

(No Model.)

2 Sheets—Sheet 1.

L. J. & G. S. STRAIT.
CHECK ROW CORN PLANTER.

No. 559,825.

Patented May 12, 1896.

Fig. 1.

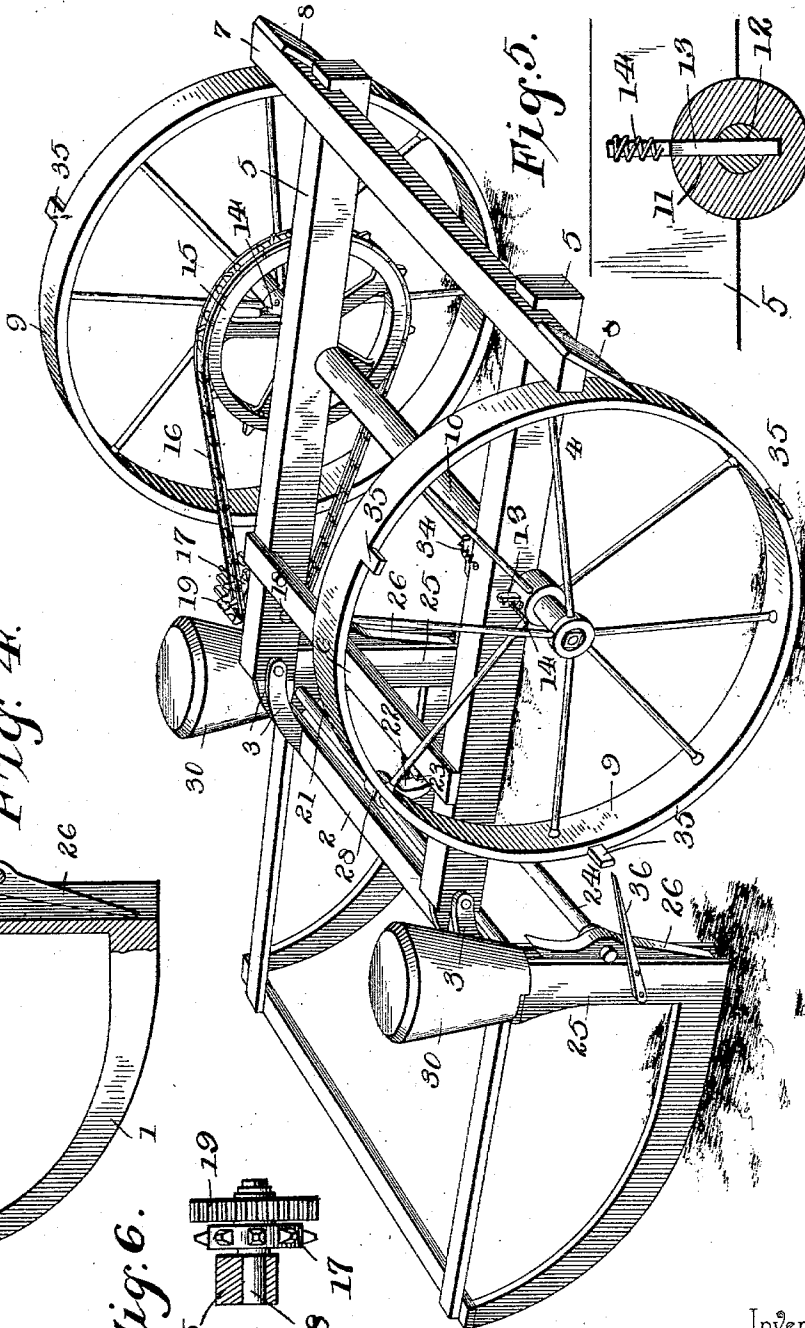


Fig. 5.

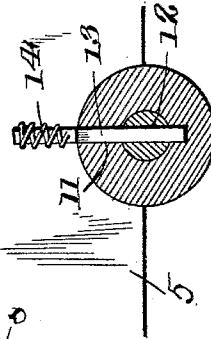


Fig. 4.

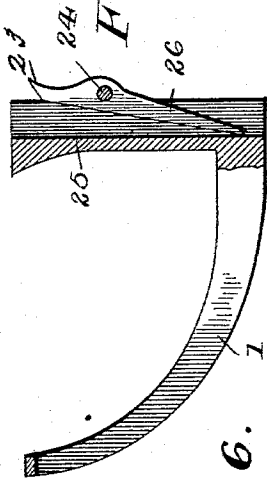
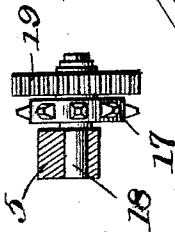


Fig. 6.



Inventors

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By their Attorneys,

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Witnesses

Chas. A. Ford
[Signature]

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Fig. 2.

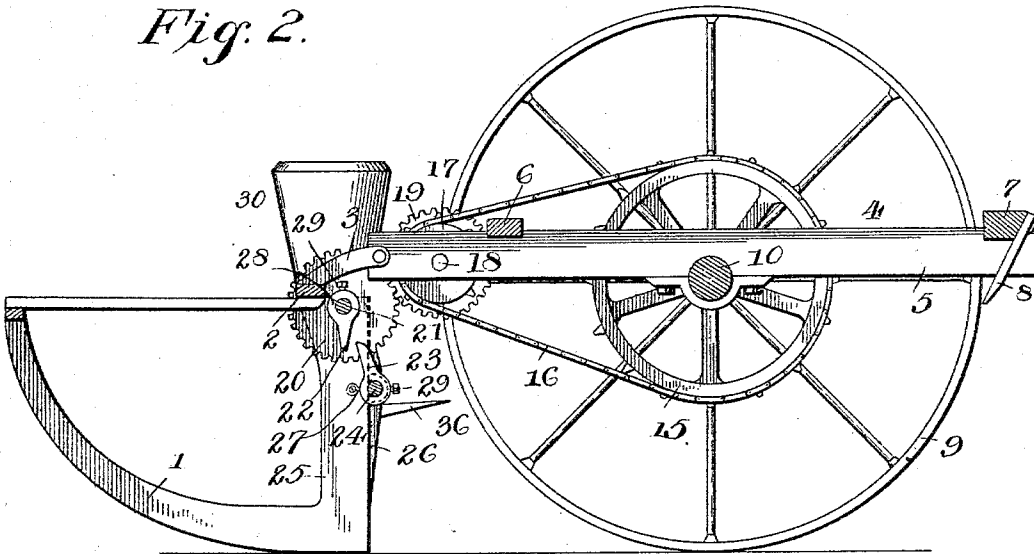
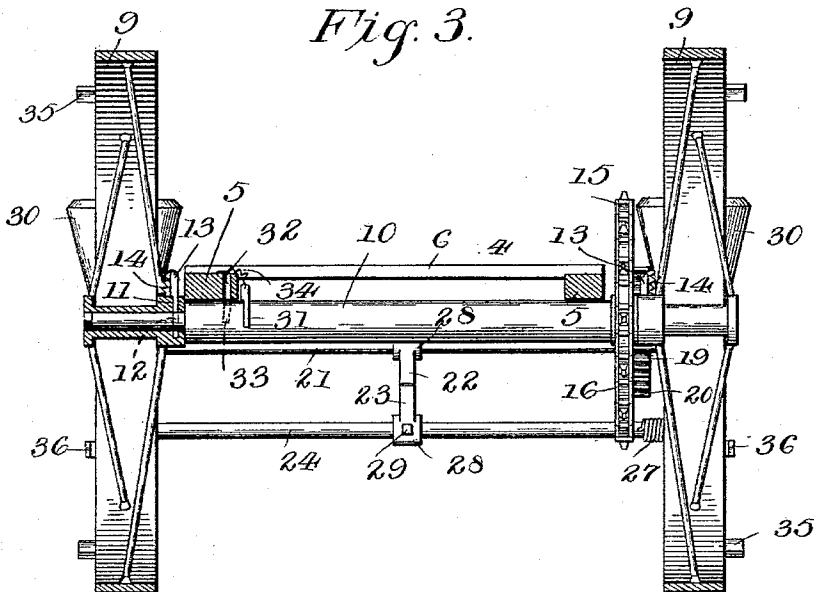


Fig. 3.



Witnesses

Chas. A. Ford.

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By their Attorneys,

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UNITED STATES PATENT OFFICE.

LUTHER J. STRAIT AND GEORGE S. STRAIT, OF HUMBOLDT, IOWA.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 559,825, dated May 12, 1896.

Application filed June 26, 1895. Serial No. 554,102. (No model.)

To all whom it may concern:

Be it known that we, LUTHER J. STRAIT and GEORGE S. STRAIT, citizens of the United States, residing at Humboldt, in the county of Humboldt and State of Iowa, have invented a new and useful Check-Row Corn-Planter, of which the following is a specification.

Our invention relates to check-row corn-planters, and has for its object to provide simple and efficient means for dropping the grain from the chute at regular intervals corresponding with those between the markers carried by the ground-wheels, and, furthermore, to provide simple and efficient means for throwing the mechanism in and out of gear.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a planter constructed in accordance with our invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section in the plane of the axis of the main shaft. Fig. 4 is a side view of one of the furrow-opening shoes, partly in section, to illustrate the seed-dropping devices. Fig. 5 is a detail section of the driving-wheel hub. Fig. 6 is a similar view taken parallel with the stub-shaft.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates opposite parallel furrow-opening shoes connected at their rear ends by a cross-bar 2, having clips 3, by which pivotal connection with a wheel-frame 4 is secured. Said wheel-frame is provided with parallel beams 5, connected at their front ends by a cross-bar 6 and at their rear ends by a beam 7, carrying scrapers 8, which cooperate with the ground-wheels 9. These ground-wheels are journaled upon the extremities of a main shaft or axle 10, mounted in bearings on the beams 5, and the hubs of said wheels are provided with sockets 11, adapted to register with similar sockets 12 in the shaft for engagement by locking-pins 13, to which are connected springs 14 to hold them in place. When the locking-pins 13 are in engagement with the registering openings in the hubs of the

ground-wheels and the shaft, motion is communicated from the ground-wheels to the shaft and from thence through the fixed main sprocket-wheel 15 and chain 16 to the sprocket-pinion 17. This sprocket-pinion is mounted upon a stub-shaft 18, projecting laterally from one of the beams 5, and secured to the sprocket-pinion is a gear 19, which is adapted, when the parts are in their proper relative positions, to mesh with a pinion 20 on a spindle 21, which is journaled upon the rear ends of the furrow-opening shoes. This spindle carries a trip 22, which is adapted to engage a finger 23 on a rock-shaft 24, journaled upon the rear sides of the chutes 25, formed at the rear ends of the furrow-opening shoes. Said chutes are provided with parallel sides, between which operate valves 26, carried by the rock-shaft, the valves extending above and below the plane of the rock-shaft, whereby as the shaft rocks the opposite ends of the valves are alternately brought across the passage to prevent the seed from passing through the chute. The normal position of the valves is with the extremities thereof in contact with the front walls of the chutes, whereby seed sufficient to form a hill is allowed to accumulate above the same, and the valves are held in said normal position by means of a spring 27, connected to the rock-shaft. When the rock-shaft is turned to remove the lower extremities of the valves from contact with the front walls of the chutes, and thus allow the seed to drop, the upper extremities of the valves are temporarily brought into contact with the front walls of the chutes to prevent the seed from passing below the same while the valve is open. The trip 22 and the finger 23, which is arranged upon the rock-shaft, are provided with sleeves 28, fitted, respectively, upon the spindle and rock-shaft and secured in place at the desired adjustment, in order to cause the opening of the valves at the proper moment by means of set-screws 29. The spindle 21 is operatively connected at its extremities with seed-droppers (not shown) of any ordinary or preferred construction for allowing the seed to pass from the seed-boxes to the seed-chutes.

When the planting mechanism is not in use, the shaft should be locked to prevent rotation by means of a locking-pin 31, adapted

to engage registering sockets 32 and 33, formed, respectively, in the frame and in the shaft 10, and held in place by means of a spring 34. Markers 35 are arranged upon the ground-wheels to impress the soil contiguous to each hill, the ground-wheels and various parts of the gearing being made of definite relative sizes in order to secure the proper relative operation of the seed-dropping and marking devices to cause the impression of the soil at the proper points.

In the construction illustrated in the drawings the ground-wheels are provided with three markers, and the sprocket-pinion is made one-third the size of the main sprocket-wheel, whereby the spindle 21 makes three complete revolutions, and hence the rock-shaft is actuated three times for each revolution of the ground-wheels, and in order to facilitate the setting of the mechanism preparatory to starting a row we employ pointers 36, carried by the rear ends of the furrow-opening shoes, and the ground-wheels should be set in such positions that one of the markers is in alinement with the contiguous pointer. This will cause the marker to press the soil beside the hill, if the latter is planted, the moment the machine commences its forward movement. The planting of the seed at the moment of commencing the forward movement will be accomplished if the trip-arm is in contact with the finger on the rock-shaft, and said trip-arm and finger are adjustable by the means hereinbefore described to adapt them to be placed in contact preparatory to starting the machine.

From the above description it will be obvious that we have provided a simple, inexpensive, and efficient check-row corn-planter adapted to be operated efficiently without the use of a check-row wire and capable of planting at regular and definite intervals without special manipulation of the parts by the operator. When the machine reaches the end of a row, the ground-wheels may be disconnected from the shaft to allow the gearing, and hence the planting mechanism, to remain at rest, said shaft being locked to prevent rotation by the frictional contact therewith of the ground-wheels by means of the locking-pins above described.

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

Having described our invention, what we claim is—

1. In a planter, the combination with a planter-frame having furrow-opening shoes and a wheel-frame pivotally connected to a cross-bar of the planter-frame, of a main shaft or axle mounted in bearings on the wheel-frame, ground-wheels for communicating motion to said shaft or axle, planting mechanism carried by the planter-frame and including rocking valves arranged to close chutes at the rear ends of the furrow-opening shoes, a rock-shaft connecting said valves and carrying a finger 23, a spindle mounted on the planter-frame parallel with the rock-shaft, a trip-arm on the spindle adapted to engage the finger on the rock-shaft, means for adjusting the trip-arm and finger around the rock-shaft and spindle to cause them to engage at the desired point, and operating connections between the main shaft or axle and said spindle, whereby independent rocking movement of the planter and wheel-frame is permitted substantially as specified.

2. In a planter, the combination with furrow-opening devices, of a main shaft or axle, ground-wheels provided with a plurality of markers, a pinion, connections between the main shaft and the pinion whereby the motion of the latter is multiplied a number of times corresponding with the number of markers on each ground-wheel, planting mechanism including a spindle carrying a pinion in engagement with the first-named pinion, valves for controlling the dropping of seed, a rock-shaft, a trip-arm on the spindle to engage a finger on the rock-shaft whereby the latter is moved to open the valves once for each complete rotation of the spindle, and a stationary pointer 36 arranged to indicate the position of one of the markers when the trip-arm is in contact with the finger of the rock-shaft in order to bring said marker in contact with the soil beside the hill which is planted when the forward movement of the machine commences, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

LUTHER J. STRAIT.
GEORGE S. STRAIT.

Witnesses:

W. W. STERNS,
J. B. SWAIN.