

No. 641,462.

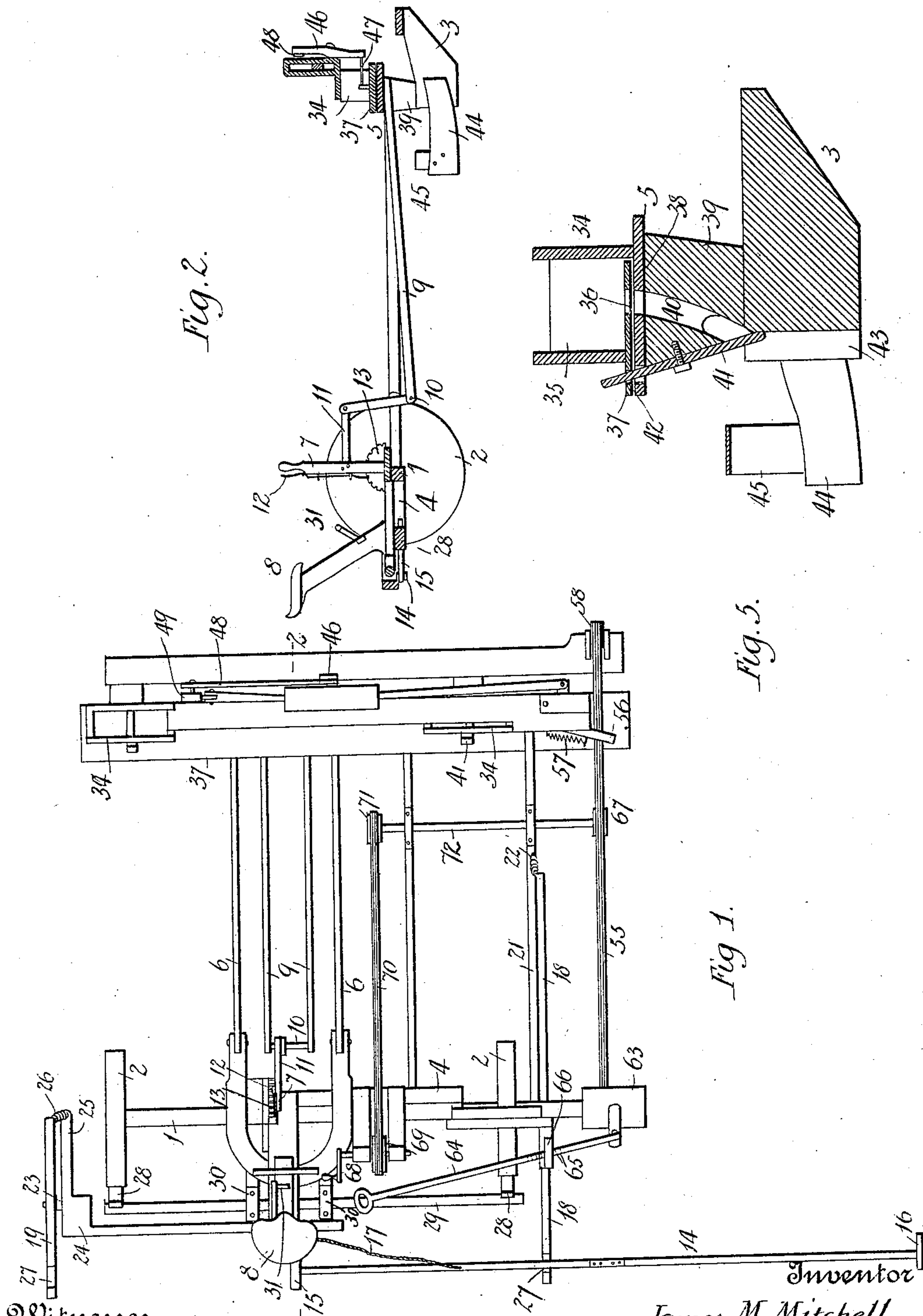
Patented Jan. 16, 1900.

J. M. MITCHELL.  
CHECK ROW CORN PLANTER.

(Application filed Jan. 26, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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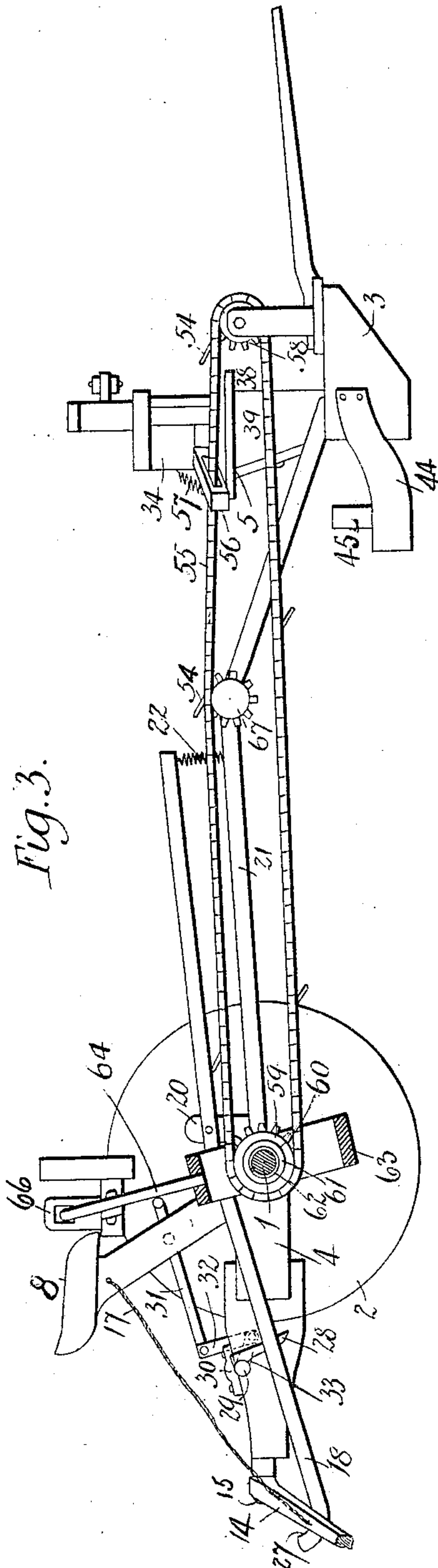


Fig. 3.

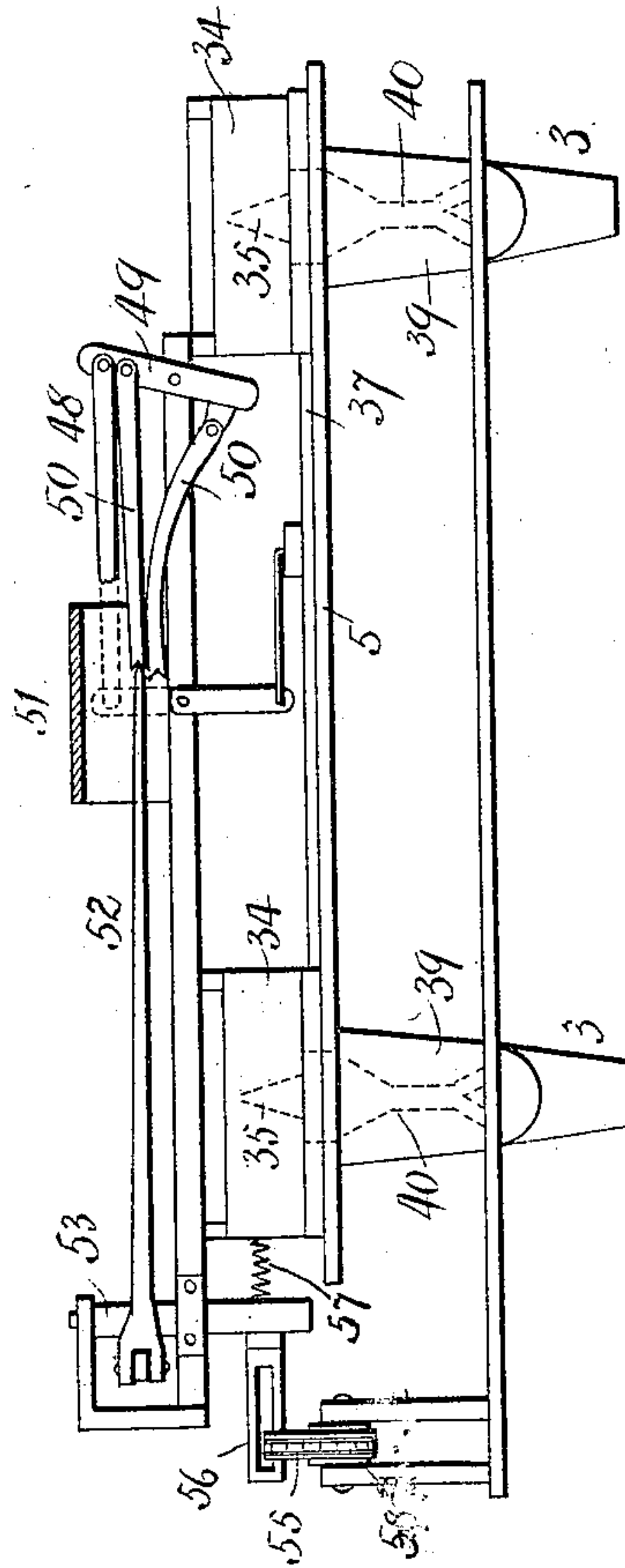


Fig. 4.

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# UNITED STATES PATENT OFFICE.

JAMES M. MITCHELL, OF JORDAN, KENTUCKY.

## CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 641,462, dated January 16, 1900.

Application filed January 26, 1898. Serial No. 668,098. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. MITCHELL, a citizen of the United States, residing at Jordan, county of Fulton, State of Kentucky, 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in machines for planting corn and the like, and has for its object the production of a check-row planter possessing advantages in point of simplicity and durability of construction and efficiency in operation.

The invention consists in certain details of construction and arrangement of parts, which are set forth in the following description, reference being made therein to the accompanying drawings, in which—

Figure 1 is a top plan view of a machine embodying the invention. Fig. 2 is a longitudinal sectional view taken on line 2 2 of Fig. 1. Fig. 3 is an elevation of the right-hand side of the machine. Fig. 4 is a front elevation of the machine. Fig. 5 is a vertical sectional view taken through the seed-hopper and drill or furrow-opener.

Referring to the said drawings by numeral, 1 denotes the axle of the machine, which supports through the medium of wheels 2 2 the rear portion of the frame, the front frame portion being supported by runners 3 3. The rear and front frame portions, respectively numbered 4 5, are flexibly connected by loosely-jointed bars 6 6, by which the inclination of the front frame may be varied. The means for affording such adjustment consist of a hand-lever 7, pivoted on the rear frame near the seat 8, and of bars 9 9, extending rearwardly of the front frame and having at their free end a cross-pin 10, to which is mounted or journaled an angle-rod 11, fixed to the lever 7. The lever is provided with a hand-actuated spring-controlled pawl 12, which engages any one tooth of a segment 13. Obviously by moving this lever the front frame is

adjusted to the inclination desired, the adjusted position being maintained by the engagement of the pawl 12 with the segment 13.

At the rear end of the machine is the row-marker 14, consisting of a jointed rod, the inner bifurcated end of which is loosely connected with a swivel-pin 15, and at the outer end of the marker is a shoe 16. The marker is shifted from side to side by manipulating a cord 17, attached to the seat-post, and said marker is yieldingly supported by arms 18 19 at each side of the frame, the arm 18 being centrally pivoted to a post 20, secured to a side bar 21, extending from the axle to the front frame, the inner end of this arm being connected by a coiled spring 22 with said side bar, while the other arm 19 is centrally pivoted to a post 23 on the outer end of a rear bar 24, secured at its inner end centrally of the rear frame and having an extension 25, connected by a coiled spring 26 with the inner end of the arm 19. Each of these arms 18 19 is provided at its outer or free end with a seat 27, which receives the marker-rod, and by the employment of the spring connections at the other end of the arms said marker-rod is yieldingly supported in a manner to permit of its readily following the inequalities of the ground.

Brake mechanism is provided for the wheels 2 2, the same consisting of shoes 28 28, fixed to the ends of a brake-beam 29, which latter is journaled in boxes 30 on the rear frame, and to control the brake there is provided a foot-lever 31, pivoted to the seat-post and connected by a link 32 with a crank-arm 33 on the brake-beam.

The planting mechanism is located at the front portion of the machine and is comprised of seed-hoppers 34 34, arranged above the runners, each hopper having a transverse central deflector or partition 35 to direct the seed through openings 36, provided in a plate 37, slidably arranged in the hopper upon its bottom. Between the runners and a plate 38, forming a support for the slide-plate 37, are legs 39 39, to each of which latter is attached a runner. A passage 40 is provided in each leg, the upper end thereof being arranged in alignment with an opening in the plate 38, forming the common bottom of the hoppers, while the lower end of said passage terminates



at the rear side of said leg in two discharging-outlets, which are alternately closed and opened by the lower end of a pivoted gate-lever 41. The upper end of the gate-lever is 5 confined in a slot 42 in the plate 37, and as said plate is reciprocated in the manner presently to be described the discharge-openings are alternately uncovered to effect an intermittent feed of the seed, which falls to the 10 ground between rear extensions 43 of the runner. Each of the runners carries a coverer, consisting of spring-plates 44 44, connected at their upper side by a bow-spring 45, whereby said coverer is in yielding contact with the ground. The means for reciprocating the plate 37 consists of a lever 46, 15 pivoted to the front frame and connected at its lower end by a rod 47 with the plate, while its upper end is connected by a rod 48 with a second lever 49, also pivoted to the frame and provided with arms 50 50, loosely connected at its ends, the free ends of said arms occupying a recess provided in a block 51, 20 mounted on the frame. The ends of the arms 50 are notched, and the upper arm rides in practice over the under arm, with the result that said arms are alternately engaged and moved by a reciprocatory rod 52, the pointed end of which occupies the one or the other of 30 the notched lever ends at each forward thrust. Movement of the rod 52 is effected by the partial rotation of a vertical rock-shaft 53, which has crank connection with the rod, as shown. The rock-shaft is actuated through the action 35 of spring-fingers 54 54, which are carried by an endless sprocket-chain 55 and which engage and move an arm 56 on the rock-shaft. The arm 56 is slotted to receive the chain, and obviously when the rock-shaft has been turned 40 to its limit the resiliency of the finger 54 enables the latter to be carried through the slot, after which the arm is free and is returned to its normal position by the action of a coiled spring 57. The chain is passed around 45 sprocket-wheels, one of which, 58, is mounted on the front frame, while the other, 59, is mounted on the axle and is rotated through the wheels 2.

It will be understood that by the employment of a number of equidistant spring-fingers 54 on the chain the planting mechanism is intermittently operated to plant the seed at the desired intervals. It frequently happens that through slipping of the wheels 55 or in turning the machine around the regularity of the seed deposits is broken, and to adjust the machine to remedy this defect I have provided means by which the chain can be rotated independently of the movement of 60 the machine to cause the fingers to engage the operating-arm at the proper times. The wheel 59 to this end is provided with a clutch 60, consisting of a disk 61, normally yieldingly held against a companion disk on the 65 wheel by the action of a coiled spring 62, the clutch being brought into or out of action by the movement of a housing 63, which nor-

mally bears against the spring to produce the requisite tension to cause the friction-disk to engage the sprocket-wheel 59. The housing 70 63 is moved by manipulating a hand-rod 64, the handle of which is within reach of the operator, and to secure the housing in its adjusted position there are provided teeth 65 75 on the under side of the rod 64, any one of which teeth may be brought into engagement with the lower side of a slot provided in a post 66, fixed to the rear frame over one of the wheels 2. The means for rotating the chain to bring the actuating-fingers into 80 proper position consists of a sprocket-wheel 67, which engages the chain and which is operated from the seat through a hand-crank 68, on the shaft of which is a sprocket-wheel 69, connected by a sprocket-chain 70 with another sprocket-wheel 71, fixed to the shaft 72 85 of the wheel 67. It will be understood that when the wheel 59 is unclutched from the axle through the means above described the chain may be rotated to bring the fingers into 90 proper position to secure regularity in the rows.

I claim as my invention—

1. In a planter for corn and the like, the combination with a seed-hopper and a seed- 95 passage leading therefrom, of a slotted slide in said passage, and means for reciprocating said slide consisting of a rock-shaft operatively connected with the slide and having an arm extending therefrom, and a chain con- 100 nected with the drive-wheel and carrying spring-fingers adapted to successively engage the arm, substantially as described.

2. In a planter for corn and the like, the combination with a seed-hopper and a seed- 105 passage leading therefrom, of a slotted slide in said passage, and means for reciprocating said slide consisting of a pivoted lever having rod connection with the slide and rod connection with a second lever, arms extending 110 from the ends of said second lever, a spring-retained rock-shaft having a slotted arm extending therefrom, a rod having crank connection with the shaft and adapted to successively engage the arms of the second lever, 115 and a sprocket-chain passing through the slot of the shaft-arm and provided with spring-fingers adapted to successively engage the latter, substantially as described.

3. In a planter for corn and the like, the combination with a corn-discharging slide 120 and means for reciprocating it, consisting of a rock-shaft operatively connected with the slide and provided with an outwardly-extending arm, and a sprocket-chain passed 125 around sprocket-wheels and carrying spring-fingers for successively engaging the shaft-arm, a clutch at one of the wheels for the chain, means for controlling the clutch, and hand means for rotating the sprocket-chain 130 when the wheel is unclutched, substantially as described.

4. In a planter for corn and the like, the combination with a seed-hopper and a seed-



5 passage leading therefrom having two outlets at its lower end, a slotted slide in said passage having means for operating it, and a pivoted gate-lever the upper end of which is confined in a slot in the slide and the lower end of which alternately controls the said outlets, substantially as described.

5. A marker for corn and other planters, consisting of a rod pivoted at its inner end to

a swivel-pin, and a yielding support for the rod comprised of a spring-controlled lever having a rod-seat at its outer end, substantially as described.

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