No. 695,442. Patented Mar. 18, 1902.

# J. L. BRADSHAW.

## CORN PLANTER.

(Application filed Apr. 19, 1900.)

(No Model.)

3 Sheets—Sheet 1.

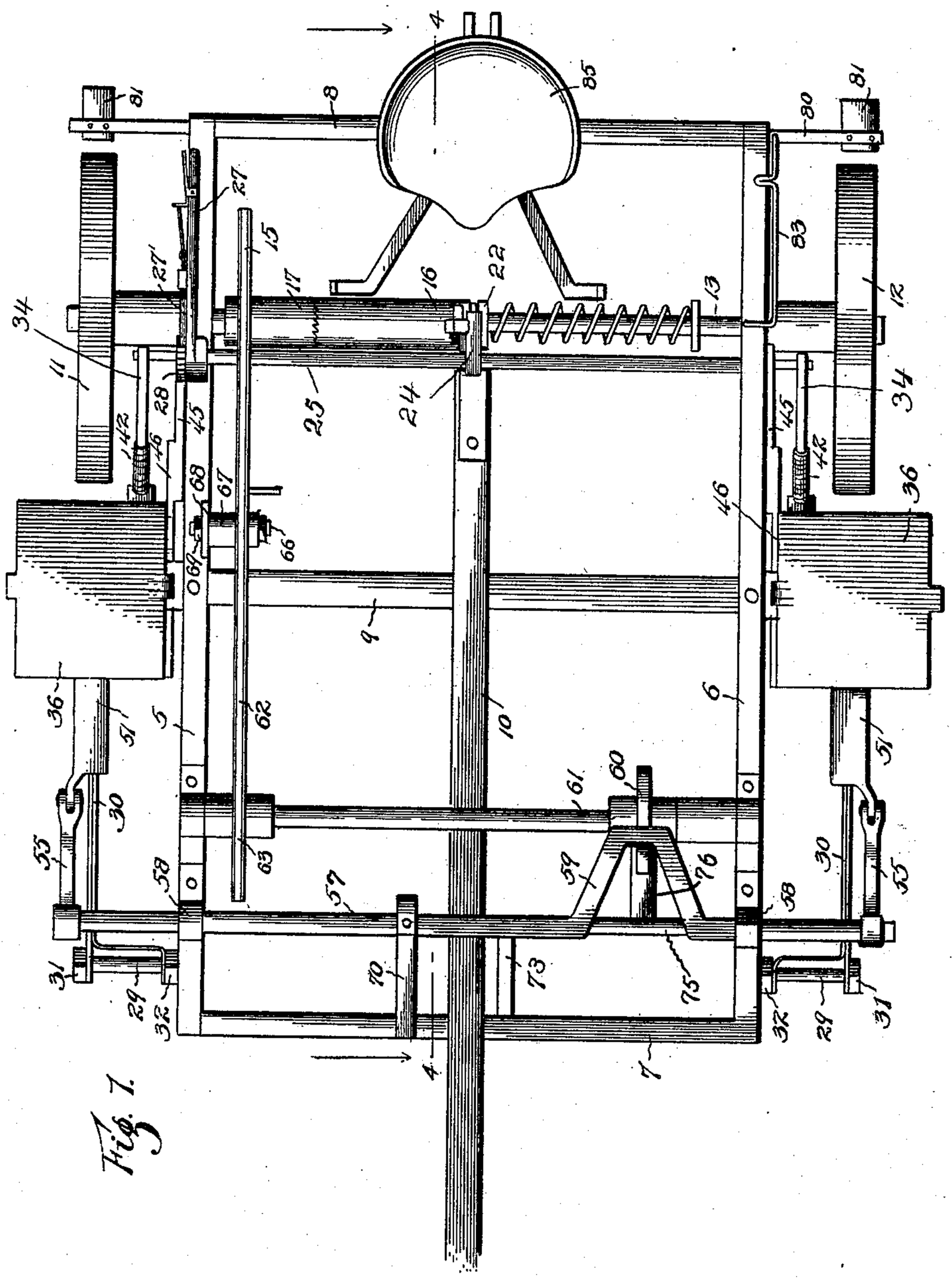

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

Fig 2.

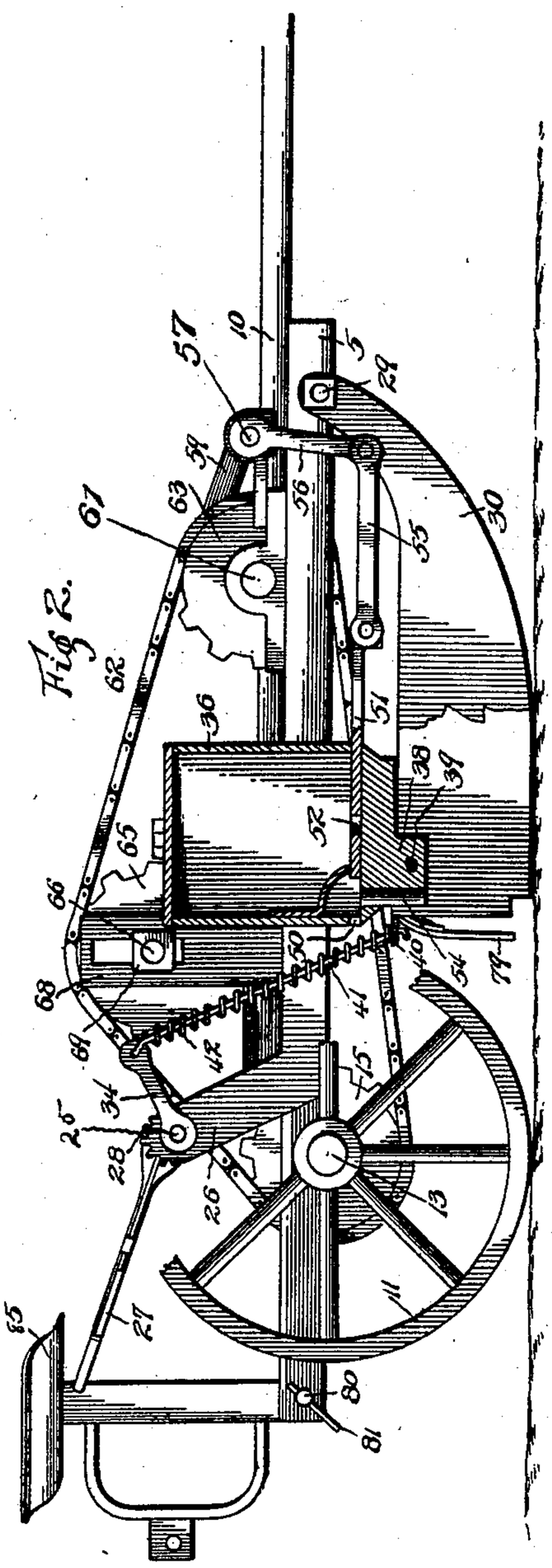
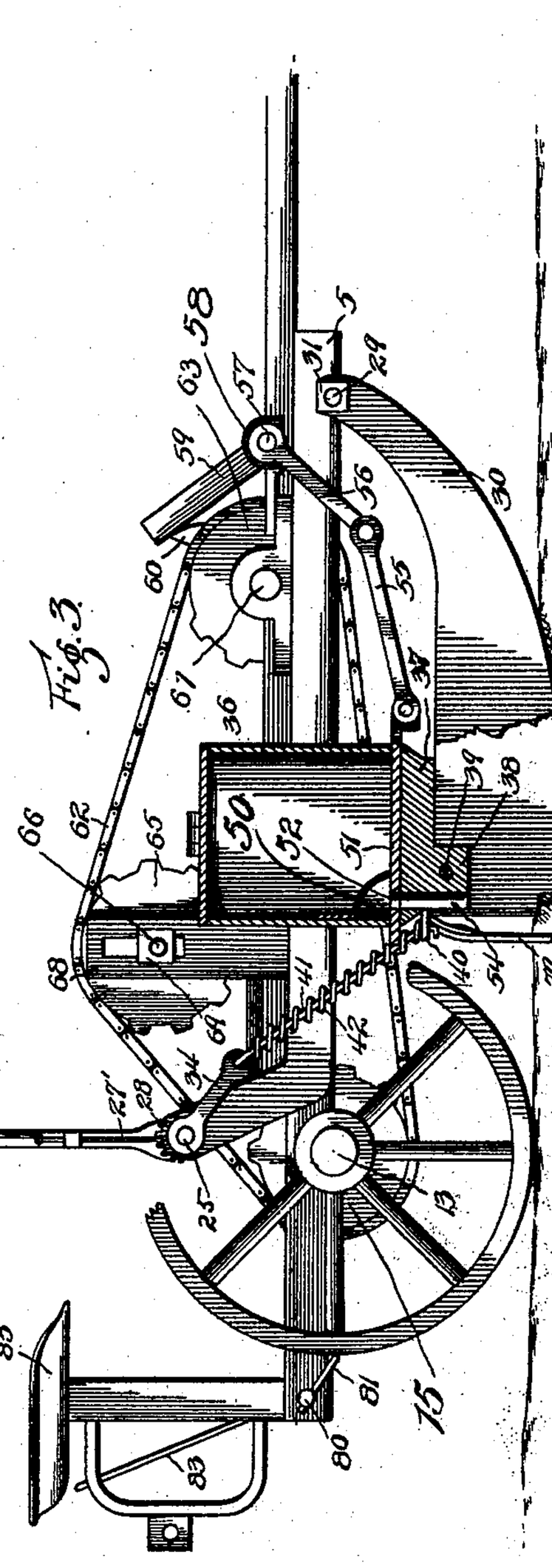



Fig. 3.

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(No Model.) 3 Sheets—Sheet 3.

Fig. 5.

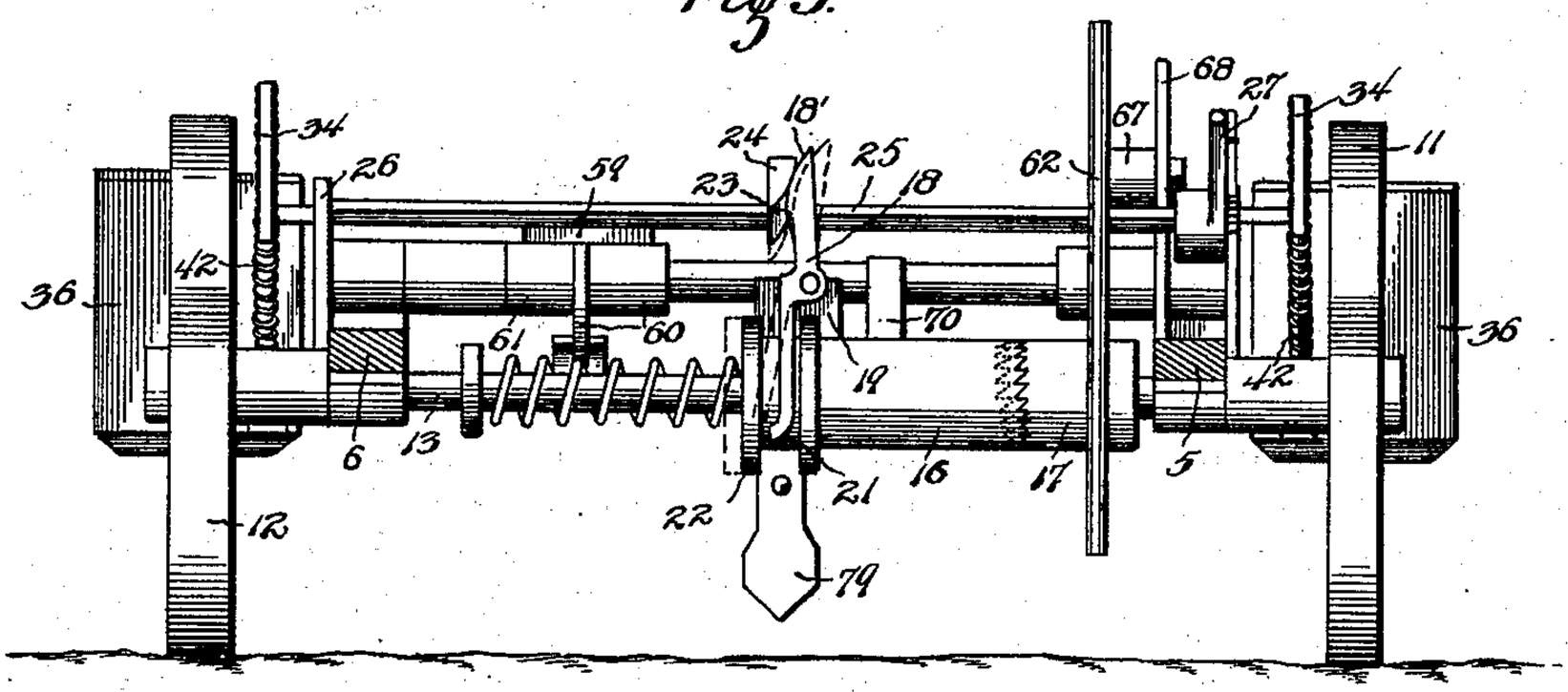



Fig. 6.

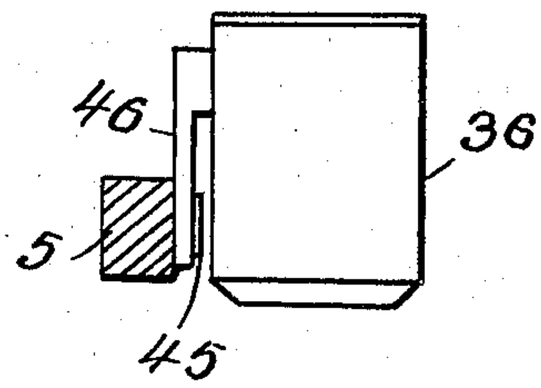
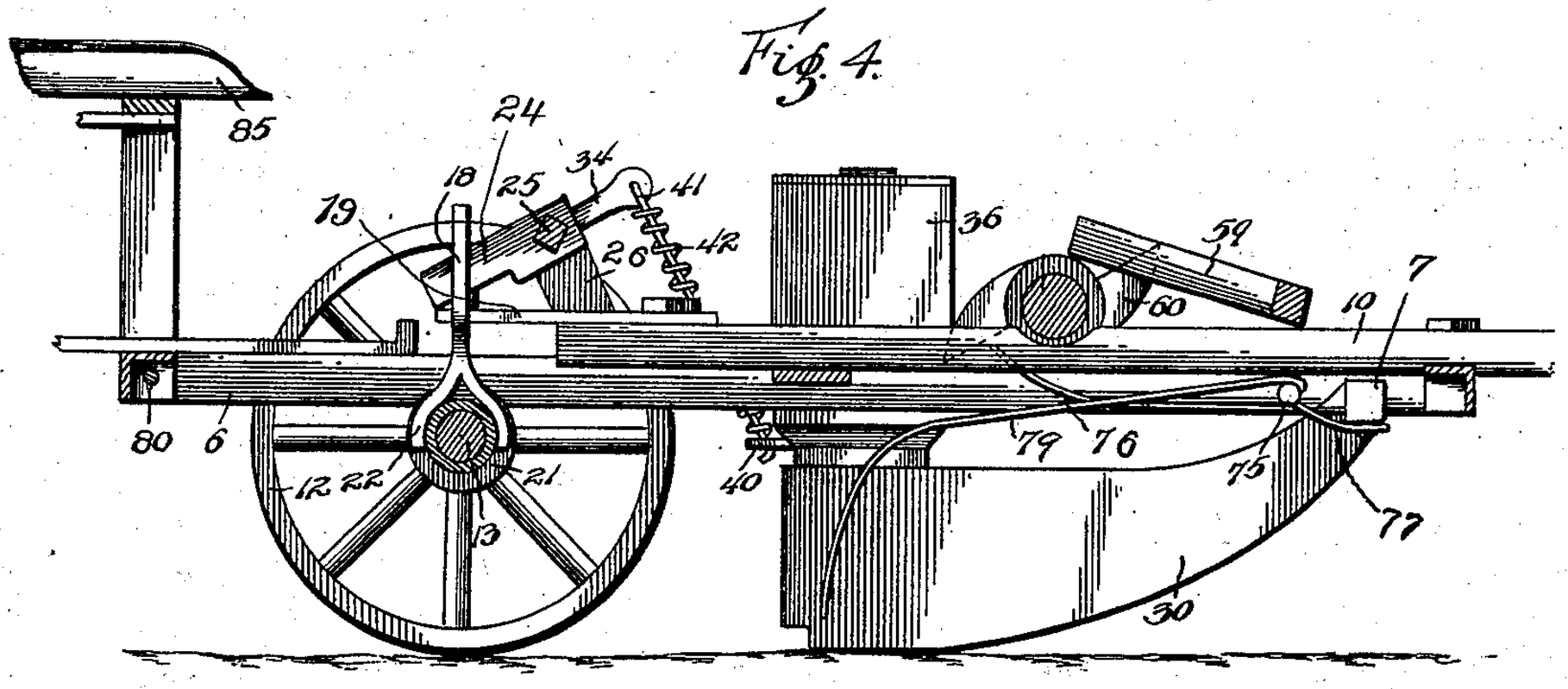



Fig. 4.

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# UNITED STATES PATENT OFFICE.

JOSEPH L. BRADSHAW, OF ELBRIDGE, TENNESSEE.

## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 695,442, dated March 18, 1902.

Application filed April 19, 1900. Serial No. 13,534. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. BRADSHAW, a citizen of the United States, residing at Elbridge, in the county of Obion, State of Tennessee, have invented certain new and useful Improvements in Corn-Planters; and I do hereby 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.

This invention relates to corn-planters in general, and more particularly to that class known as "check-row" planters, in which the points of dropping of the corn are indicated by marks or checks in the earth, whereby the implement may be operated in a manner to make the corn-rows to aline both longitudinally and transversely of the field.

A further relation of the invention is to furrow-openers; and the object of the invention is to provide an implement in which the furrows will be opened, the seed-corn will be dropped, and the furrow will be rolled to cover the deposited seed.

A further object of the invention is to provide a simple and efficient mechanism for dropping the corn and for marking or checking without the employment of the usual wire.

An additional object is to provide means for raising and lowering the seedboxes and the furrow-openers and for throwing the operating mechanism into and out of gear as desired.

Further objects and advantages of the invention will be evident from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a plan view showing the complete machine. Fig. 2 is a longitudinal section of the planter, taken through one of the seedboxes and showing the furrow-opener raised and the parts in their inoperative positions. Fig. 3 is a view similar to Fig. 2 and showing the furrow-opener and seedbox lowered and the parts in operative positions. Fig. 4 is a longitudinal section on line 4 4 of Fig. 1 and showing the furrow-opener, the seedbox, and the checker raised. Fig. 5 is a rear elevation of the implement with the cross-bar 8 removed. Fig. 6 is a transverse section through one side of the frame of the implement and showing one of hoppers with the means for preventing outward displacement thereof.

Referring now to the drawings, the present invention comprises a frame consisting of side sills 5 and 6, to the front and rear ends of which, respectively, are connected cross-pieces 7 and 8, and midway of the ends of which sills is a third cross-piece 9. A tongue 10 is fixed upon the upper faces of the cross-pieces 7 and 9, and the entire frame is supported upon wheels 11 and 12, which are fixed to an axle 13, which is journaled in bearings on the sills 5 and 6 adjacent the rear ends thereof and in advance of the cross-piece 8. The axle or shaft 13 carries a gear or sprocket wheel 15, which is mounted loosely thereon and from which the seed-dropping and checking mechanism is operated, and this wheel 15 derives its power from the axle 13 when engaged to rotate therewith. The engagement between the sprocket-wheel 15 and the axle 13 is secured through the medium of a laterally-movable clutch member 16, which is splined upon the axle and is adapted for movement thereon into and out of engagement with a second clutch member 17 upon the hub of the sprocket-wheel. The member 16 is moved through the medium of a forked lever 18, which is fulcrumed upon an extension 19 of the rear end of the tongue 10, the arms of this lever being disposed in the peripheral groove 21 of the drum 22 at one end of the member 16. Thus by rocking the upper end of the lever 18 the lower forked end thereof will be correspondingly moved and the clutch member 16 will be moved into and out of its engaging position. The upper end of lever 18 has a cam-face 18′, against which is adapted to ride the cam-face 23 of a cam 24, which is fixed upon a rock-shaft 25, journaled in bearings in standards 26 upon the sills 5 and 6. The rock-shaft 25 is operated by a hand-lever 27, fixed thereto adjacent one end and having a locking-pawl 27′, which moves over and is adapted for engagement with a notched segment 28 to hold the lever at different points of its movement.

Projecting laterally from the sills 5 and 6 adjacent their forward ends are stub-shafts 29, with which are engaged the forward ends

of furrow-openers 30, these forward engaging ends being bifurcated, as shown, whereby they may have spaced points of engagement with the stub-shaft. Nuts 31 and 32 are engaged with the stub-shafts exterior to the opener and are adapted for adjustment to lie close against the bifurcated end of the opener and hold the latter in proper position, one member of the bifurcation acting as a brace for the other. This connection of the furrow-openers with the stub-shafts is pivotal, and in order to raise and lower the rear bifurcated ends of the openers connections are made between them and the crank-arms 34 upon the rock-shaft 25, these connections being hereinafter described.

The rear ends of the furrow-openers are bifurcated, as above described, and upon the bifurcated portion of each opener is mounted a seedbox 36, having a base 37, extending downwardly from which is a delivery-spout 38. The spouts are tapered forwardly to fit closely within the bifurcations of the furrow-openers, and the seedboxes are secured upon the furrow-openers by means of pins 39, passed through the spouts and openers. At the inner rear side of the base of each seedbox is secured an ear 40, having a perforation through which is passed a rod 41, the upper end of which is engaged with the adjacent crank-arm 34 of shaft 25. The lower end of rod 41 is turned laterally to prevent its upward displacement while permitting downward movement, and the box is held downwardly in a yieldable manner by a helical spring 42, which encircles the rod and bears at its opposite ends against the crank-arm 34 and the ear. Thus as the crank-shaft is rocked the furrow-opener, and therewith the seedbox at each side of the machine, is raised and lowered, the corn from the boxes having an extremely short drop to the furrow. In order to hold the rear ends of the furrow-openers and the seedboxes from outward movement from the sills 5 and 6, guide-plates 45 are provided, and one of these spouts is fixed at its front end to the outer face of each of the sills and is spaced at their opposite ends therefrom, rear ends of the plates being laterally offset. Similar plates 46 are secured at their upper ends to the inner faces of the seedboxes, their lower ends being engaged slidably between sills 5 and 6 and their respective plates 45 spaced from the boxes. This construction permits movement of the boxes downwardly and forwardly, but retains the boxes and openers in their positions. In order to properly feed the corn from the boxes, orifices 50 are formed in the front and rear walls of each box, and in this channel is disposed a slide 51, having an opening 52 therethrough. A feed-opening 54 leads downwardly through the base of each box and through the corresponding spout, and as the slides are reciprocated their openings are moved into and out of alinement with the openings 54, the openings 52 when registering with the openings 54 permitting the corn to fall through the spouts, from which it passes into the furrows made by the furrow-openers. In order to operate this feed mechanism, the forward ends of the slides 51 have link connections 55 with the lower ends of crank-arms 56 upon a rock-shaft 57, which is journaled in bearings 58 upon the sills 5 and 6. The rock-shaft has a crank extension 59, and this extension lies in the path of a cam-wheel 60, mounted upon a shaft 61, journaled upon the sills 5 and 6, whereby when said shaft is rotated the cams of the cam-wheel will engage the crank extension 59 of shaft 57 and will alternately raise and release it, thus causing shaft 57 to oscillate to swing the crank-arms 56 and reciprocate the feed-slides. The shaft 61 is rotated through the medium of a sprocket-chain 62, which engages the sprocket upon shaft 13 and engages also a sprocket 63 upon shaft 61, the tension of this chain being held to the proper point by means of an idler 65, this idler being rotatably mounted upon a stub-shaft 66, said shaft being passed through a collar or sleeve 67, upon which the idler is directly mounted, the sleeve being held at different points of the height of a slotted post 68 by means of a nut 69, engaged with one end of the stub-shaft that is passed through the slot of the post, the opposite end of the stub-shaft having a head that bears against the end of the sleeve. The shaft 57 is held normally in a position to hold the feed-slides drawn forwardly by reason of a spring-strap 70, attached at one end to the shaft and bearing at its opposite end upon the cross-piece 7 of the frame of the machine. It will be understood that by substituting a different wheel having a different number of cams for that shown a different number of operations of the feed-slide may be made with each rotation of the supporting-wheels.

In order that the points of dropping of the corn may be marked, a rock-shaft 75 is journaled in the sills 5 and 6 and has fixed thereto a finger 76, which lies in the path of movement of the cams of the cam-wheel, so that the shaft 75 may be rocked in one direction once for each operation of the feed-slide, the shaft being given an opposite rotation when the finger is released by means of a spring-strap 77, one end of which is fixed to the shaft, while the other end bears against the cross-piece 7. A marker or checker consists of a hoe-like arm 79, which is fastened to the shaft 75 and, extending rearwardly therefrom, has its end turned downwardly for engagement with the earth in the line of the lower ends of the chutes of the seedboxes. The finger 76 is disposed for engagement simultaneously with the engagement of the crank extension 59 of shaft 57, and thus when the seed is dropped the shaft 75 is operated to strike the marker into the ground. The seedboxes being so low, the seed has only a short distance to fall and the marking is accurate. It will thus be seen that with the present con-

struction there is a simple arrangement of the parts, and the several elements of the structure operate for the purposes designed. To remove the accumulations of mud from the supporting-wheels of the planter, a shaft 80 is mounted in the sills at their rear ends, and this shaft has scrapers 81 thereon so positioned that when the shaft is rocked in one direction the scrapers will engage the supporting-wheels and when rocked in the opposite direction the scrapers will move from the wheels, this rocking of the shaft being accomplished by means of a hand-lever 83, attached to the shaft. A seat 85 is mounted on the rear cross-piece 8 in such position that the several operating-levers may be readily grasped by a person occupying the seat, and it will be noted that when the shaft 13 is operated it first raises the openers and seedboxes and then throws out the clutch, a single lever and shaft being employed for the two operations.

In practice various modifications of the construction shown may be made and any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. In a planter the combination with the seedboxes and their slides, of a rock-shaft operatively connected with the slides and having an arm, a cam-wheel arranged for engagement of its cams with the arm to rock the shaft, a second shaft having a marker mounted thereon and a finger carried by the second shaft and projecting into the path of movement of the cams for actuation thereby to raise and lower the marker simultaneously with the operation of the slide.

2. In a planter the combination with the frame having supporting-wheels and a shaft mounted in the frame, of furrow-openers pivotally connected to the frame, seedboxes upon the furrow-openers and having discharge-spouts, slides for opening and closing the spouts, a rock-shaft having connection with the slides for actuating them, a third shaft having a cam-wheel, an arm upon the rock-shaft in the path of movement of the cams for engagement thereby to move the rock-shaft, a spring-finger fixed to the rock-shaft and bearing upon the frame to hold the rock-shaft yieldably in normal position, a pivoted marker having a finger in the path of the cams of the cam-wheel for raising and releasing the marker, drive connections between the first and the third shaft for rotating the latter, a laterally-movable clutch mechanism upon the first shaft for connecting and disconnecting the drive connections and means for actuating the clutch mechanism.

In testimony whereof I sign my name, in the presence of two witnesses, this 14th day of April, 1900.

JOSEPH L. BRADSHAW.

Witnesses:

A. B. CHILES,

G. NICHOLS.