

No. 682,154.

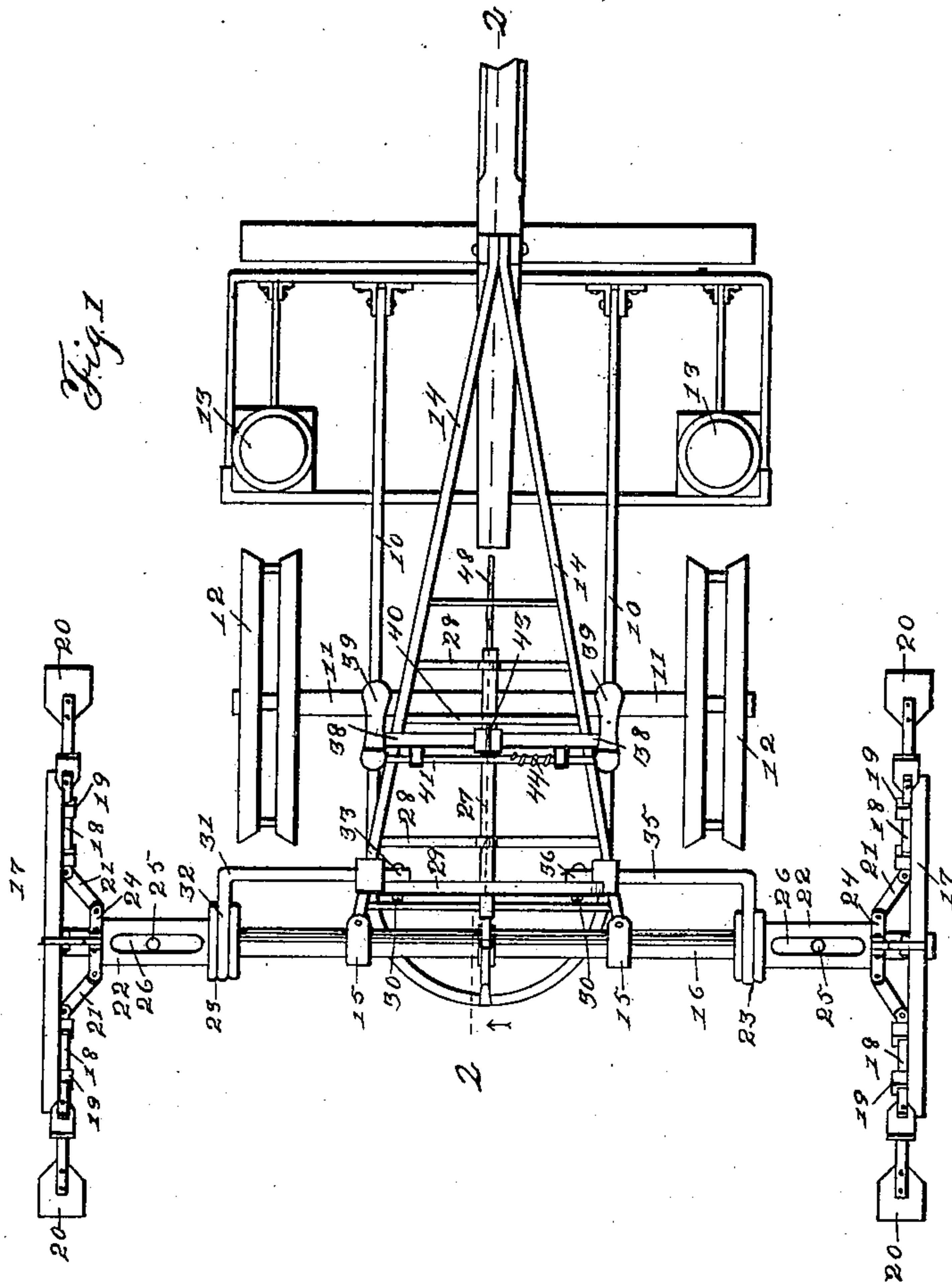
Patented Sept. 3, 1901.

J. E. SWONSON.  
CORN PLANTER.

(Application filed Oct. 5, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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# UNITED STATES PATENT OFFICE.

JOHN E. SWONSON, OF STRATFORD, IOWA, ASSIGNOR OF TWO-THIRDS TO  
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## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 682,154, dated September 3, 1901.

Application filed October 5, 1900. Serial No. 32,096. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. SWONSON, a citizen of the United States, residing at Stratford, in the county of Hamilton, State of Iowa, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention relates to that class of corn-planters known as "wireless planters," and in which the spacing and marking are done by means of wheels connected with the planter-frame by means of a frame hinged to the planter-frame and capable of vertical movement relative thereto and having at its rear end a cross-shaft rotatably mounted and provided with a series of marking and spacing blades designed to engage the ground-surface and having connected with said shaft means for actuating the corn-dropping mechanism.

One object of my invention is to provide a machine of this class in which the length of the various spacing and marking blades from the axle outwardly may be changed by the operator while the machine is in motion to thereby provide marking-wheels adjustable as to diameter by the operator while the machine is in motion, it being understood in this connection that with marking-wheels of fixed diameters accurate check-rowing is practically impossible on account of the unavoidable slipping of the marker-blades upon the ground-surface and, further, on account of irregularities in the ground-surface.

A further object is to provide automatic means for firmly holding the marker-blades to the position required under normal conditions, so that unless the hills being planted are out of alinement with the hills of a previously-planted row no attention on the part of the operator is required.

My invention consists in the construction, arrangement, and combination, with a machine of the class described, of mechanism of simple, durable, and inexpensive construction, whereby the operator may increase or decrease the diameter of the marking-wheels during the operation of the wheels, and, further, in the construction, arrangement, and combination of the means for firmly holding the marking-wheels in their normal position,

whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a top or plan view of the complete machine. Fig. 2 shows a central vertical sectional view of same on the indicated line 2 2 of Fig. 1. Fig. 3 shows an enlarged detail view, in rear elevation, illustrating the means whereby the operator may spread or draw together the levers for increasing or decreasing the diameter of the marking-wheel. Fig. 4 shows a top or plan view of the same mechanism. Fig. 5 is an enlarged detail view illustrating the means for actuating the dropping mechanism from the shaft of the marker-wheels, and Fig. 6 shows an enlarged detail plan view of the means for locking the marker-wheels against expansion or contraction.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the planter-frame and 11 the axle thereof, upon which wheels 12 are mounted. Fixed to the frame 10 are the seedboxes 13. All of the parts just described are of the common construction, and the seed-dropping mechanism is not shown, it being understood that any of the ordinary droppers now in use may be used in this connection.

I have pivoted to the forward portion of the frame 10 the braces 14, which braces project rearwardly and outwardly and are connected to the box 15 at their rear ends, in which boxes the axle 16 is rotatably mounted. By this means it is obvious that the axle 16 may raise and lower independently of the machine-frame. Upon the ends of the axle 16 I have fixed the disks 17, and in this disk I have slidably supported a number of radial arms 18 by means of the clips 19. To the inner end of each arm 18 is connected a link 21. On each end of the axle 16 I have mounted a sliding sleeve 22, having at its inner end an annular groove 23 and at its outer end a series of radial arms 24, to which the links 21 are pivotally connected. This sleeve 22 is designed to slide freely upon the axle 16 and is prevented from rotation relative to the axle by means of the pin 25, passed through a longitudinal slot in the sleeve and fixed to the



axle. By means of the construction just described it is obvious that a marker-wheel is provided with a number of independent markers, and it is obvious, further, that the diameter of the marker-wheel may be increased or diminished by sliding the sleeve 22 upon the axle 16. I have provided means for accomplishing this at the will of the driver or operator of the machine while the machine is in motion, as follows:

The reference-numeral 27 indicates a shaft to extend longitudinally of the machine-frame and supported in cross-pieces 28, which cross-pieces are fixed to the braces 14, said shaft 27 being capable of a rocking movement in its bearings. Fixed to the rear end portion of this shaft 27 is a lever 29, having mounted in each end a roller 30 to project forwardly in a plane at right angles to that of the lever.

The reference-numeral 31 indicates an arm, one end of which is provided with a collar 32, placed in the annular groove 23, and the other end of which is bent straight downwardly at 33 and provided with a vertical slot 34, which slot is designed to receive the roller 30. At the opposite side of the machine is a similar arm 35, having at its inner end an upwardly-projecting extension 36, provided with a vertical slot 37, designed to receive the other one of the rollers 30. The said lever 29 normally stands at an angle of about thirty degrees from the horizontal, and obviously when the shaft 27 is locked the arms 31 and 35 must be moved either to or from each other, and hence collars 22 will be moved longitudinally upon the axle 16, thereby increasing or diminishing the diameters of the marker-wheels.

I have fixed to the shaft 27 at points in advance of the lever 29 two arms 38 to project upwardly and outwardly therefrom, and on the outer end of each of said arms 38 I have pivoted a pedal 39. These pedals are arranged in position with relation to the driver's or operator's seat 40 where they may serve as foot-rests and be in convenient position to be operated by a person on said seat. By this means it is obvious that the shaft 27 may be readily rocked during the advance of the machine.

I have provided means whereby the shaft 27 may be securely locked against rotation and readily unlocked by a slight movement of the driver's feet, as follows: Fixed to the braces 14 in advance of the arms 38 I have mounted an arched cross-piece 40, having an opening at its central portion. On the rear surface of the arms 38 I have mounted a rock-shaft 41, and on each end of said rock-shaft is an arm 42 to project rearwardly and upwardly, and attached to the rear end portions of the pedals 39 and to the central portion of the said rock-shaft 41 I have fixed an arm 43 to project forwardly and capable of entering the opening in the arched cross-piece 40. A spring 44 is wound upon the rock-shaft 41, fixed at one end to the shaft 41 and at the other end to a stationary support, thereby

providing means whereby the said rock-shaft is normally held in position to force the arm 43 forwardly and to hold the pedals 39 in a substantially horizontal position. When the operator desires to adjust the diameters of the marking-wheels, it is only necessary for him to first press downwardly upon the heel portion of the pedals, thereby withdrawing the arm 43 from the fixed cross-piece 40 and permitting the shaft 27 to be locked, as desired, and when it is desired to again lock the shaft 27 against rocking movement it is only necessary for the operator to bring his feet to a position in horizontal alinement and relieve the pressure upon the heel portion of the pedals, whereupon the arm 43 will enter the opening in the cross-piece 40. Fixed to the central portion of the axle 16 is a wheel 45, having in its periphery a series of projections 46. Pivoted to the frame of the markers is a bell-crank lever 47 in a position to be engaged by the pins 46 on the wheel 45. Connected with one end of the lever 47 is a rod 48 to project forwardly therefrom. This rod 48 is connected with the seed-dropping mechanism in the usual manner, and I have not shown the seed-dropping mechanism.

In practical use and assuming that my improvements are applied to a corn-planter fully equipped with the necessary seed-dropping mechanism it is obvious that the operator may be seated upon the machine with his feet resting upon the pedals 39, and so long as the machine is traveling over comparatively level ground and under normal conditions the marker-wheels will be locked into a position in which the diameter is such that the hills of corn are planted at equidistant points. Furthermore, the operator may, when he finds that the hills being planted are either in advance or in the rear of a point in alinement with the hills previously planted, readily and quickly depress the heel portion of the pedals, thereby unlocking the rock-shaft 41 and permitting one or the other of the pedals to be depressed, as required, in forcing the arms 31 and 35 toward or away from each other. Obviously when the right pedal is depressed the arms 31 and 35 will be forced away from each other, thus moving the sleeves 22 outwardly, and thereby causing the links 21 to force the marker-blades outwardly, hence increasing the diameter of the marking-wheels. When the left pedal is depressed, the arms 31 and 35 are obviously drawn toward each other, and the diameters of the marking-wheels are thereby decreased. When this operation takes place, obviously the hills will be planted closer together than under the conditions previously described, and as soon as the operator finds that the position of the hills being planted accurately registers with the hills in the rows previously planted the pedals 39 are placed in horizontal position and pressure upon the heel portions thereof is relieved, thus permitting the arm 43 to enter the opening in the arch 40.



Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a check-row corn-planter, the combination of a machine-frame mounted on wheels, seed-dropping mechanism on said frame, an auxiliary frame hinged to the machine-frame and capable of free vertical movement relative to the machine-frame, one or more marking and spacing wheels on the auxiliary frame, means for actuating the seed-dropping mechanism from said spacing and marking wheels, radial arms on the marking and spacing wheels, capable of radial movement, means for operating the radial arms either inwardly or outwardly, and two pedals connected with said means, whereby when one is pressed the arms will move outwardly, and when the other is pressed, the arms will move inwardly, for the purposes stated.

2. An improved check-row corn-planter, comprising in combination a machine-frame, mounted on wheels, seed-dropping mechanism thereon, an auxiliary frame hinged to the machine-frame and capable of free vertical movement relative thereto, two marking or spacing wheels on the auxiliary frame, having radial arms capable of lengthening or shortening and designed to engage the ground-surface with their outer ends, a rock-shaft mounted in the auxiliary frame, pedals secured thereto on opposite sides, means for moving the said radial arms from said rock-shaft, means for automatically locking the rock-shaft in its position when the radial

arms are of normal length, and manually-operated means for releasing said locking means.

3. In a corn-planter, the combination of a machine-frame, an auxiliary frame pivotally connected with the machine-frame, a rotatable shaft mounted in its rear end, a sleeve slidingly but non-rotatably connected with said shaft at each end, a series of radially-movable markers at each end of the shaft, links pivotally connecting the inner ends of the markers with said sleeve, arms connected with said sleeves, and each having a vertical slot in its end, a shaft mounted in the auxiliary frame to extend longitudinally, a lever fixed thereto, rollers on the ends of said lever, to enter said slots, whereby when the lever is rocked the arms will be drawn toward or from each other, arms fixed to said shaft, to project upwardly and outwardly therefrom, pivoted pedals on the ends of said arms, a rock-shaft mounted upon said arms, arms connected with the rock-shaft and with the rear end portions of the pedals, an arm connected with said rock-shaft to project forwardly, an arched cross-piece having an opening therein to receive the latter-mentioned arm, and a yielding pressure device for normally holding the latter-mentioned arm in the opening in the said arched cross-piece, substantially as, and for the purposes stated.

JOHN E. SWONSON.

Witnesses:

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