

No. 612,693.

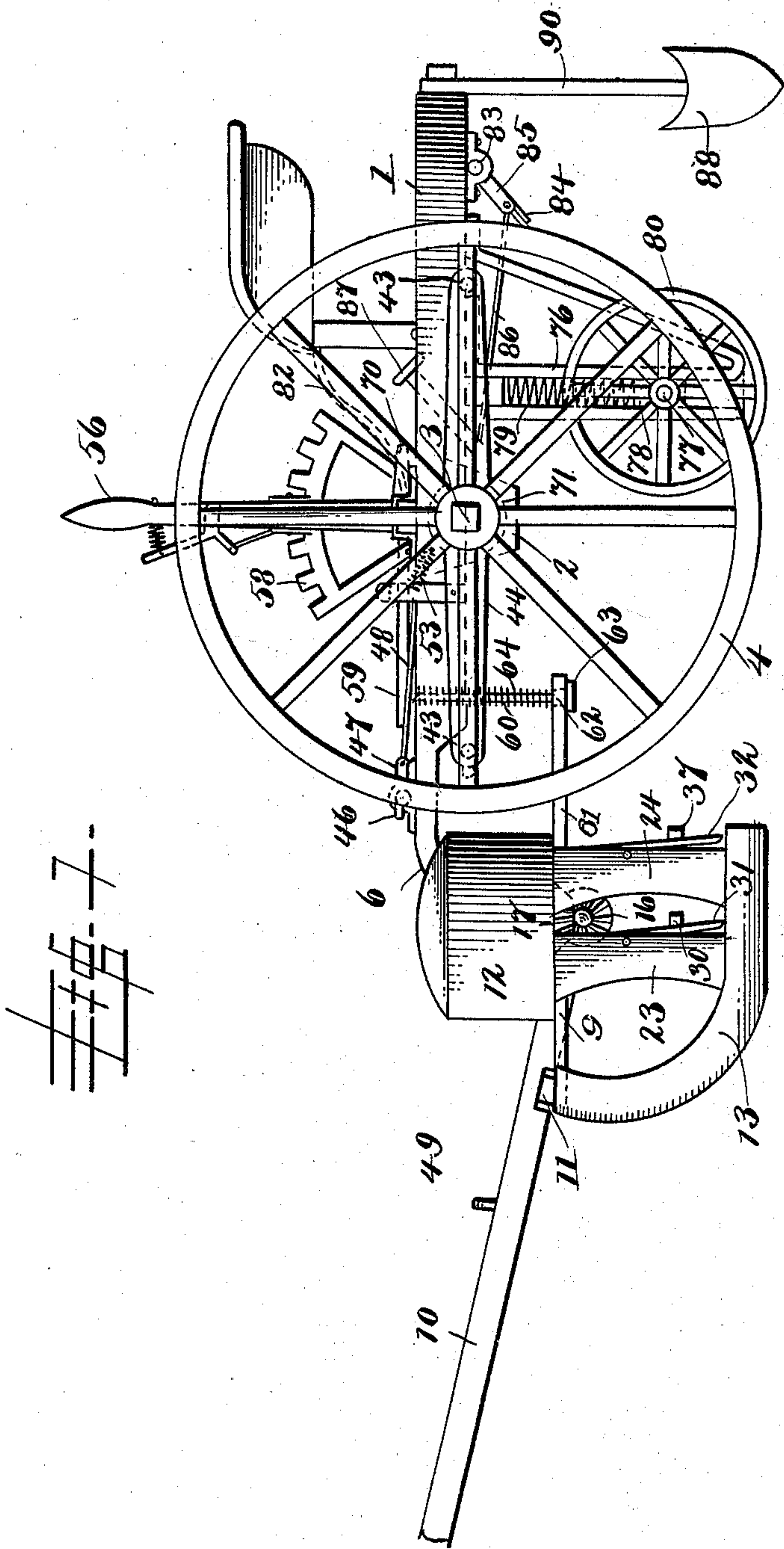
Patented Oct. 18, 1898.

R. L. ALEXANDER.
CHECK ROW CORN PLANTER.

(Application filed Sept. 9, 1897.)

(No Model.)

4 Sheets—Sheet 1.



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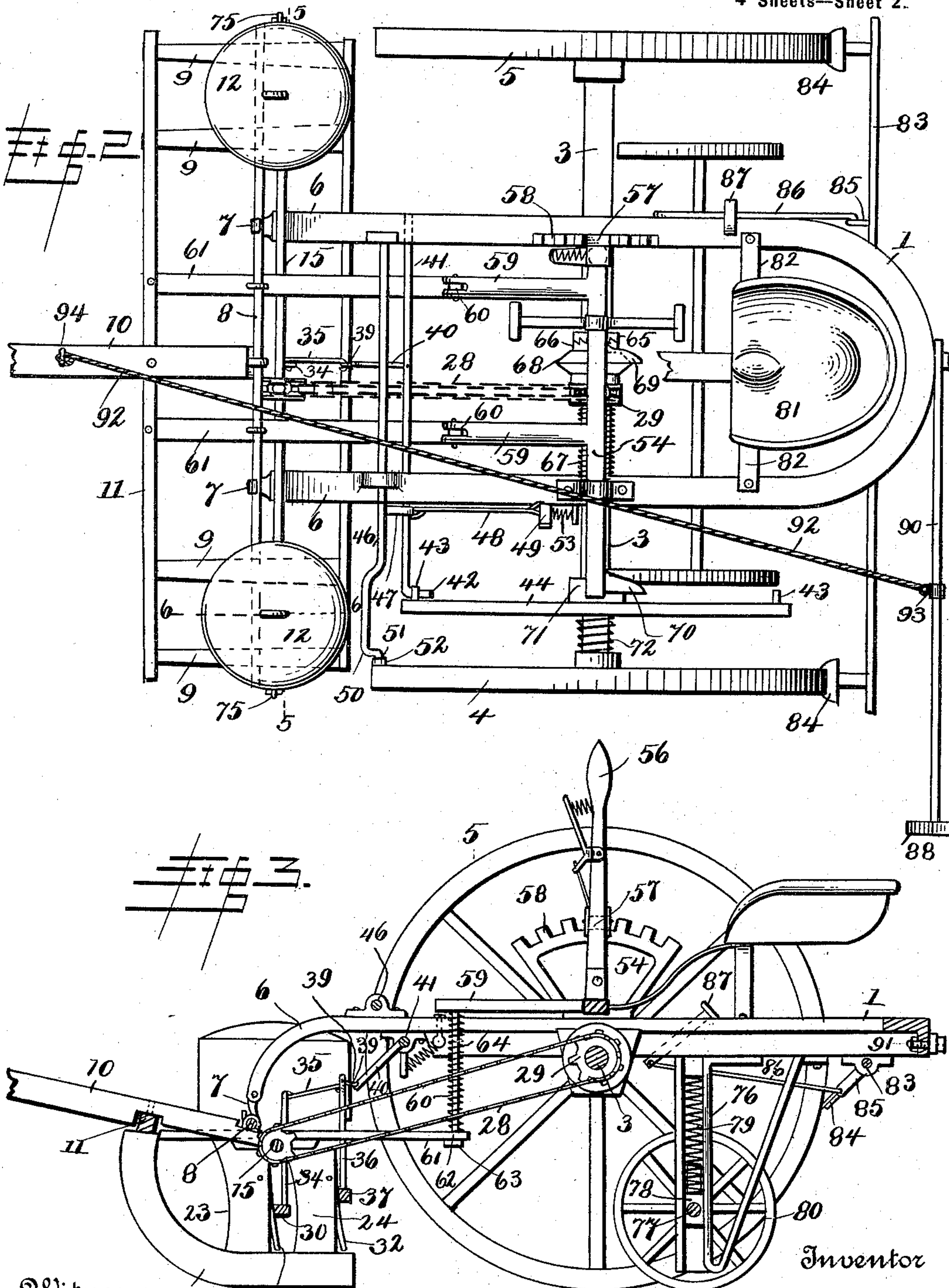
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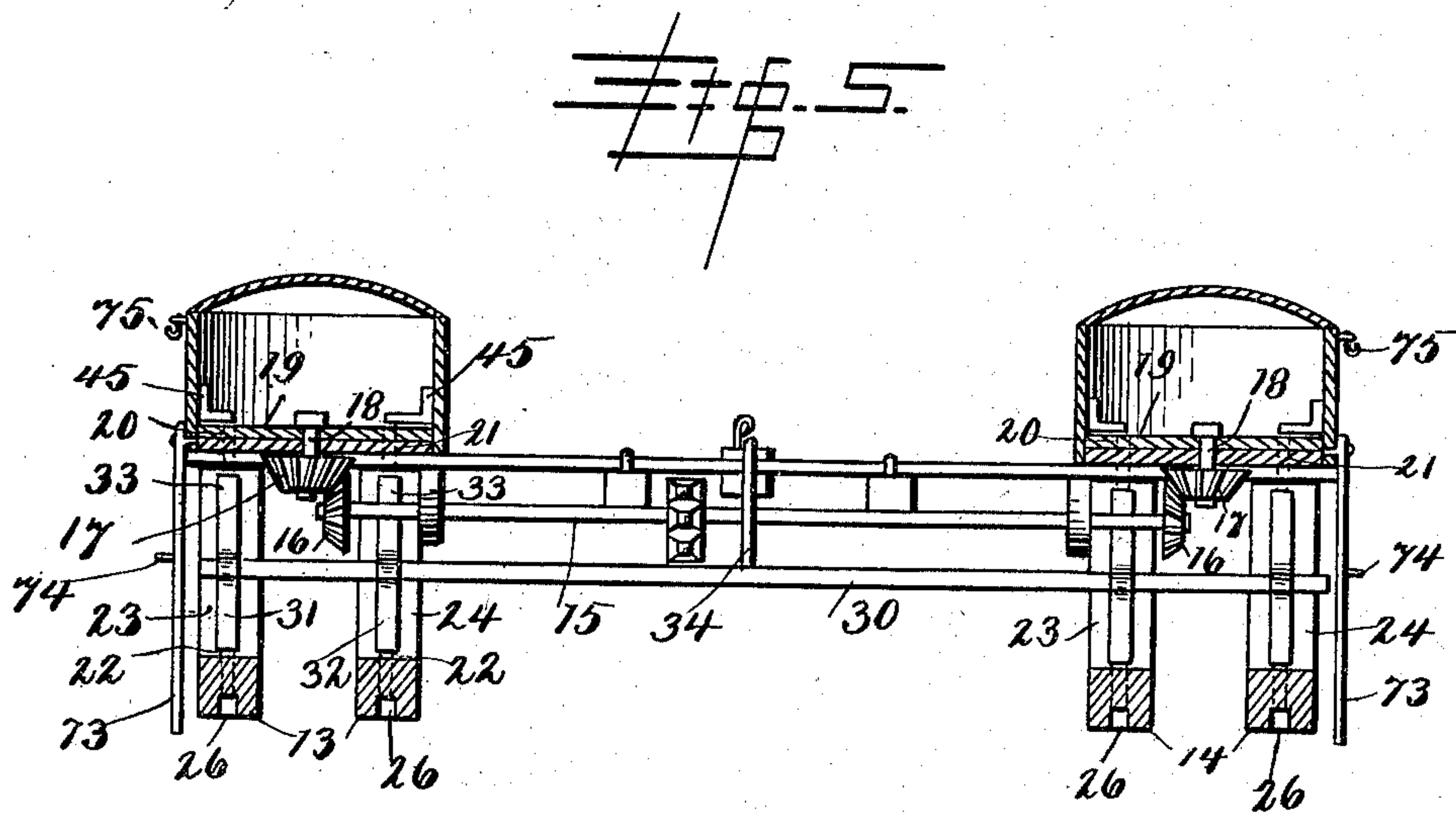
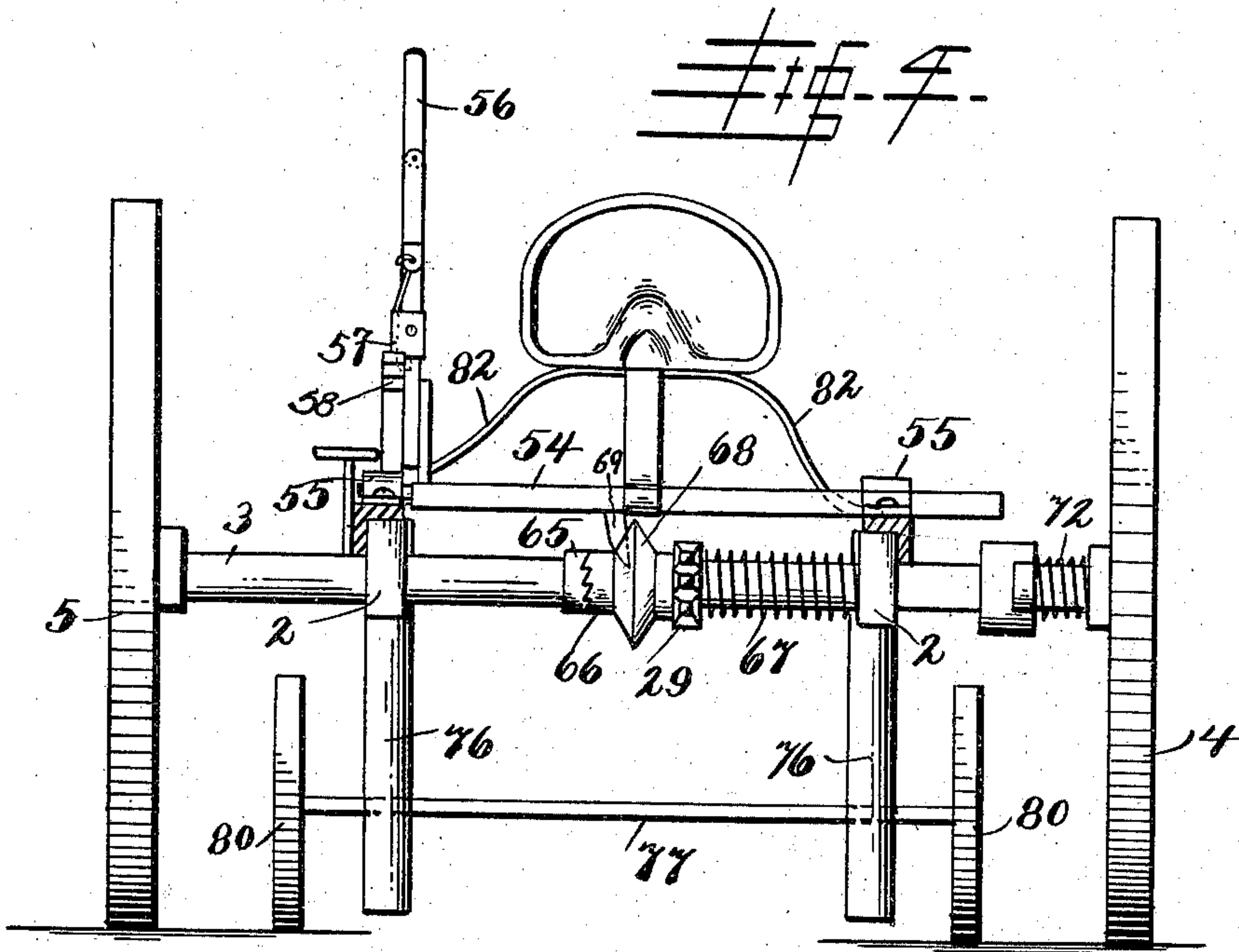
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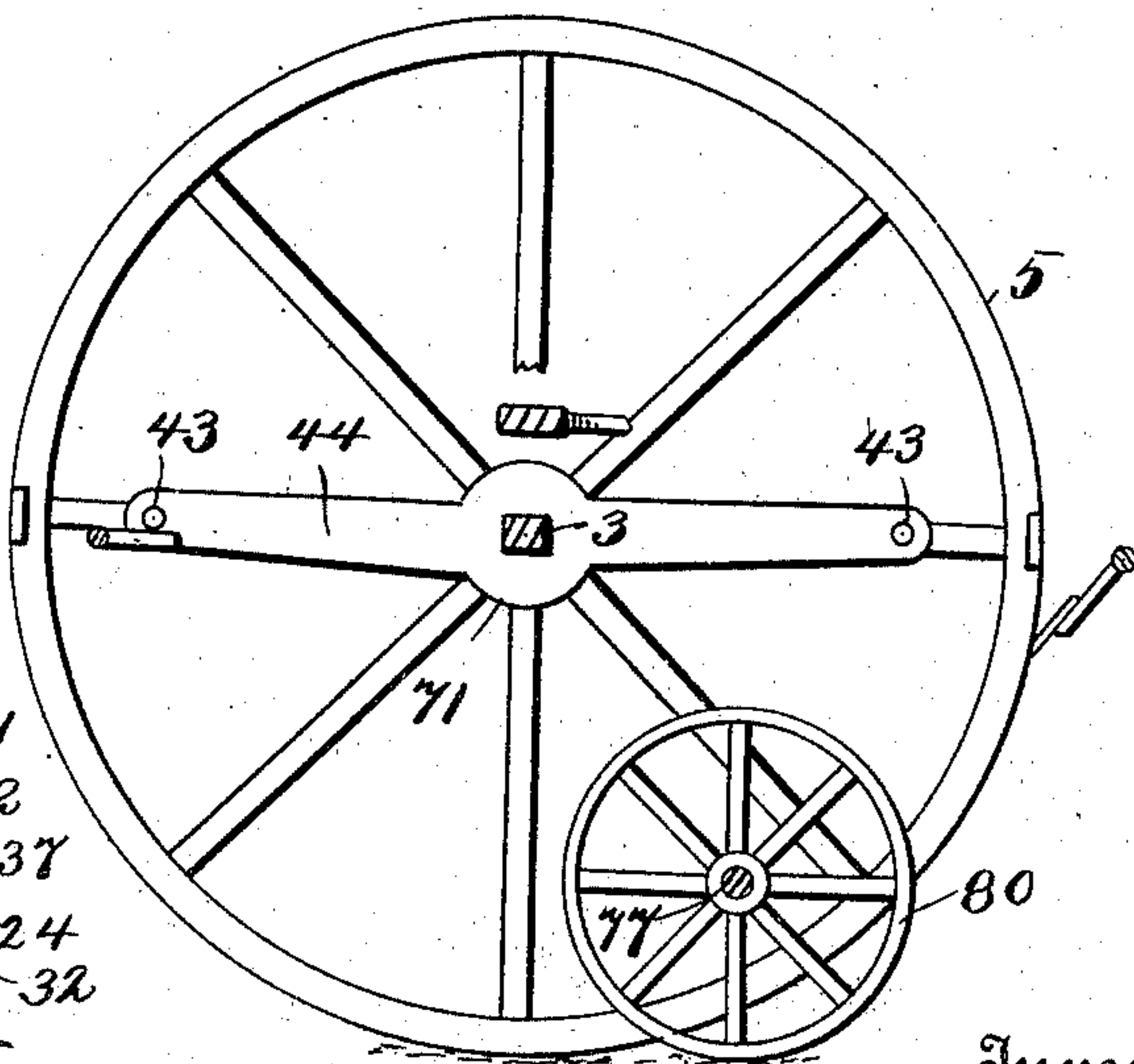
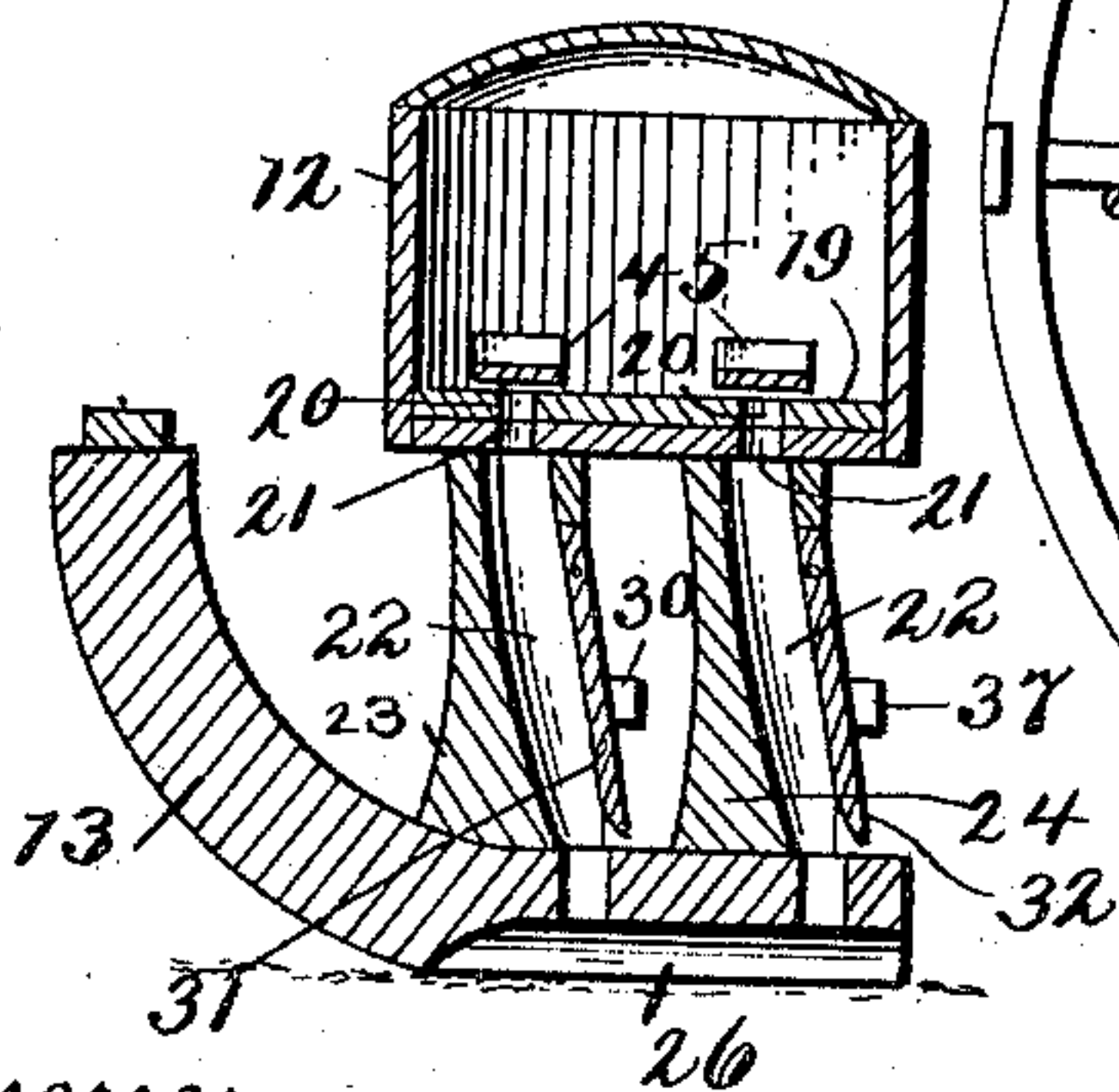
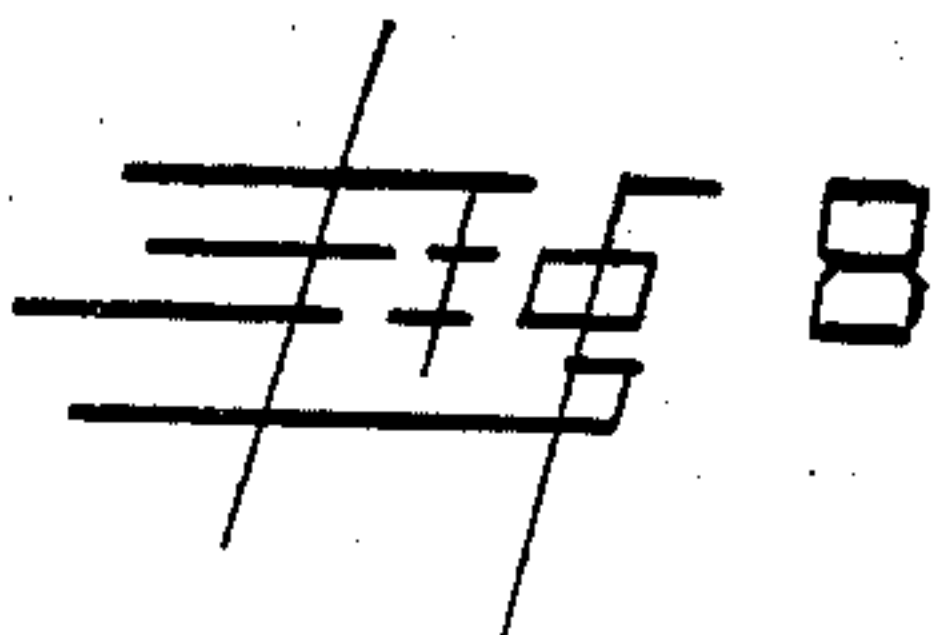
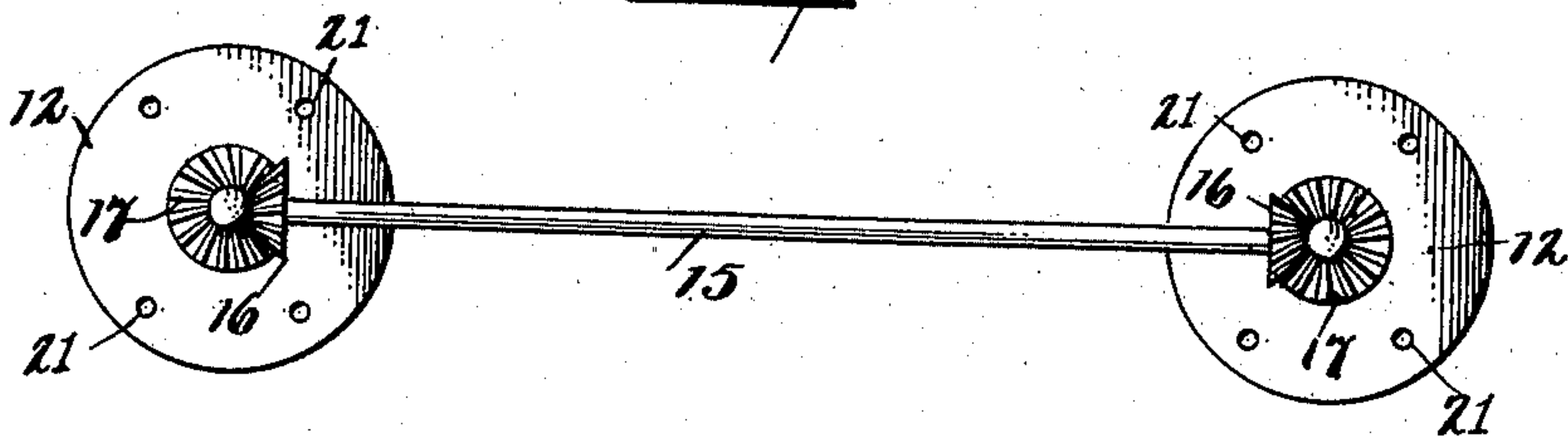
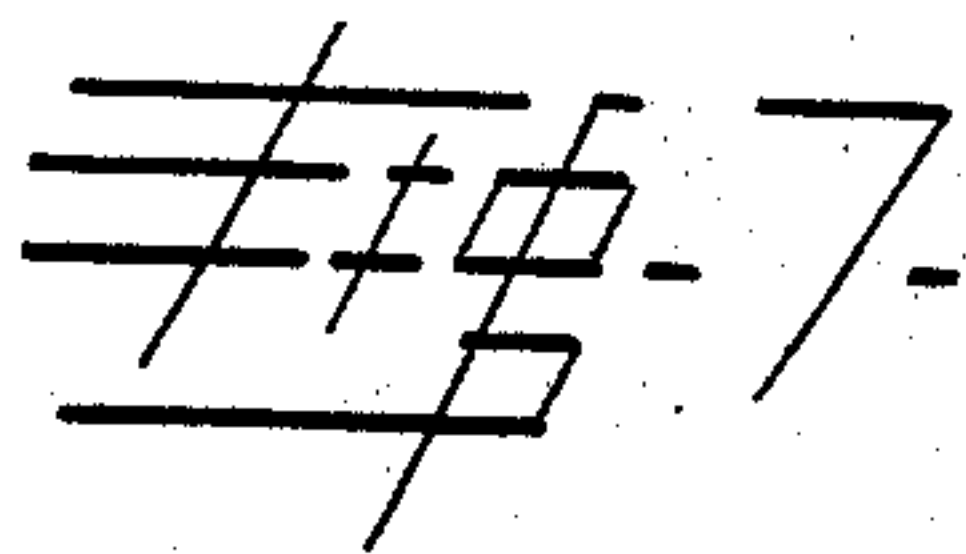
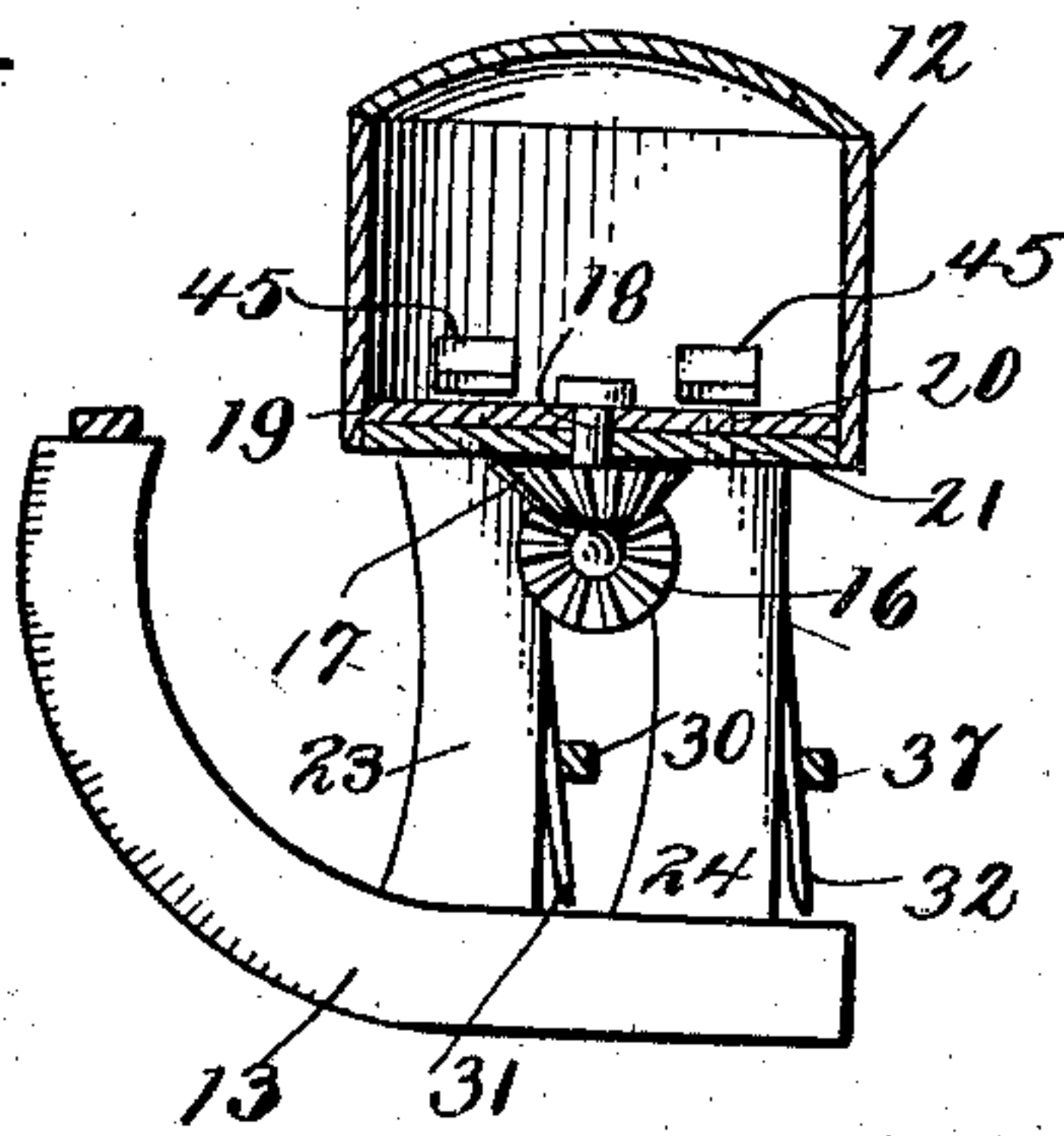
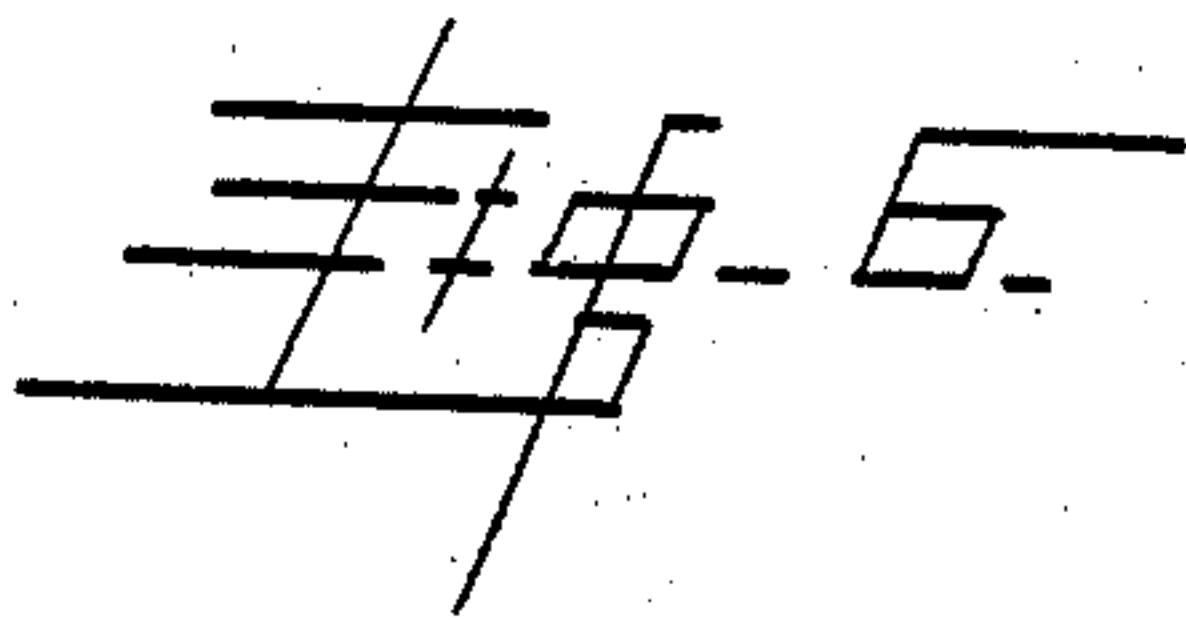
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4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

ROBERT LEE ALEXANDER, OF STOUTLAND, MISSOURI.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 612,693, dated October 18, 1898.

Application filed September 9, 1897. Serial No. 651,079. (No model.)

To all whom it may concern:

Be it known that I, ROBERT LEE ALEXANDER, a citizen of the United States, residing at Stoutland, in the county of Camden and State of Missouri, have invented certain new and useful Improvements in Check-Row Corn-Planters; and I do 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 certain new and useful improvements in check-row corn-planters; and the object is to simplify the construction and improve the efficiency of the implement.

To this end the invention consists in the construction, combination, and arrangement of the several parts of the device, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a side elevation of my improved check-row corn-planter. Fig. 2 is a top plan view of the same. Fig. 3 is a longitudinal section. Fig. 4 is a transverse section on the line of the main axle. Fig. 5 is a similar view on the line 5 5 of Fig. 2. Fig. 6 is a longitudinal section on the line 6 6 of Fig. 2. Fig. 7 is a bottom plan view of the seedboxes. Fig. 8 is a longitudinal section on the line of one of the furrow-opener blades.

1 represents an approximately U-shaped horizontal frame, preferably formed of angle-iron, and it is provided with bearings 2 2, in which is journaled the transverse axle 3, so as to rotate freely therein.

4 and 5 represent carrying-wheels mounted on the outer ends of said axle, the wheel 5 being loosely journaled thereon, while the wheel 4 is fixed on the opposite end of the axle, so as to rotate the same when the machine is in motion.

The forward ends 6 6 of the frame 1 are turned downwardly, as shown, and in the immediate ends are pivoted the clips 7 7, which encompass the transverse shaft 8, fixed in the runner or opener frame 9.

10 represents the usual pole or tongue fixed to the transverse bar 11, and its rear end is coupled to the transverse shaft 8.

12 12 represent the circular seedboxes supported upon the furrow-opener blades 13 13 and 14 14, forming the outer ends of the opener-frame 9. 15 represents a transverse shaft journaled in said opener-frame and provided at its outer ends with the bevel-gears 16 16, which mesh with the corresponding gears 17 17, fixed on the lower ends of the vertical shafts 18 18, journaled in the bottom of the seedboxes.

19 19 represent the seed-disks fixed on the upper ends of the vertical shafts 18 18, located in the bottom of the seedboxes. The bottoms of these seedboxes are provided with a series of vertical orifices 21, which register with corresponding seed-orifices 20 in the seed-disks 19 and which are alined with the vertical grooves 22, formed in the standards 23 24, which connect the seedboxes with the furrow-opener blades 13 14, the seed-orifices extending through and communicating with the longitudinal grooves 26, formed in the bottom face of the furrow-opener blades 13 14.

The shaft 15 is provided with a sprocket-wheel which receives its motion from the endless sprocket-chain 28, driven by a sprocket-wheel 29, mounted on the axle 3.

30 represents a rock-shaft arranged parallel with the shaft 8, and to its outer ends are fixed the seed-valves 31, fulcrumed in the standards 23 23, their upper ends 33 extending into the grooves 22 to control the passage of the seed. This shaft 30 is provided with a vertical arm 34, the upper end of which is connected by a rod 35 to a corresponding arm 36, fixed to a second rock-shaft 37, extending parallel with the shaft 30 and having its free ends provided with the seed-valves 32, fulcrumed in the grooves 26 in the standards 24. A link 39 connects the arm 36 with an arm 40 on a counter-shaft 41, journaled in the parallel sides of the frame 1. One end of said counter-shaft is formed with a right-angular arm 42, which projects into the path of the lateral studs 43 43, fixed on the inner face of the outer ends of the rotating bar 44, fixed to the axle 3 and rotating with it, so as to intermittently oscillate the counter-shaft 41 and the rock-shafts 30 and 37, which in turn operate the seed-valves heretofore described.

The inside walls of the seedboxes are provided with fixed angle-plates or levelers 45,

which project across the path of the orifices 20 of the seed-disks 19 and serve to sweep off the surplus seed that may project beyond the upper face of the seed-disks, thus insuring the exact quota each time they are charged.

46 represents the rock-shaft, journaled in the parallel sides of the frame 1, and it is provided with a depending arm 47, which is connected by a rod 48 to a vertical foot-lever 49, pivoted in the frame. The outer end of this rock-shaft 46 is formed with an angular arm 50, terminating in a longitudinal toe 51, which is adapted to be projected into the path of a lug 52, fixed to the felly of the carrying-wheel 4, and this toe is normally held in the path of the lug by means of a spiral spring 53, connecting the free end of the frame 2.

54 represents a rock-shaft journaled in bearings 55 55, fixed in the frame, and it is provided with a hand-lever 56, carrying a pawl 57, adapted to engage the segmental rack 58 to retain said shaft in the position to which it may be adjusted.

59 59 represent integral horizontal parallel arms extending forwardly from said shaft 54, and to their outer ends are connected the upper ends of the rods 60 60, which extend upwardly from the longitudinal parallel bars 61 61, fixed to the runner or furrow-opener frame 9. The lower ends of these rods 60 extend through an orifice 62 in the outer ends of said bars 61 and their ends terminate in an enlarged head 63, and 64 represents a spiral spring encompassing each rod between the bars 61 and the arms 59, which serve to press the runner-blades into the soil.

65 represents a clutch fixed on the axle 3, and it is arranged to mesh with a counterpart clutch 66, formed on the contiguous face of the sprocket-wheel 29, which is held in engagement with said clutch 65 by the spiral spring 67.

68 represents a V-shaped flange or collar formed integral with the sprocket-wheel 29, so that its beveled edge projects into the path of a dog 69 on the rock-shaft 54, so that when the hand-lever 56 is thrown backward to raise the runners or blades 13 clear of the ground this dog 69 strikes the beveled face of the collar 68 to force it laterally aside and release the sprocket-wheel from the clutch 65, and when said hand-lever is thrown forward to lower the runners the spring 67 automatically throws the sprocket-wheel into engagement with said clutch 65. A similar dog 70 is also fixed to the axle-shaft 3 and is adapted to be thrown into the path of the hub 71 of the rotating bar 44 to press it laterally aside and withdraw its studs 43 43 out of the path of the arm 42 on the counter-shaft 41 to prevent it operating the seed-valves, and 72 represents a spiral spring encompassing the axle between the hub of the main driving-wheel 4 and the bar 44 to restore the same to its normal position when released by the dog 70.

That portion of the axle 3 which receives the rotating bar 44 is square in cross-section,

and the hub 71 of said bar is provided with a corresponding recess, so that while the axle rotates the bar it also permits a lateral limited movement of the bar on the axle for the purpose of throwing it in and out of the path of the arm 42 on the counter-shaft 41.

73 73 represent marker-rods pivoted to the outside of the seedboxes, and each marker is provided with a pin 74, which engages a hook 75 on the seedbox to retain said marker in an elevated position when not in use.

76 76 represent tubular standards fixed to the frame 1, and they are additionally secured thereto by the braces.

77 represents an auxiliary axle journaled in the bearings 78 78, fixed to the lower ends of the spiral pressure-springs 79 79, housed in the tubular standards 76.

80 80 represent small wheels mounted on the outer ends of the axle 77, which follow behind the runners and are intended to cover the inside part of the rows as the corn is planted.

81 represents the usual seat supported by the spring-braces 82 82, secured to the frame 1, and 83 represents a transverse shaft journaled in the rear end of the frame, its outer ends being provided with scraper-blades 84 84 to remove any accumulation of soil that may adhere to the wheels 4 5 when working in wet or heavy ground. This shaft 83 is provided with a crank-arm 85, from which a rod 86 extends to the foot-lever 87 to be manipulated by the driver for conveniently operating the scrapers.

88 represents a duplex marker secured to the outer end of a rod 90, pivoted at its inner end to the frame by the bolt 91, fixed in the extreme rear end of the frame 1, and 92 represents a chain or wire rope extending from the eyebolt 93 on said rod 90 to a corresponding eyebolt 94 on the tongue or pole 10, so that the said marker may be adjusted laterally on either side of the machine to lay off or mark the rows.

An important and, in fact, the main feature of my improved planter is that the corn is planted standing apart at about ten or twelve inches, more or less, each hill containing four stalks standing in a perfect square, so that each hill may be cultivated between the stalks each way of the ground.

Another valuable and important feature is that the machine will check the rows with or without the check-wire stretched across a field. On level or smooth ground the checking or dropping of the corn is governed by the revolution of the master-wheel 4, which controls the operation of the whole machine; but for ground that is rolling or rough the check-wire stretched across the field will be found more effective.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as

clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to
5 secure by Letters Patent of the United States, is—

A corn-planter comprising the U-shaped wheel-frame 1, the forward ends 6 6 of which are turned vertically downward, the runner-frame 9, the transverse shaft 8 fixed in said
10 runner-frame, the clips 7 7 encompassing said shaft and having their ends pivoted to arms 6 6, the vertically-grooved standards 23 24 fixed in the outer ends of said runner-frame
15 9, the horizontally-grooved runners or furrow-openers 13 13 fixed to the lower ends of said standards, the circular seedboxes 12 12 fixed on the upper ends of said standards, the vertical shafts 18, 18 journaled in said seed-
20 boxes, the seed-disks 19 19 fixed to the upper

ends of said shafts, and the bevel-gears 17 17 fixed on the lower ends of said shafts, in combination with the transverse shaft 15, the bevel-gears 16 16 fixed on the outer edges of said shaft and in mesh with the gears 17 17, 25 and means for continuously rotating said shaft, the rock-shaft 30 mounted parallel with the shaft 15, the oscillating seed-valves 31 and 32 fixed on the outer ends of said rock-shaft and extending in the grooves in the
30 standards 23 24, and means for oscillating said rock-shaft by the forward movement of the machine, substantially as shown and described.

In testimony whereof I hereunto affix my
signature in presence of two witnesses.

ROBERT LEE ALEXANDER.

Witnesses:

N. E. ROWDEN,

A. F. GEORGE.