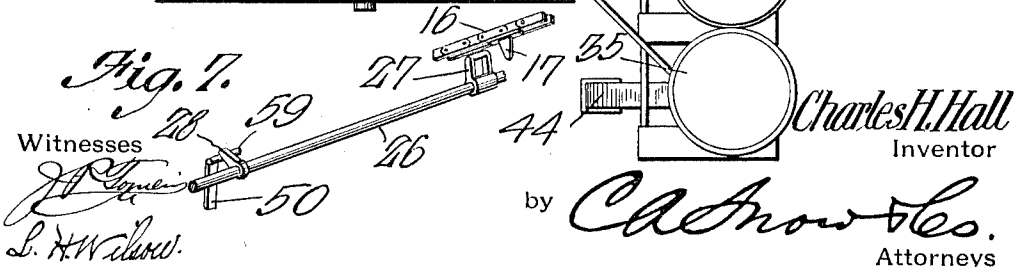
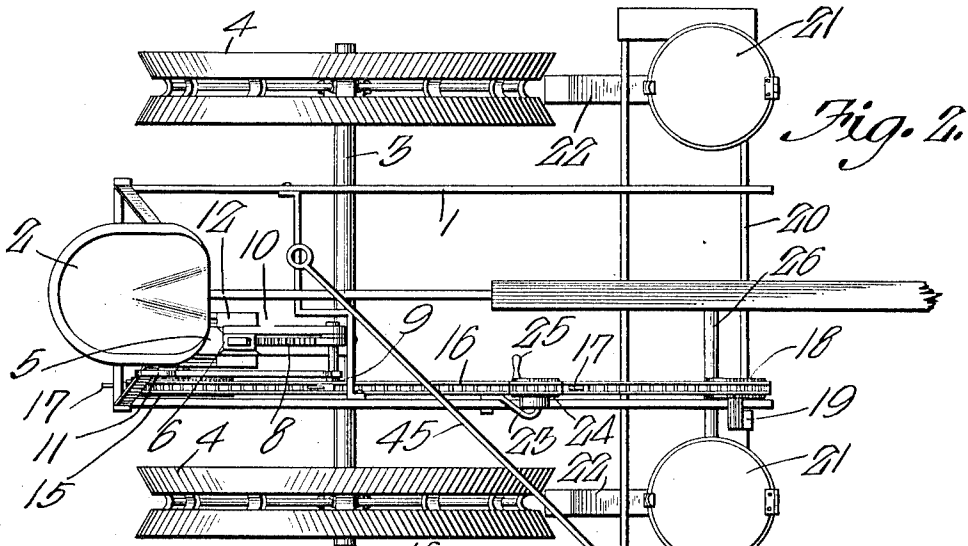
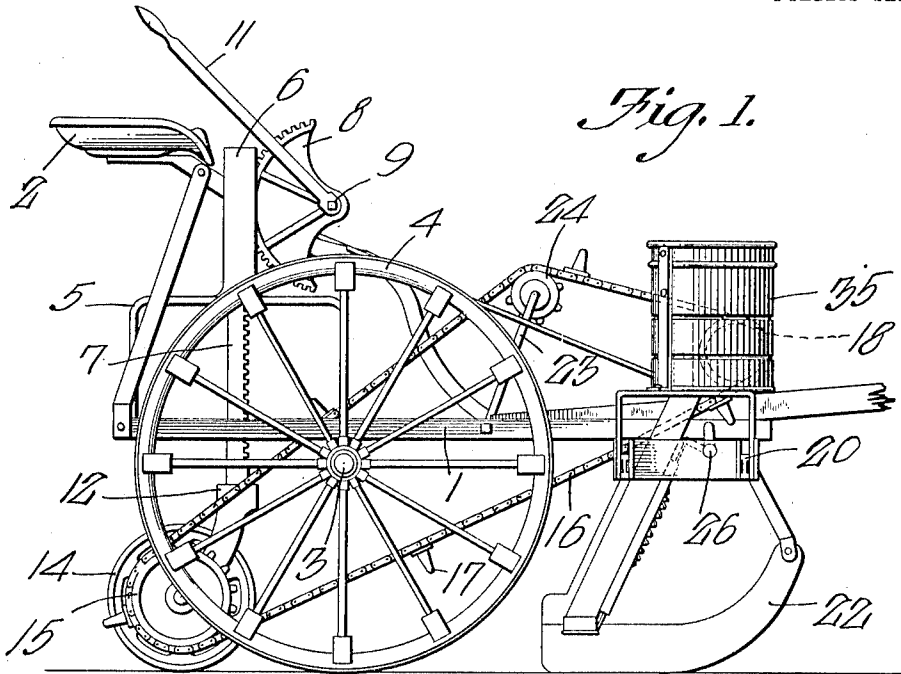


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AUTOMATIC CORN PLANTER.
APPLICATION FILED AUG. 7, 1911.

1,018,613.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.



Witnesses

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Fig. 3.

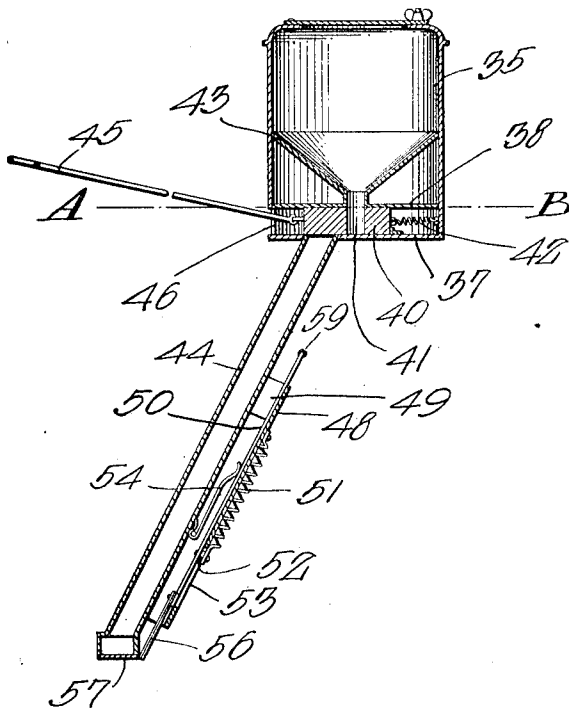


Fig. 4.

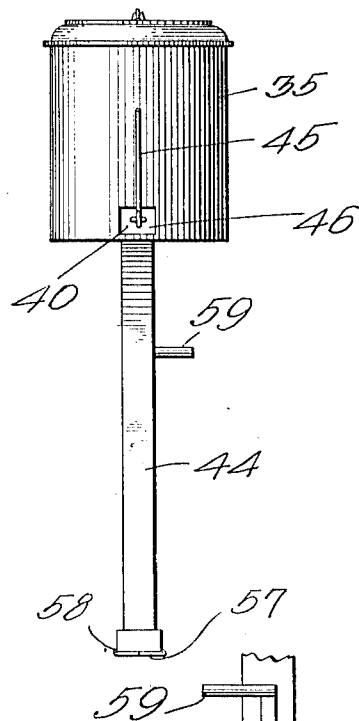


Fig. 5.

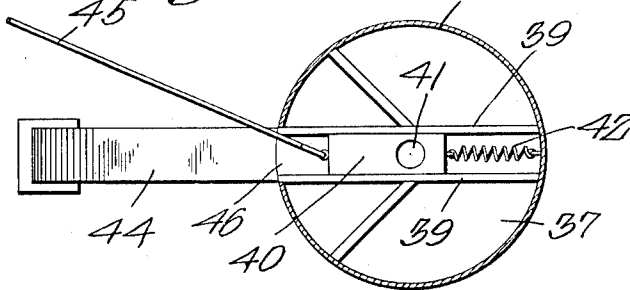
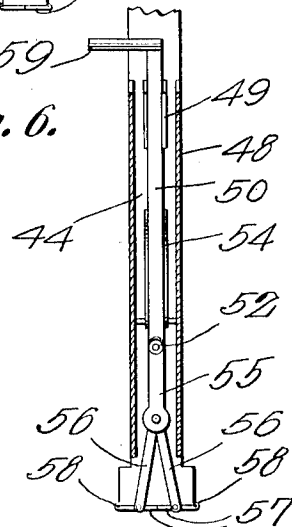


Fig. 6.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC CORN-PLANTER.

1,018,613.

Specification of Letters Patent.

Patented Feb. 27, 1912.

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To all whom it may concern:

Be it known that I, CHARLES H. HALL, a citizen of the United States, residing at Frankfort, in the county of Clinton and State of Indiana, have invented a new and useful Automatic Corn-Planter, of which the following is a specification.

It is the object of the present invention to provide a marking apparatus for a corn planter, which apparatus may be operated without the use of cords or like means.

A further object of the invention is to provide novel means for starting the action of the marker, and for adjusting the mechanism to mark the first hill.

A further object of the invention is to provide novel means for controlling the outflow of the marking material, from the receptacle in which it is housed.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings,—Figure 1 shows the invention in side elevation; Fig. 2 is a top plan; Fig. 3 is a longitudinal section of the receptacle in which the marking material is stored and delivered; Fig. 4 is a side elevation of the structure appearing in Fig. 3; Fig. 5 is a section upon the line A—B of Fig. 3; Fig. 6 is a side elevation of the spout through which the marking material is deposited, parts being sectioned, in order to disclose the mechanism whereby the gates of the spout are operated; and Fig. 7 is a fragmental perspective, illustrating the manner in which the drive chain coöperates with the auxiliary shaft, in actuating the mechanism for dropping the marking material.

In carrying out the invention there is provided a wheel-mounted frame, which may be of any desired construction, the frame being denoted generally by the numeral 1. A seat 2 is carried by the frame, adjacent the rear end thereof.

The frame 1 above described, supports an axle 3, carrying ground wheels 4.

An arched bracket 5 is secured to the frame 1, to the rear of the axle 3, and adjacent the driver's seat 2, the bracket 5 extending longitudinally of the vehicle. The bracket 5 includes and supports an upright standard 6, within which is mounted for vertical sliding movement, a rack bar 7, adapted to be engaged by a segment 8, pivotally supported as shown at 9, upon an arm 10, carried by the standard 6; although any other desired means for mounting the segment 8 may be selected if deemed desirable. Operatively connected with the segment 8, for the manipulation of the same, and disposed within easy reach from the driver's seat 2, is a lever 11.

The lower end of the rack bar 7 carries a hanger 12, in which is journaled for rotation a ground wheel 14, a sprocket wheel 15 being connected with the ground wheel 14, for simultaneous rotation therewith. Trained about the sprocket wheel 15, is a forwardly extended chain belt 16, having a series of projections 17, the functions of which will be set forth hereinafter. The forward portion of the chain belt 16 is trained about the sprocket wheel 18, supported for rotation upon a hanger 19, the hanger 19 being carried by any accessible portion 20 of the frame 1.

The seed receptacle is shown at 21, the numeral 22 indicating the furrow opener.

The present invention relates to the means whereby the marking material is deposited upon the soil, and since the device forming the subject matter of the present application is adapted to be used with many standard forms of seeders, the seed planting mechanism will be dismissed with the foregoing brief description.

A belt tightener is provided, for maintaining the chain belt 16 taut, this belt tightener comprising a strong spring arm 23, the lower end of which is assembled with the frame 1, a sprocket wheel 24 being journaled for rotation upon the upper end of the spring arm 23, the spring arm 23 serving, obviously, to thrust the sprocket wheel 24 against the upper run of the chain belt 16, so as to tighten the chain belt. For a purpose to be set forth hereinafter, the sprocket wheel 24 is equipped with an outstanding handle 25, seen most clearly in Fig. 2.

Journalled for rotation in the frame 1, and located transversely of the frame, adjacent the forward end thereof, is a shaft 26, shown in detail in Fig. 7. The shaft 26 carries
 5 an outstanding primary finger 27, adapted to be engaged successively by the projections 17 of the chain belt 16. The outer end of the shaft 26 carries a secondary finger 28, having functions which will appear herein-
 10 after.

The invention further includes a receptacle 35, supported at one side of the vehicle, upon the frame 1, adjacent one of the seed receptacles 21. This receptacle 35, seen
 15 most clearly in Fig. 3, includes a bottom 37, and a spaced, false bottom 38, between which are located guides 39 (see Fig. 5), a gate 40 being slidably mounted between the guides 39 and between the false bottom 38 and the bottom proper 37. In the gate 40
 20 there is an opening 41, the gate 40 being normally constrained by a retractile spring 42, secured to the gate 40 and to the receptacle 35, so that the opening 41 will be maintained in alinement with the neck of a hop-
 25 per 43 located within the receptacle 35.

Opening through the bottom-proper 37 of the receptacle 35, is a spout 44, and the gate 40 may be slid, through the instrumentality
 30 of a rod 45, pivoted to the gate 40, the sliding of the gate 40 under the action of the rod 45 serving to aline the opening 41 in the gate 40 with the upper end of the discharge spout 44. The rod 45 extends through
 35 an opening 46 in the side wall of the receptacle 5, and protrudes rearwardly, into accessible relation with respect to the driver's seat 2.

To one side of the spout 44, a tubular
 40 guide 48 is attached. The tubular guide 48 has in its interior, supports 49 in which is mounted for longitudinal sliding movement, an operating rod 50. In order to maintain the operating rod 50 normally uplifted, a
 45 retractile spring 51 is secured at its upper end to the tubular member 48, the lower end of the spring being secured to an ear 52, projecting outwardly from the rod 50, through a slot 53 in the guide tube 48 (see
 50 Fig. 3).

Secured at one end to the spout 44, within the contour of the tubular guide 48, is a spring tongue 54, one end of which bears
 55 against the operating rod 50, to maintain the same seated for sliding movement in the supports 49. To the lower end of the rod 50 is pivoted a head 55. To the lower end of the head 55 is pivoted a pair of diverging links 56, the lower ends of the links
 60 56 being pivotally connected with a pair of gates 57, constituting closures for the lower end of the spout 44, the gates 57 being hinged at their outer edges to the lower end of the spout, as shown at 58. The upper end of
 65 the operating rod 50 is equipped with an

outstanding arm 59, adapted to be engaged by the secondary finger 28 of the shaft 26, as outlined in Fig. 7.

The operation of the device is as follows: The lever 11 may be manipulated, operating
 70 the segment 8, which latter, meshing into the rack bar 7, will secure a raising and lowering of the rack bar 7, together with the hanger 12, the ground wheel 14 being thereby moved into and out of engagement
 75 with the soil. Presupposing that the ground wheel 14 is in engagement with the soil, it will be noted that the sprocket wheel 15 will be rotated, along with the ground wheel 14, as the latter moves over the ground, when
 80 the planter is drawn forwardly. The rotation of the sprocket wheel 15 will actuate the chain belt 16, the projections 17 of which will engage successively with the primary
 85 finger 27 of the shaft 26. When the shaft 26 is thus rocked, the secondary finger 28 will engage the head 59 of the operating rod 50, causing a depression of the operating rod, and a consequent opening of the
 90 gates 57 which are located at the lower end of the spout 44. The gates will be returned to closed positions, and the operating rod 50 will be raised, through the action of the spring 51.

The receptacle 35 and the hopper 43, it
 95 is to be understood, are filled with meal, saw dust, dry sand, or any other material which will leave a visible mark upon the soil. This material will normally run downwardly, and fill the opening 41 in the gate
 100 40, when the parts are positioned as shown in Fig. 3; however, the material cannot then run into the spout 44, for the reason that the opening 41 in the gate 40 is out of alinement with the upper end of the spout. If
 105 the rod 45 be drawn upon, the gate 40 will be pulled laterally, depositing the charge of material in the spout 44, from which it will be freed by the action of the gate 57, when the gates 57 are opened in the man-
 110 ner hereinbefore set forth. Obviously, the spout 44 may be partially or completely filled, permitting successive deposits of the marking material to be made, when the
 115 gates 57 are successively opened by the action of the arm 59 and the finger 28. As will be understood readily, the depositing of the marking material will ordinarily take place only at the beginning of each row, or
 120 at places where the right line movement of the planter is departed from, as, for instance, when the planter is turned to one side, to pass around a stump or rock. In
 125 order to set the marking and dropping mechanism properly, at the beginning of the row, or at any other point in the row, the handle 25 may be engaged, rotating the
 130 wheel 24, the wheel 24 engaging the chain belt 16, and moving the same until a proper coöperation between one of the projections

17 and the primary finger 27 of the shaft 26 is secured.

It is to be understood that the chain belt 16, in practical operation, will control the seed-dropping mechanism and the marking mechanism, and thus, when the chain belt 16 is manipulated manually, in the manner hereinbefore set forth, the initial dropping of seed, and the initial depositing of marking material will take place together.

From the foregoing it will be seen that it lies within the power of the operator of the structure, to deposit upon the ground, at any time, a charge of marking material, indicating that a quantity of seed has been sown at a given location. The object attained by marking the soil at any given place, is well understood, by those skilled in the art and need not be dealt with at length at this place.

It will of course be understood that the segment 8 and the lever 11 constitute a means for raising and lowering the rack bar 7, thus elevating the hanger 12, and moving the ground wheel 14 out of engagement with the soil. When the ground wheel 14 is thus out of engagement with the soil, the belt tightener wheel 24 may be rotated in the manner hereinbefore set forth, so that the row may be started properly, without backing or drawing forward the vehicle.

Having thus described the invention, what is claimed is:—

1. A device of the class described comprising a wheel-mounted frame; a bracket thereon; a rack bar mounted for vertical sliding movement in the bracket; a segment pivotally supported on the frame, and meshing into the rack bar; a lever operatively connected with the segment; a ground wheel connected with the rack bar, for raising and lowering; a pulley connected with the ground wheel, to rotate therewith; a pulley supported for rotation upon the frame; a belt trained about the pulleys and having spaced projections; a receptacle for marking material, mounted upon the frame;

means for opening and closing the receptacle, said means being engageable by the projections upon the belt.

2. A device of the class described comprising a wheel-mounted frame; a hanger connected with the frame; a ground wheel journaled for rotation in the hanger; means for raising and lowering the hanger; a belt operatively connected with the ground wheel and supported upon the frame, the belt being provided with spaced projections; marking mechanism carried by the frame; means for opening and closing the marking mechanism, said means being engageable by the projections of the belt; a belt tightener upon the frame, including a rotatable element, engaged with the belt; and means for operating the rotatable element, when the ground wheel is out of engagement with the ground.

3. A device of the class described comprising a wheel-mounted frame; a receptacle for marking material, mounted upon the frame; a spout leading from the receptacle; a gate for the spout; an operating member movably connected with the spout and with the gate, to open and to close the gate; ground-engaging mechanism adapted to engage directly with the operating member to open and to close the gate; spring means for actuating the operating member, to hold the gate normally closed and to retract the operating member into the path of the ground-engaging mechanism; a gate slidable in the receptacle and adapted to open and to close the spout; and means independent of the operating member and of the ground-engaging mechanism, for operating the last mentioned gate.

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

CHARLES H. HALL.

Witnesses:

THOMAS J. ROGERS,
TIMOTHY R. FOLEY.