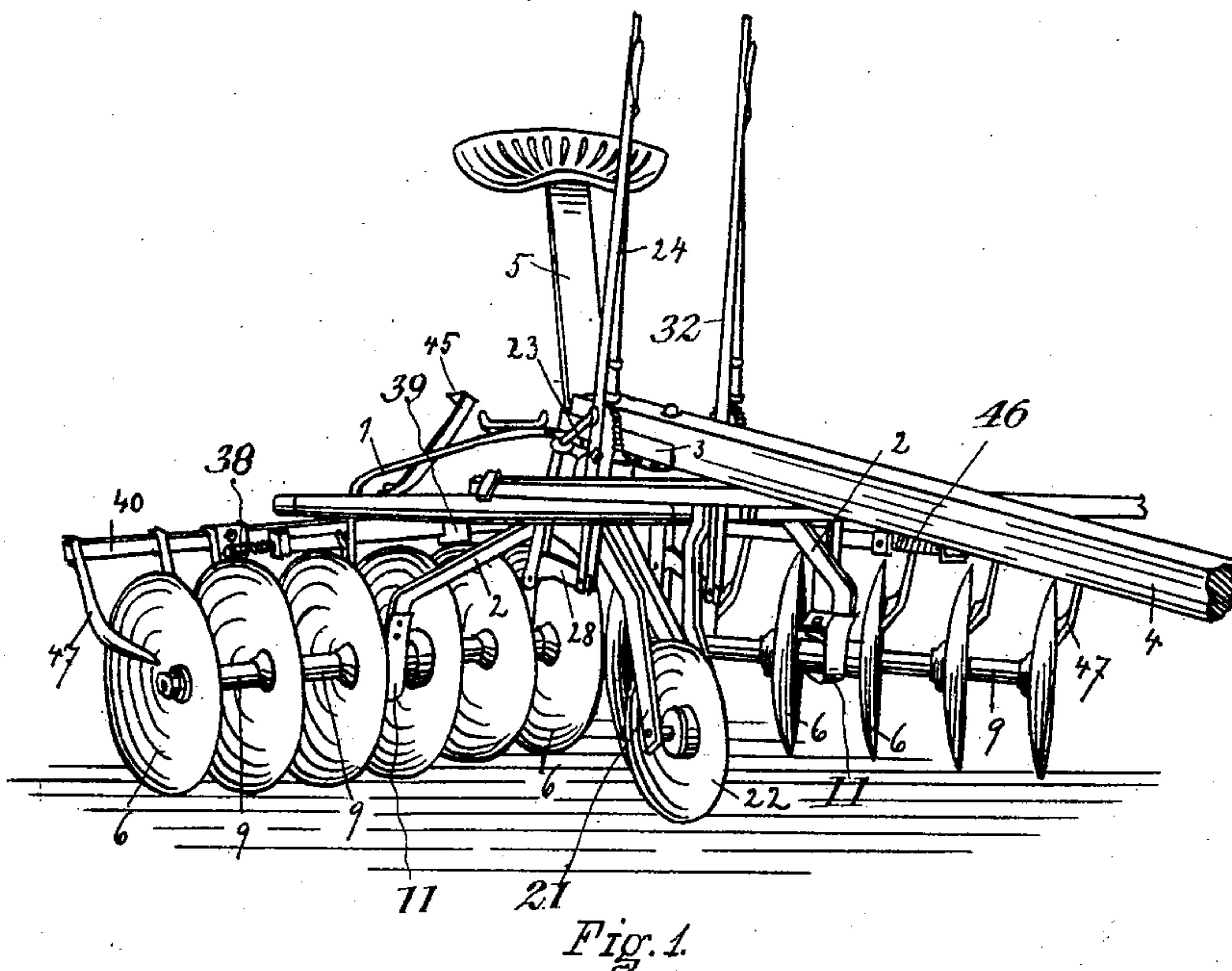


Fig. 1.

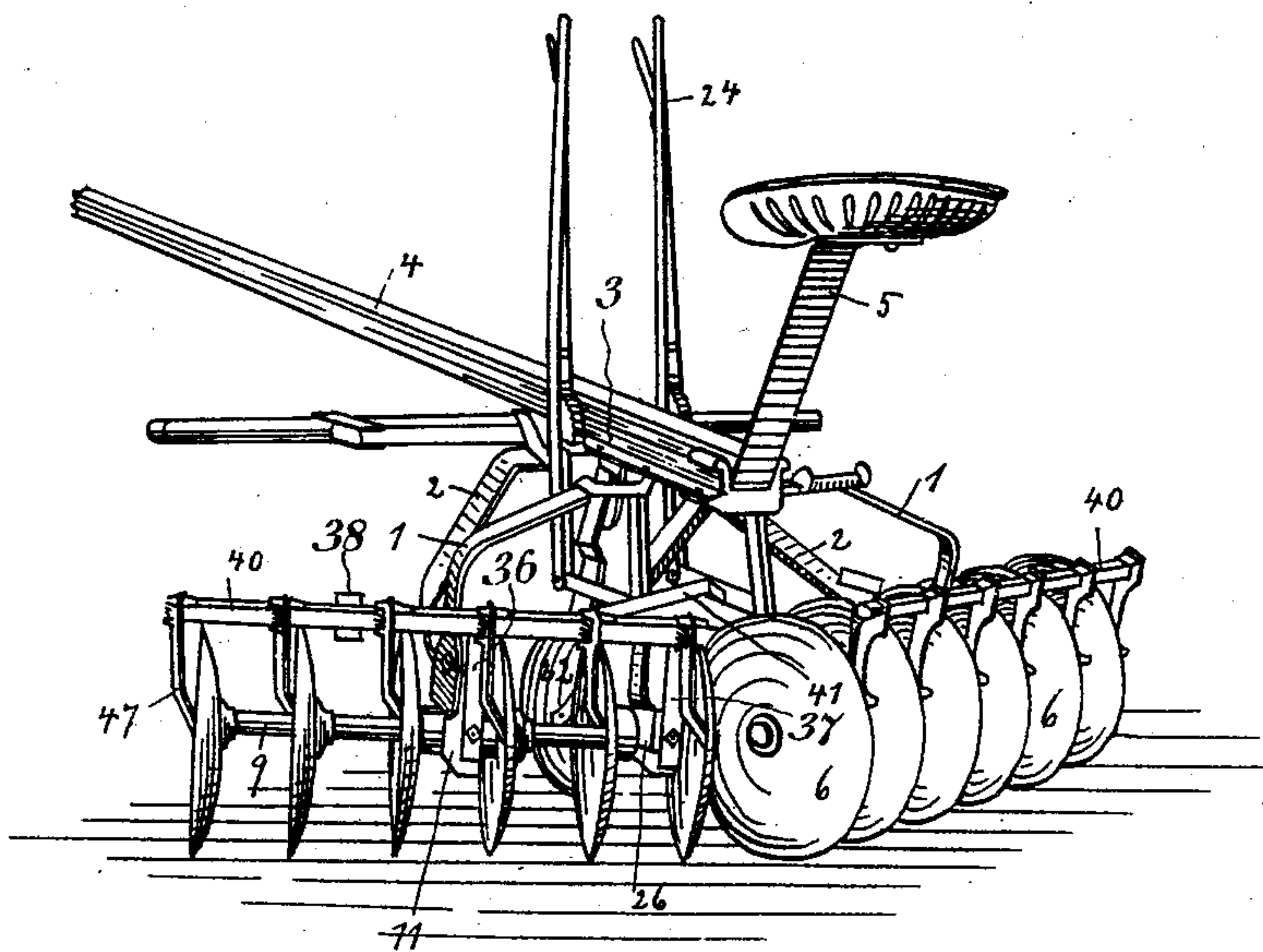


Fig. 2.

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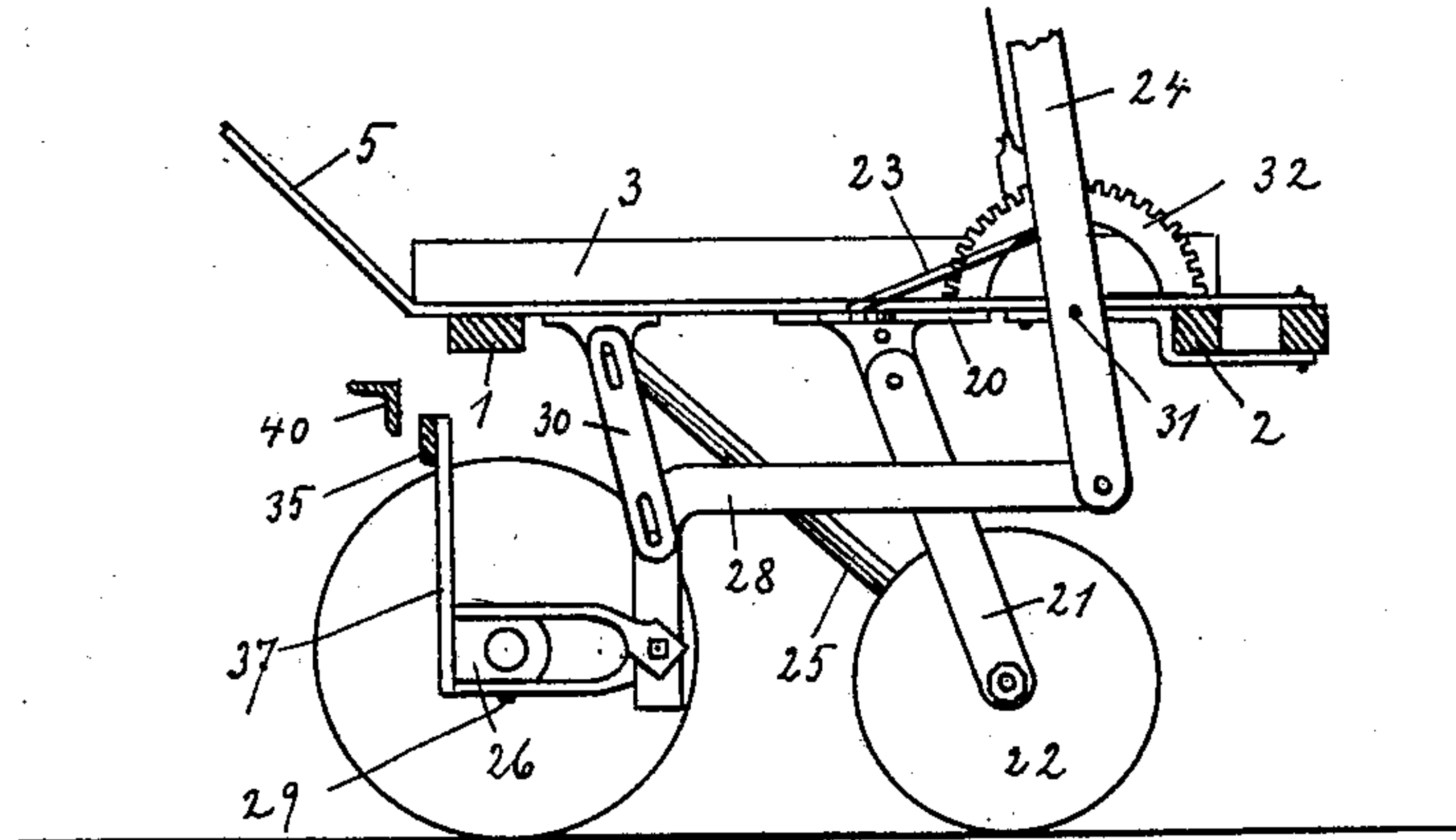


Fig. 3.

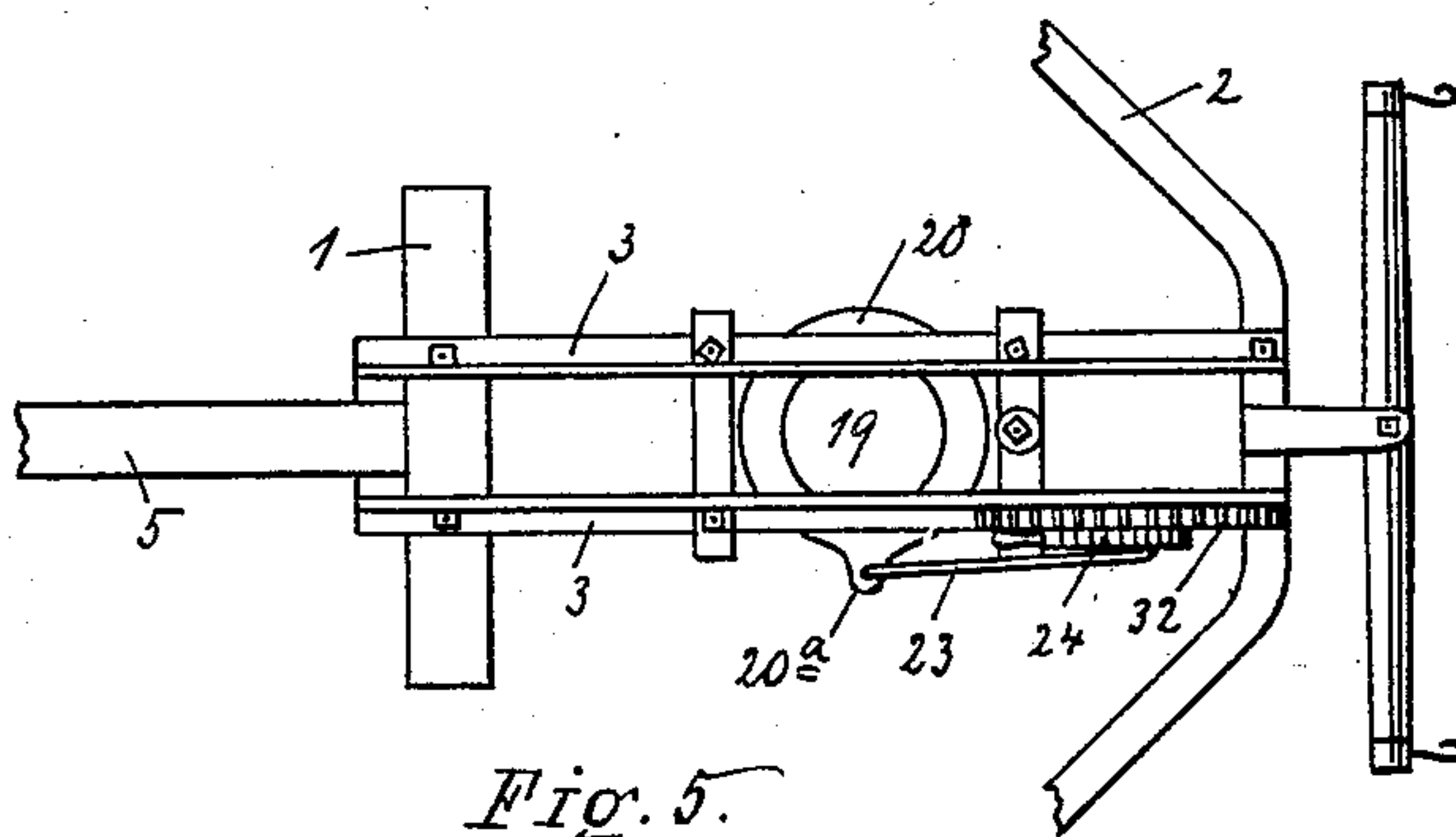


Fig. 5.

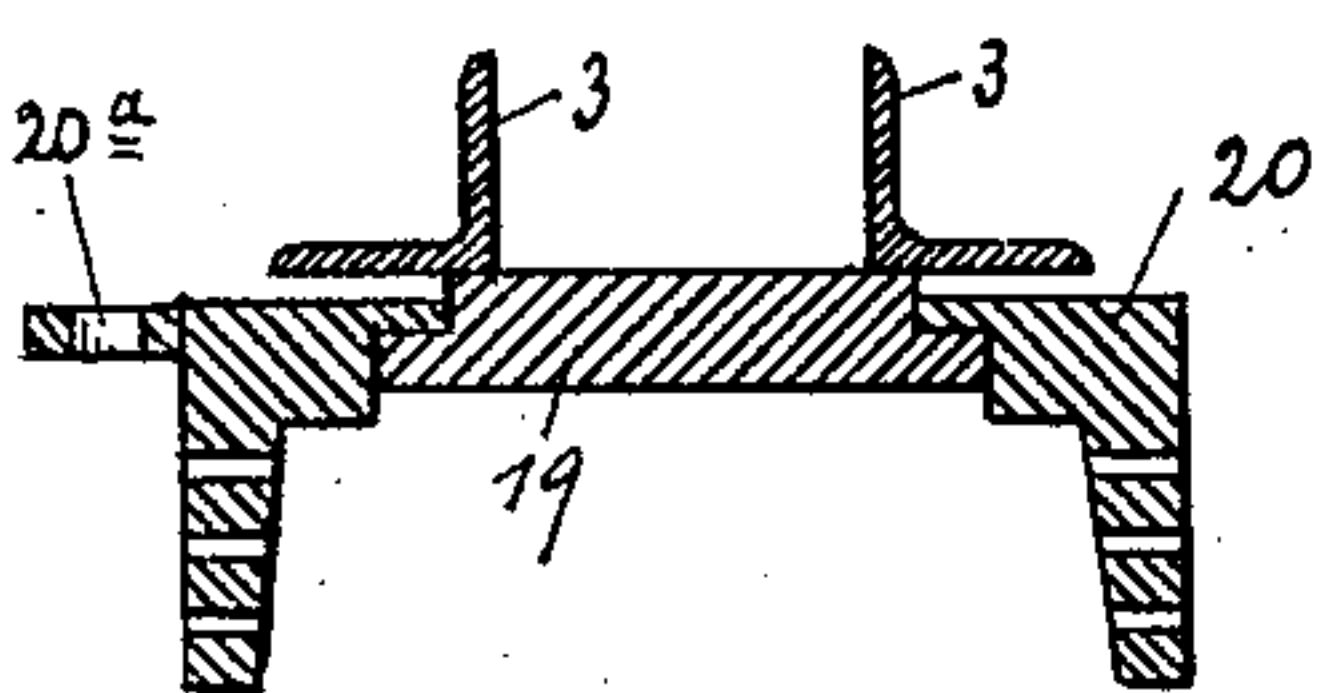


Fig. 4.

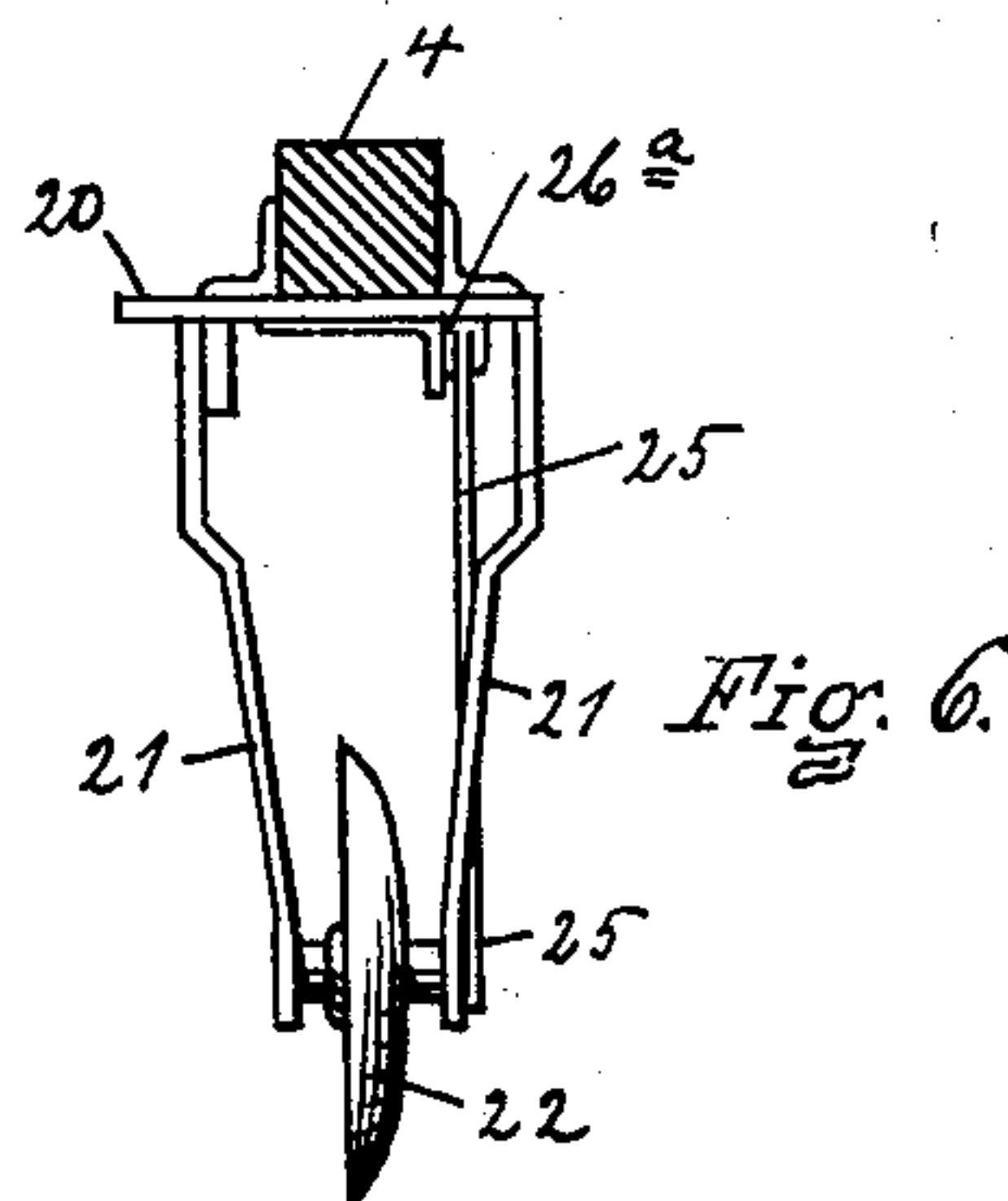


Fig. 6.

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UNITED STATES PATENT OFFICE.

HIRAM M. BURDICK AND CHARLES H. ROBINSON, OF UTICA, NEW YORK,
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DISK HARROW.

SPECIFICATION forming part of Letters Patent No. 689,574, dated December 24, 1901.

Application filed September 30, 1899. Serial No. 732,173. (No model.)

To all whom it may concern:

Be it known that we, HIRAM M. BURDICK and CHARLES H. ROBINSON, of Utica, in the county of Oneida and State of New York, have
5 invented certain new and useful Improvements in Disk Harrows; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it
10 appertains to make and use the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form part of this specification.

Our invention relates to improvements in
15 disk harrows. The feature to which attention may be called is the leading disk, arranged to operate on the strip of ground passing between the adjacent ends of the main gangs of the disks and the mechanism for supporting
20 and handling this leading disk.

In the drawings, Figure 1 shows a perspective view of a disk harrow of our improved construction from in front. Fig. 2 is a perspective view of the same from the rear. Fig.
25 3 shows details of the construction relating to the leading disk and the means for supporting and adjusting it in connection with one of the gangs of the harrow. Fig. 4 shows in section details relating to a turn-table or plate
30 upon which the leading disk is mounted and by means of which it is operated. Fig. 5 shows a plan view of portions of the harrow-frame, showing particularly the turn-table or plate on which the leading disk is mounted.
35 Fig. 6 shows details of the leading disk and the mechanism by which it is secured and operated, as seen from a position in front of the harrow.

The frame consists of a main arched bar 1,
40 extending between the main bearing-boxes of the gangs of disks.

2 indicates a second frame or draft-bar, which is also bent and arched and extends between the main bearing-boxes of the gangs.
45 On top of the harrow the bars 1 and 2 are secured to parallel angle-irons 3 3, which, together with certain small cross-pieces, which it is unnecessary to particularly mention, constitute the frame of the harrow. To the frame
50 in a position between the vertical flanges of

the angle-irons 3 3 is secured the pole, and to the frame at the rear end of the pole is secured the seat-spring 5. The gangs are formed of dished disks 6 6, which, except at the boxes, are spaced by sleeves 9. The convex faces of
55 the disks of the two gangs face each other. The main box 11 of the gang has a bearing on the axis of the gangs and is attached to frame-bars 1 and 2.

To the forward portion of the frame there
60 is secured a flange-plate 19, which supports a rotatable turn-table or ring 20. This part 20 is provided with a pair of downwardly-projecting lugs or ears, to which are secured the upper ends of the arms 21. The lower ends
65 of the arms 21 receive and support the bearing of the leading disk 22. The rotatable ring or turn-table 20 is provided with a lug or ear 20^a, which is connected by a rod or link 23 with the adjusting-lever 24 of the right-hand
70 gang of disks. The bearing of the leading disk 22 is further supported by a brace 25, which is secured at its upper end at 26^a to the main frame. The lower end of the brace is somewhat loosely connected with the bearing
75 of the leading disk 22, whereby a certain amount of play is allowed for the angular adjustment of this disk. The location and arrangement of the leading disk is such that it will operate on the strip of ground which
80 might otherwise pass between the adjacent ends of the main gangs when thrown into angular and operative position. The leading disk 22 is a dished disk similar to the
85 other disks of the harrow and dished or having its concave side facing in the same general direction as that of the gang with which it is connected, as specified, and effective in cultivating the ground. The arrangement of the leading disk in front of the gang does not
90 materially interfere with turning a corner with the implement in operation, for the reason that in turning corners the team of horses may back up, throwing up the end of the pole and lifting out of the ground the
95 working edge of the leading disk.

The right-hand gang of disks is angularly adjusted with reference to the frame by means of the following mechanism: On the axle of the gang adjacent to one end there is pro- 100

vided a box 26. The box 26 receives the fork 27 from the angular bar 28, and the fork is pivoted to the box by the transverse bolt or pin 29. The angular bar 28 is connected with the main frame by a link 30, pivoted to the main frame and to the bar. The forward end of the bar 28 is pivoted to the lower end of the adjusting-lever 24. The lever 24 is pivoted to the main frame at 31, and there is provided a rack 32 and a catch engaging therein, by means of which the position of the lever and the gang may be maintained. The left-hand gang is operated by substantially a duplicate of the lever and connecting mechanism just described, except that there is no connection with the leading disk 22. When the angular position of the right-hand gang is adjusted, that of the leading disk 22 is simultaneously and correspondingly adjusted. In connection with each gang of disks there is provided a supporting-bar 35, supported in part from box 11 and in part from box 26 by the upright 37. On the bar 35 is mounted the scraper-bar 40, which is provided with scrapers 47, adapted to engage the concave surface of the disks and which is operated by levers 41.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a disk harrow having two gangs of disks, of a leading disk pivotally supported from the frame in advance of the gangs, and means connecting said disk with one of the gangs whereby it is simultaneously adjusted with reference to the line of draft, substantially as set forth.

2. The combination with a disk harrow having two gangs of disks, of a leading disk arranged in the plane of the adjacent ends of the gangs and pivotally mounted on the frame and means for adjusting said disk in connection with one of the gangs, substantially as set forth.

3. The combination in a disk harrow having two gangs of disks, of a leading disk arranged in advance of the space between the meeting ends of the gangs and pivotally mounted on the frame in advance of the bearings of the gangs, and means for adjusting one of the gangs and said leading disks simultaneously.

4. In a disk harrow, the combination of two disks one gang having its disks dished in one direction and the other gang having its disks dished in the other direction, a dished leading disk arranged in advance of the space between the adjacent ends of the gangs and pivotally mounted upon the frame in advance of the plane of the gangs, and means for operating said leading disk to adjust it in connection with the gang which has its disks dished in the same direction.

In witness whereof we have affixed our signatures, in presence of two witnesses, this 20th day of September, 1899.

HIRAM M. BURDICK.
CHARLES H. ROBINSON.

Witnesses:

E. WILLARD JONES,
SARAH A. BROWN.