(No Model.)

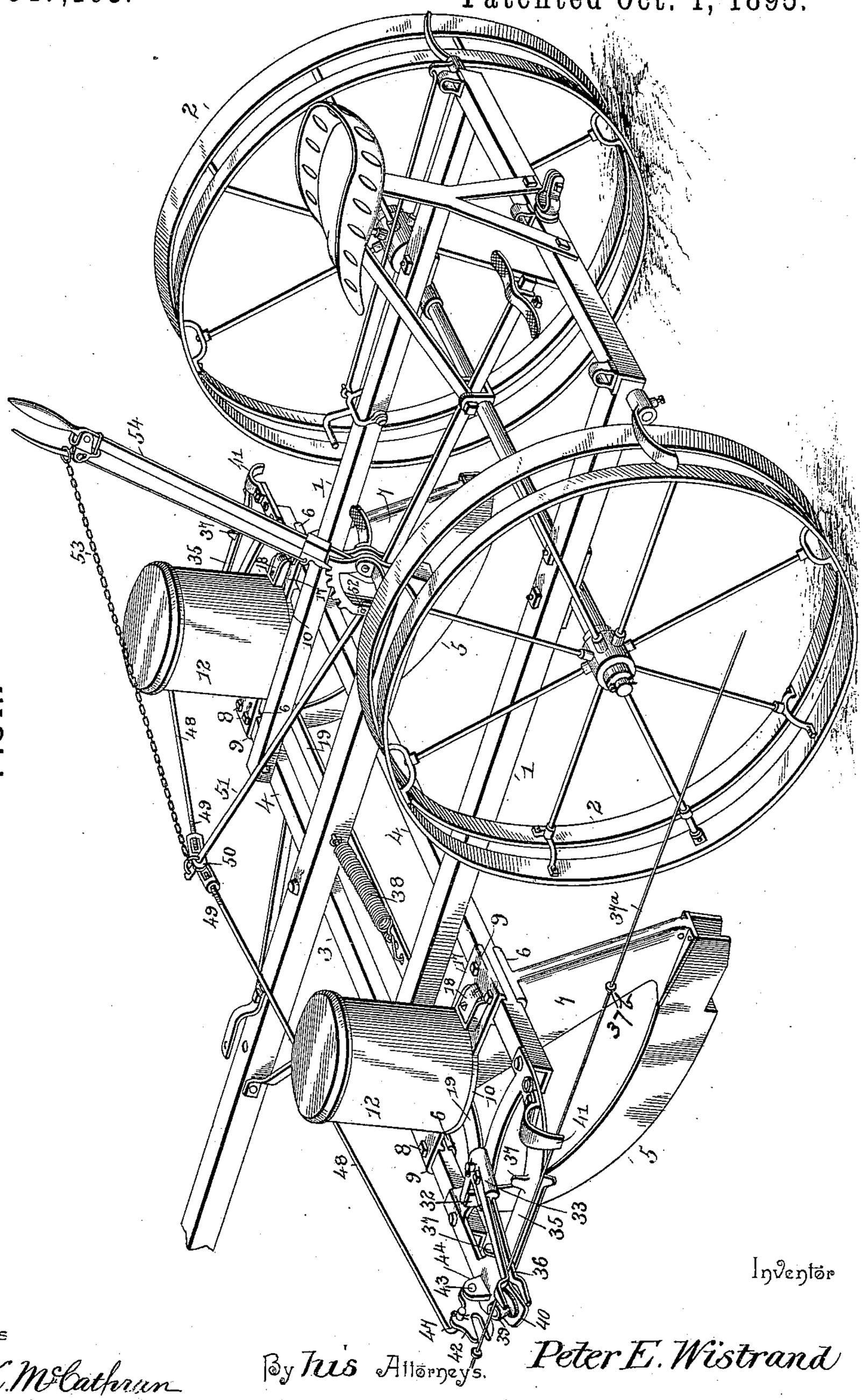
3 Sheets—Sheet 1.

P. E. WISTRAND.

CHECK ROW CORN PLANTER.

No. 547,103. Patented Oct. 1, 1895.

FIG. 1.



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(No Model.)

3 Sheets—Sheet 2.

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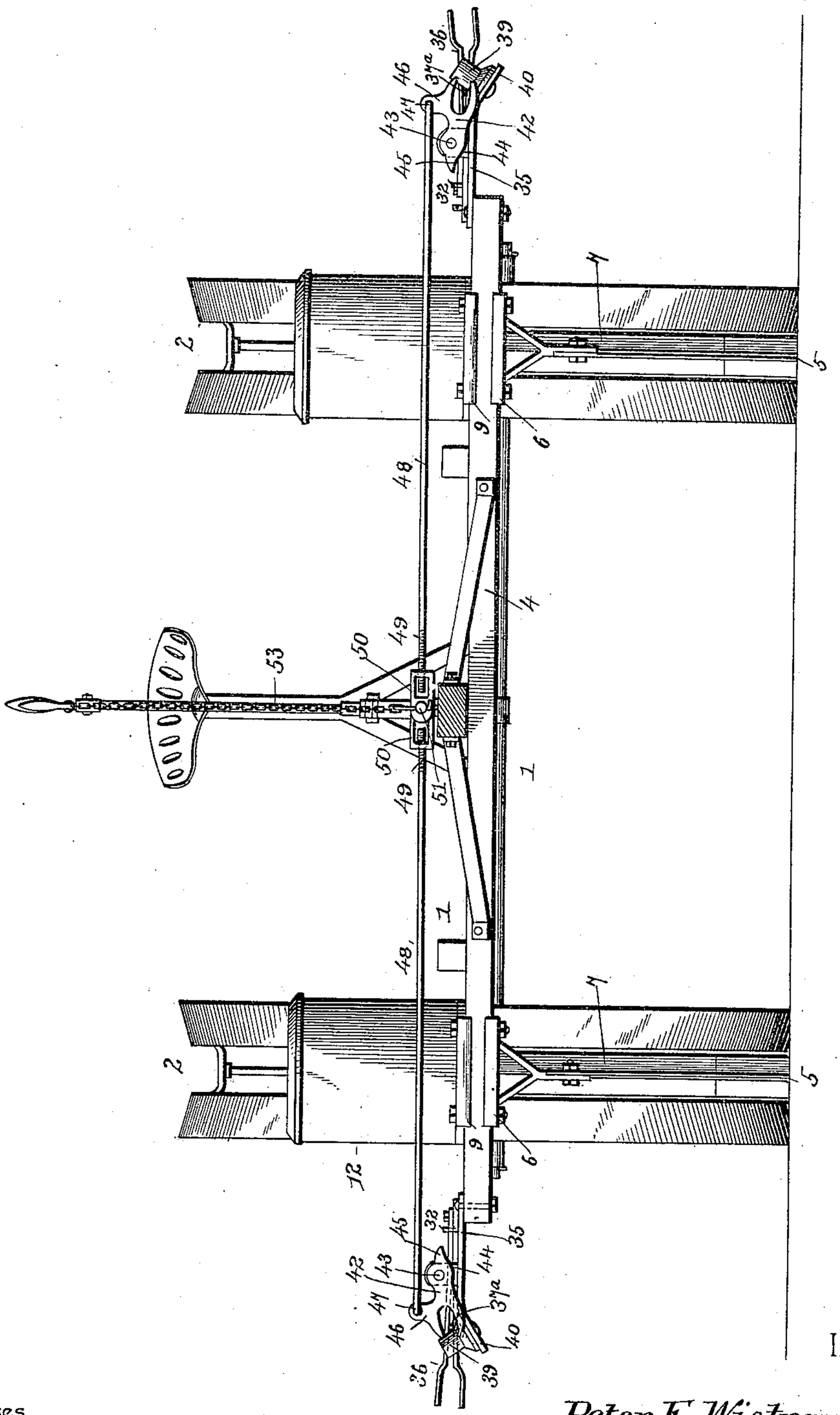
CHECK ROW CORN PLANTER.

No. 547,103. Patented Oct. 1, 1895.

FIG. 2.



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(No Model.)

3 Sheets—Sheet 3.

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CHECK ROW CORN PLANTER.

No. 547,103. Patented Oct. 1, 1895.

FIG. 5.

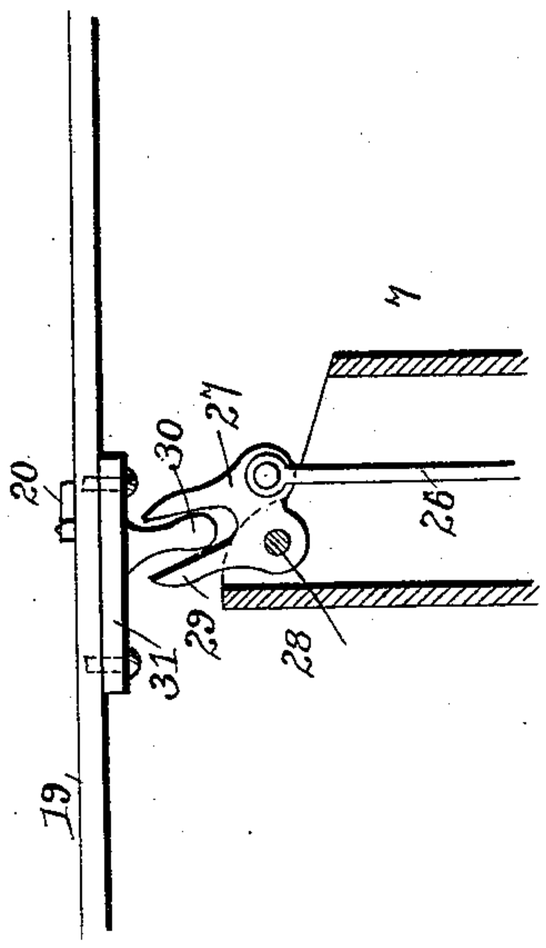


FIG. 4.

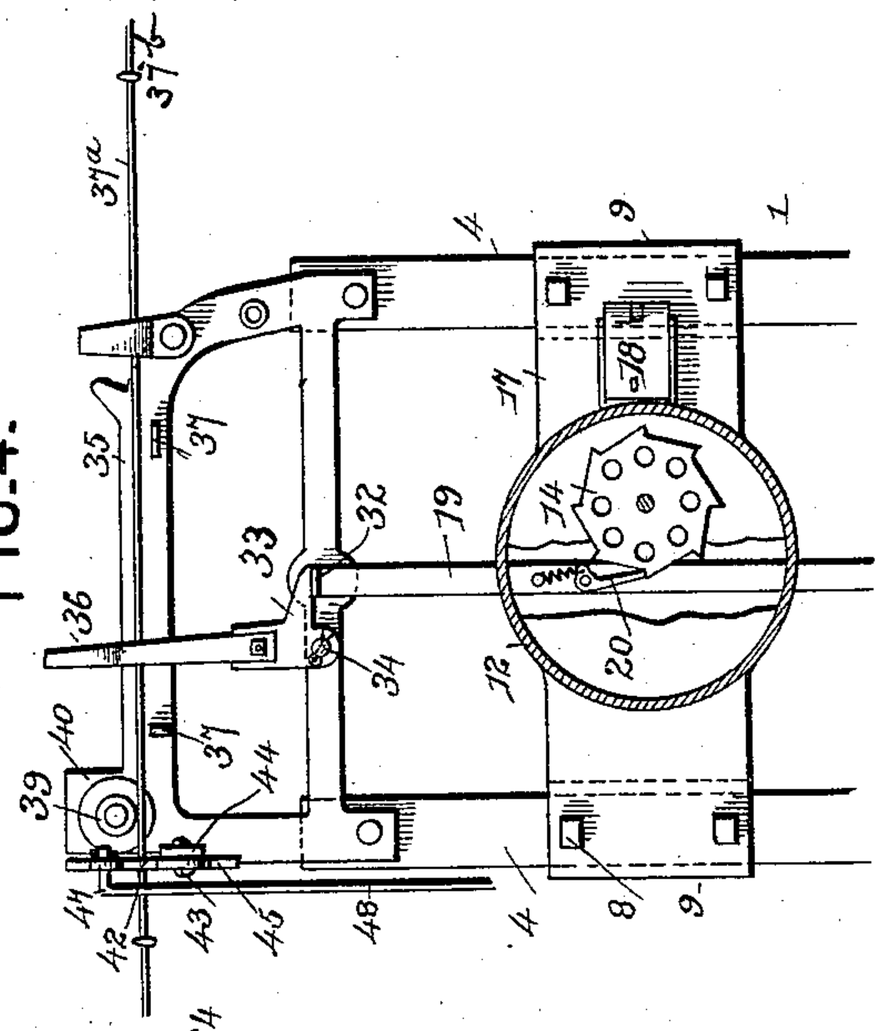
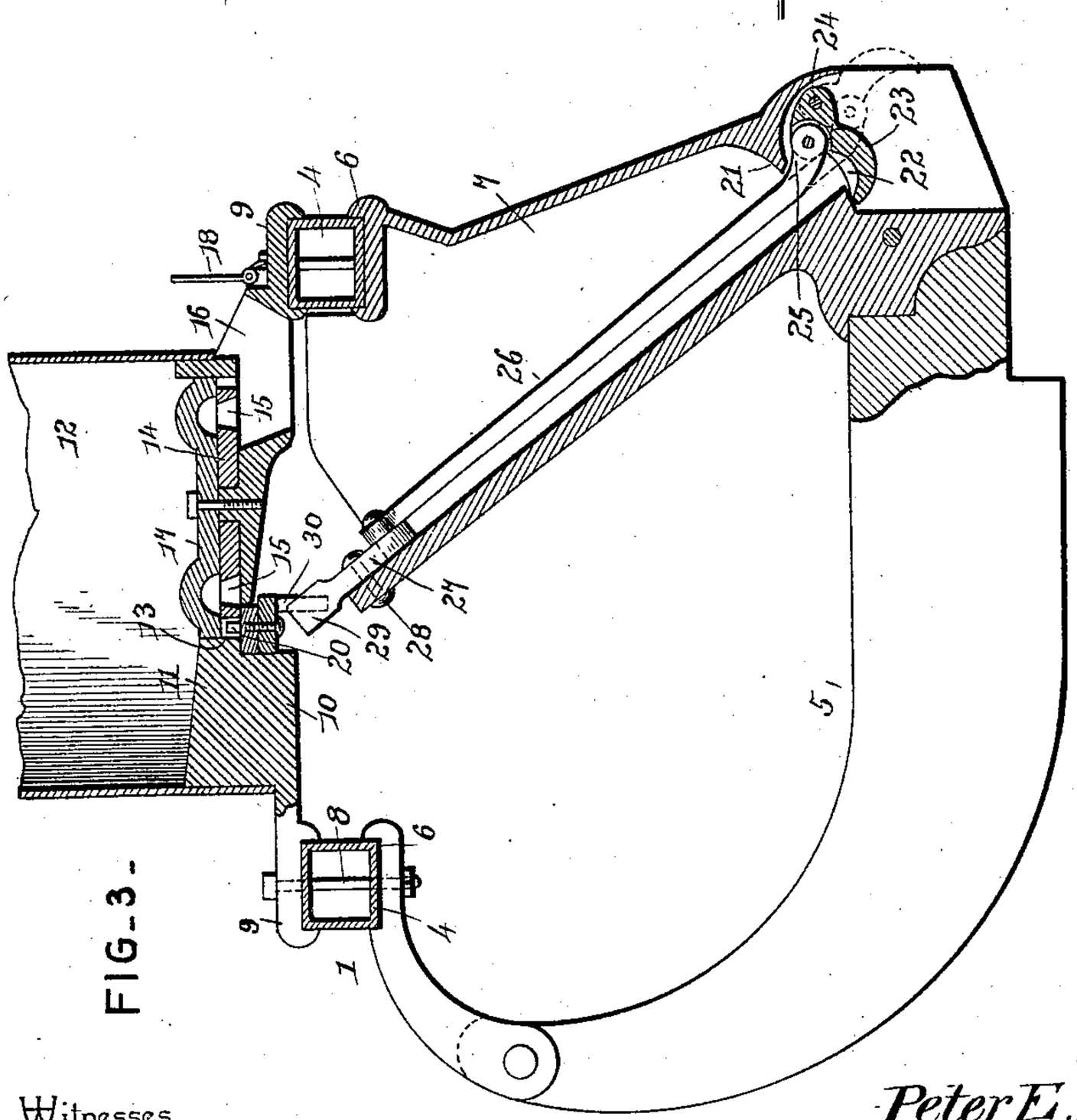


FIG. 3.



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UNITED STATES PATENT OFFICE.

PETER E. WISTRAND, OF KEWANEE, ILLINOIS.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 547,103, dated October 1, 1895.

Application filed September 26, 1894. Serial No. 524,101. (No model.)

To all whom it may concern:

Be it known that I, PETER E. WISTRAND, a citizen of the United States, residing at Kewanee, in the county of Henry and State of Illinois, have invented a new and useful Check-Row Corn-Planter, of which the following is a specification.

This invention relates to check-row corn-planters; and it has for its object to effect certain improvements in corn-planters of this character whereby the operation thereof will be rendered more positive and efficient.

To this end the main and primary object of the present invention is to equip a check-row corn-planter with a novel construction of shoe or runner frame, combined with a simple and efficient dropping mechanism and check-row wire-releasing device.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is perspective view of a check-row corn-planter constructed in accordance with the present invention. Fig. 2 is a front elevation of the same. Fig. 3 is an enlarged vertical sectional view of the seed dropping and controlling mechanism. Fig. 4 is a detail plan view, partly in section, of one end of the shoe or runner frame. Fig. 5 is a detail view showing more clearly the operating connection with the shaker-bar for the pivoted valve-cup.

Referring to the accompanying drawings, 1 designates a wheeled corn-planter frame of the ordinary or general construction and provided with the usual equipments, and said wheeled frame 1 is supported for travel over the ground on the opposite combined supporting and covering wheels 2 of a common construction. In front of the wheels 2 the planter-frame 1 has secured transversely thereto the transverse front shoe or runner frame 3.

The transverse shoe or runner frame 3, arranged at the front end of the main frame 1, essentially comprises the opposite parallel tubular metallic frame-bars 4, that combine both the requisites of lightness and strength, and near their opposite ends the parallel tubular frame-bars 4 have clamped to the under sides thereof the opposite parallel planter shoes or runners 5. The planter shoes or runners 5 are of the usual general shape or configuration, and at the upper opposite ends thereof are provided with the shouldered clamp portions 6, that embrace the lower edges of the parallel frame-bars 4, and one of said shouldered clamp portions 6 may be more properly described as being located at the upper end of the tubular downwardly-tapering seed-spouts 7, that are connected to the rear ends of the shoes or runners 5 and form substantially a part thereof, and said spouts will be more particularly referred to. The shouldered clamp portions 6, embracing the lower sides of the frame-bars 4, are firmly clamped to such frame-bars by means of the clamping-bolts 8, that pass through the said frame-bars and also fasten in position the opposite shouldered clamp ends 9 of the bottom plates 10, connecting the frame-bars 4 near their opposite ends.

The opposite shouldered clamp ends 9 of the plates 10 embrace the upper sides of the bars 4 directly above the clamp portions 6, so that a single set of bolts will serve to clamp the shoes and seed-spouts, as well as the bottom plates for the seed-boxes, onto the shoe or runner frame of the planter. The said bottom plates 10 are provided intermediate of their ends with integral enlarged circular bottom portions 11, on which are fitted the lower ends of the ordinary seed-boxes 12, and said enlarged bottom portions 11 therefore not only form the bottoms for the seed-boxes 12, but also serve to properly support said seed-boxes in proper position above the upper ends of the tubular seed-spouts 7.

The circular bottom portions 11 of the plates 10 are recessed, as at 13, to accommodate for rotation within such recesses the horizontal ratchet dropping wheel or disk 14. The ratchet dropping wheel or disk 14 is of the common construction, being provided with a circular series of seed-openings 15, that are adapted to carry the corn or seed to a position over the drop-openings 16, formed in the plates 10 near the rear ends thereof, and the said ratchet-dropping wheel or disk 14 is properly held in position within the bottom of the seed-boxes 12 by means of the usual cap-plate 17. The drop-openings 16 of the bottom plates

10 are located directly over the upper open ends of the tubular seed-spouts 7, to provide for directing the corn into such spouts, and a portion of such openings 16 are extended to one side of the seed-boxes 12 and are covered by the hinged covers 18, whereby the dropping of the corn or seed through the openings 16 may be observed when desired.

The construction just described constitutes the main dropping mechanism of the planter, and rotation is given to the dropping wheels or disks 14 of both seed-boxes by means of the reciprocating shaker-bar 19. The reciprocating shaker-bar 19 is supported to reciprocate longitudinally between the frame-bars 4 and is guided at its opposite ends to work under the bottom of each seed-box, and within the bottom of said seed-boxes, the said shaker-bar carries the spring-pawls or dogs 20, that engage with the peripheral notches or teeth of the wheels or disks 14, so that as the shaker-bar reciprocates a simultaneous rotation will be given to the wheels or disks of both seed-boxes, thereby causing a dropping of the corn through the drop-openings 16 into the upper end of the seed-spouts 7.

Referring more particularly to the seed-spouts 7, into which the corn falls from the openings 16, it is to be noted that said seed-spouts are unpartitioned throughout their whole length and are provided at one side near their lower ends with the downwardly and forwardly inclined guide shelves or ledges 21, that serve to guide or direct the corn into the bowl or pocket 22 of the cup-shaped dropping-valve 23. The cup-shaped dropping-valve 23 is pivotally secured at one end on the pivot 24 below the shelf or ledge 21, so that the joint connections of the valve will be protected from the dropping corn, and pivotally connected to the upper sides of the said dropping-valves intermediate of their ends are the lower curved ends 25 of the connecting-rods 26. The connecting-rods 26 are arranged longitudinally within the spouts 7, and the corn drops freely down into the spouts around the rods 26 and is directed by the shelves or ledges 21 into the bowl or pocket of the valves ready for discharge at the proper time.

The upper ends of the connecting-rods 26 for the dropping-valves 23 are pivotally connected to the bell-crank plates 27, pivotally mounted on the pivots 28 within the upper ends of the spouts 7 at one side thereof, and said bell-crank plates 27 are provided with the upper forked portions 29, that loosely receive the rounded depending tappets 30, projected from the lower sides of the tappet-plates 31, that are secured to the portions of the shaker-bar 19, that work under the seed-boxes 12, so that simultaneous with the operation of the dropping-wheels the proper motion will be communicated to the dropping-valves 23 for the discharge of the corn. By reason of the specific shape of the valves 23 it is to be noted that the corn will not run out of the said valves until the same have been lowered to a proper discharging position, thereby providing means for dropping the corn in the center of the row without any scattering.

The reciprocating shaker-bar 19 is provided at its opposite terminals, beyond the seed-boxes, with the upwardly-disposed tappet-flanges 32, which are engaged by one arm of the bell-cranks 33, pivotally mounted at 34 on the end bracket-plates 35, that are secured to and extended beyond the opposite ends of the frame-bars 4. The other arms of the bell-cranks 33 have connected thereto the inner ends of the fork-levers 36, that work horizontally over the bracket-plates 35, between the spaced limiting stop-lugs 37, and through which levers are designed to pass the usual check-row wires 37^a, having knots 37^b for imparting motion thereto. It is to be noted that one bell-crank 33 at one end of the shoe-frame 3 is arranged to engage against the inner side of the tappet-flange 32 of the shaker-bar, while the bell-crank at the opposite end of the shaker-bar engages against the outside of the adjacent flange 32, so that a movement of either of the opposite levers 36 causes a reciprocation of the shaker-bar 19 in one direction, while a reciprocation is given to said bar in an opposite direction by the retractile spring 38, connected at one end to an intermediate point of the shaker-bar and at the other end to a fixed part of the planter-frame.

When the planter is in operation, the check-row wires 37^a pass through one of the levers 36 at a time, so that the balls or knots 37^b on said wires will actuate said levers in the usual way, and when thus positioned the said check-row wires are held properly positioned against the inner sides of the guide-pulleys 39, journaled on the short inclined flanges 40 projected from the outer front corners of the bracket-plates 35, and at their outer rear corners the said bracket-plates have attached thereto the U-shaped guide-plates 41, that project over the check-row wires 37^a, as clearly illustrated in the drawings. While the planter is in operation the check-row wires 37^a are prevented from rising up over the pulleys 39 by means of the bifurcated releasing-plates 42.

The bifurcated releasing-plates 42 are pivotally mounted at their inner ends, as at 43, at one side of the pivot-lugs 44, arising from the front ends of the bracket-plates 35, and the said plates 42 are extended at their inner pivoted ends into the stop-lugs 45, that engage on top of the bracket-plates 35 to limit the upward movement of the said plates 42. The check-row wires pass through the bifurcations of the plates 42, so that when said plates are lowered it is impossible for the check-row wires to work off over the pulleys 39, and said releasing-plates 42 are provided at their upper edges with the perforated ears 46, with which are pivotally connected the outer angled ends 47 of the combined adjusting and

lock rods 48. The inner ends of the rods 48 are threaded, as at 49, and adjustably engage in the pivotally-connected nuts 50, which are pivotally arranged on the front end of the swinging adjusting-arm 51. The rear end of said adjusting-arm 51 is pivoted, as at 52, to a fixed point on the planter-frame and also has connected to the front swinging end thereof one end of the adjusting-chain 53, the other end of which is preferably connected to the ordinary adjusting-lever 54 of the planter-frame, so that, simultaneous with the adjustment of the planter by means of the lever 54, the plates 42 will be simultaneously raised up to unship or release the check-row wires from the pulleys 39 and therefore from the levers 36, which they operate. The connection of the rods 48 with the nuts 50 allows said rods to have any necessary adjustment, and when the arm 51 is lowered so as to bring the rods 48 in horizontal alignment the said rods will act in the capacity of lock-rods, to hold the plates 42 locked in the position that secures the check-row wires in operative position at one side of the pulleys 39.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a corn planter, the combination of a shoe or runner frame essentially comprising parallel hollow metallic frame bars, the opposite planter shoes provided at upper opposite ends thereof with shouldered clamp portions fitting under and embracing the lower side edges of said frame bars, single bottom plates connecting the frame bars above the shoes and provided with shouldered clamp ends fitting on and embracing the upper side edges of the frame bars, directly above the clamp portions of the shoes, and with integral enlarged bottom portions forming bottoms for the seed boxes, and a single set of clamping bolts passed through the hollow frame bars and the directly opposite shouldered ends of the bottom plates and the shouldered portions of the shoes, and the dropping mechanism, substantially as set forth.

2. In a corn planter, the combination with the frame, and the shoes or runners having tubular seed spouts; of the seed boxes, the dropping mechanism for the seed boxes, a check-row wire operated shaker bar connected with said dropping mechanism and provided with depending tappets, cup-shaped dropping valves pivotally mounted at one end within the lower ends of the seed spouts, forked bell crank plates loosely embracing said tappets and pivotally mounted within the upper ends of said spouts, and rods connected at their upper ends to the bell crank plates and at their lower ends to the upper sides of the valves at one side of their pivots, substantially as set forth.

3. In a check row corn planter, the combination with the dropping mechanism, and the check row wire connections therewith; of suitably arranged guide pulleys for the wires, bifurcated wire releasing plates pivotally supported at one side of the guide pulleys, said wire releasing plates being located at directly opposite sides of the planter frame, combined adjusting and lock rods pivotally connected at their outer ends to said releasing plates, and having a pivotal connection between their inner ends, which pivotal connection between the inner ends of the rods allows the same to be lowered into horizontal alignment so as to act in the capacity of lock rods for the plates, and adjusting mechanism connected with the pivotally connected inner ends of said rods, substantially as set forth.

4. In a check row corn planter, the combination with the shoe frame, the dropping mechanism, the opposite check row wire operated levers supported at opposite ends of the frame and connected with the dropping mechanism, and the guide pulleys for the wire mounted adjacent to said levers; of bifurcated wire releasing plates pivotally supported at opposite ends of the shoe frame and adapted to work at one side of said pulleys, said plates being provided at their inner ends with stop lugs and at their upper edges with perforated ears, combined adjusting and lock rods pivotally connected at their outer ends to the perforated ears of said plates, and provided with inner threaded ends, pivotally connected nuts mounted on the inner threaded ends of said rods, a swinging adjusting arm connected at its swinging end to said nuts, and an adjusting connection between the swinging end of said adjusting arm and the main adjusting lever of the planter, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

P. E. WISTRAND.

Witnesses:
JOHN H. SIGGERS,
HAROLD H. SIMMS.