

No. 609,215.

Patented Aug. 16, 1898.

M. & A. SATTLEY & M. HEINEKE.

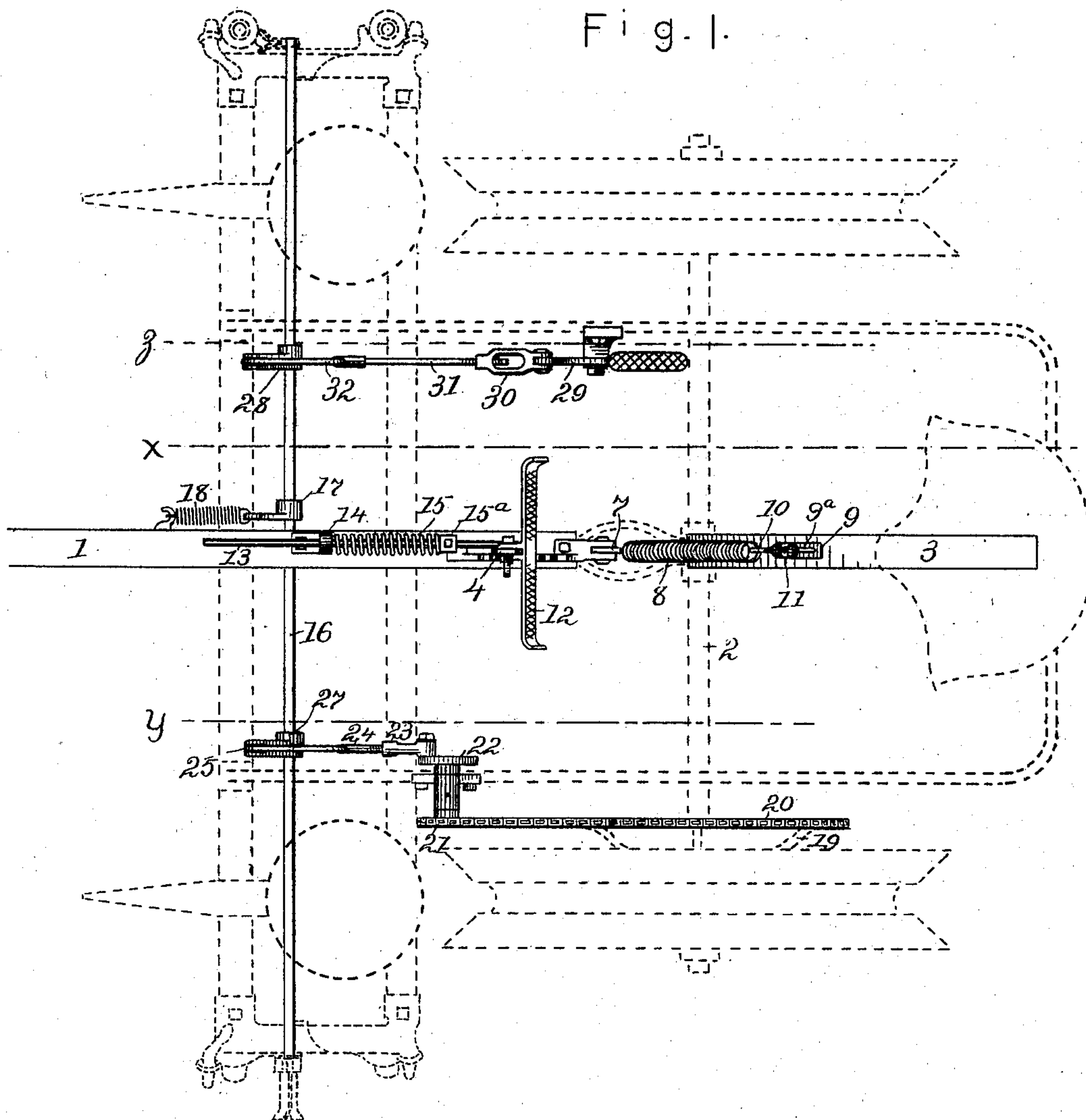
CORN PLANTER.

(Application filed Feb. 14, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



AT TEST
Nora Graham.
Sna Graham.

INVENTORS,
M. SATTLEY,
A. SATTLEY,
M. HEINEKE.
by *L. P. Graham*
their attorney

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2 Sheets—Sheet 2.

Fig. 2.

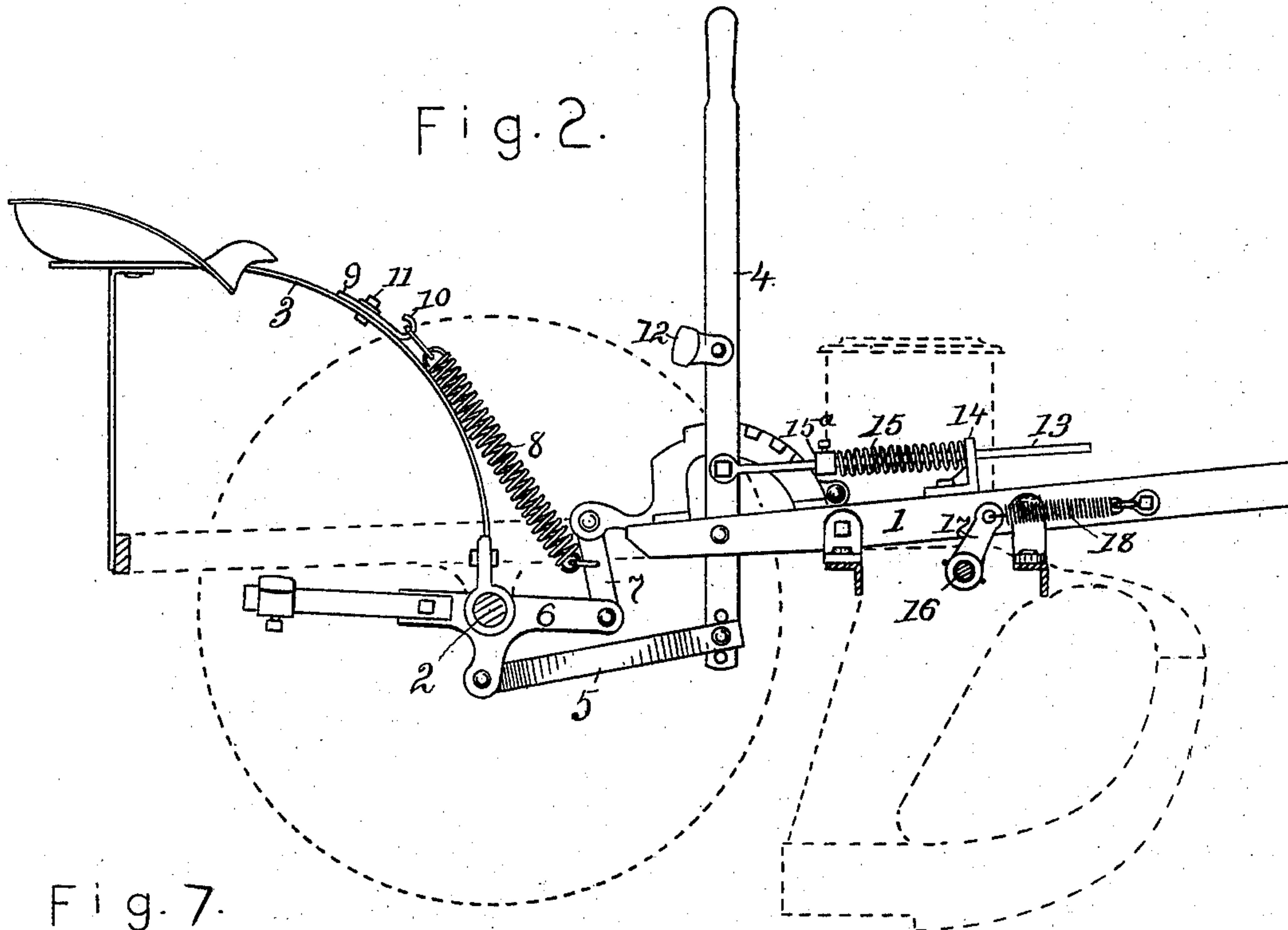


Fig. 7.

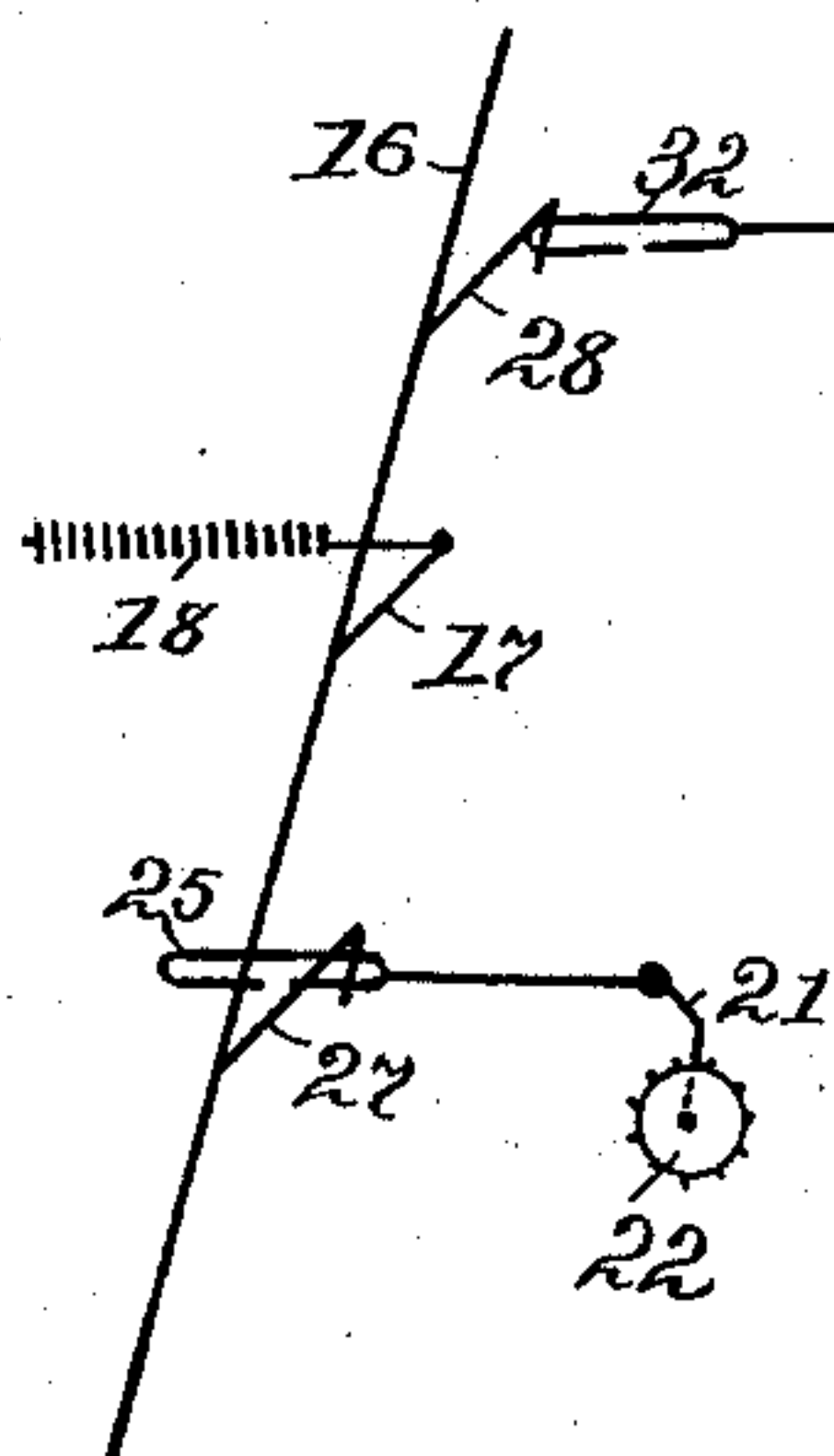


Fig. 3.

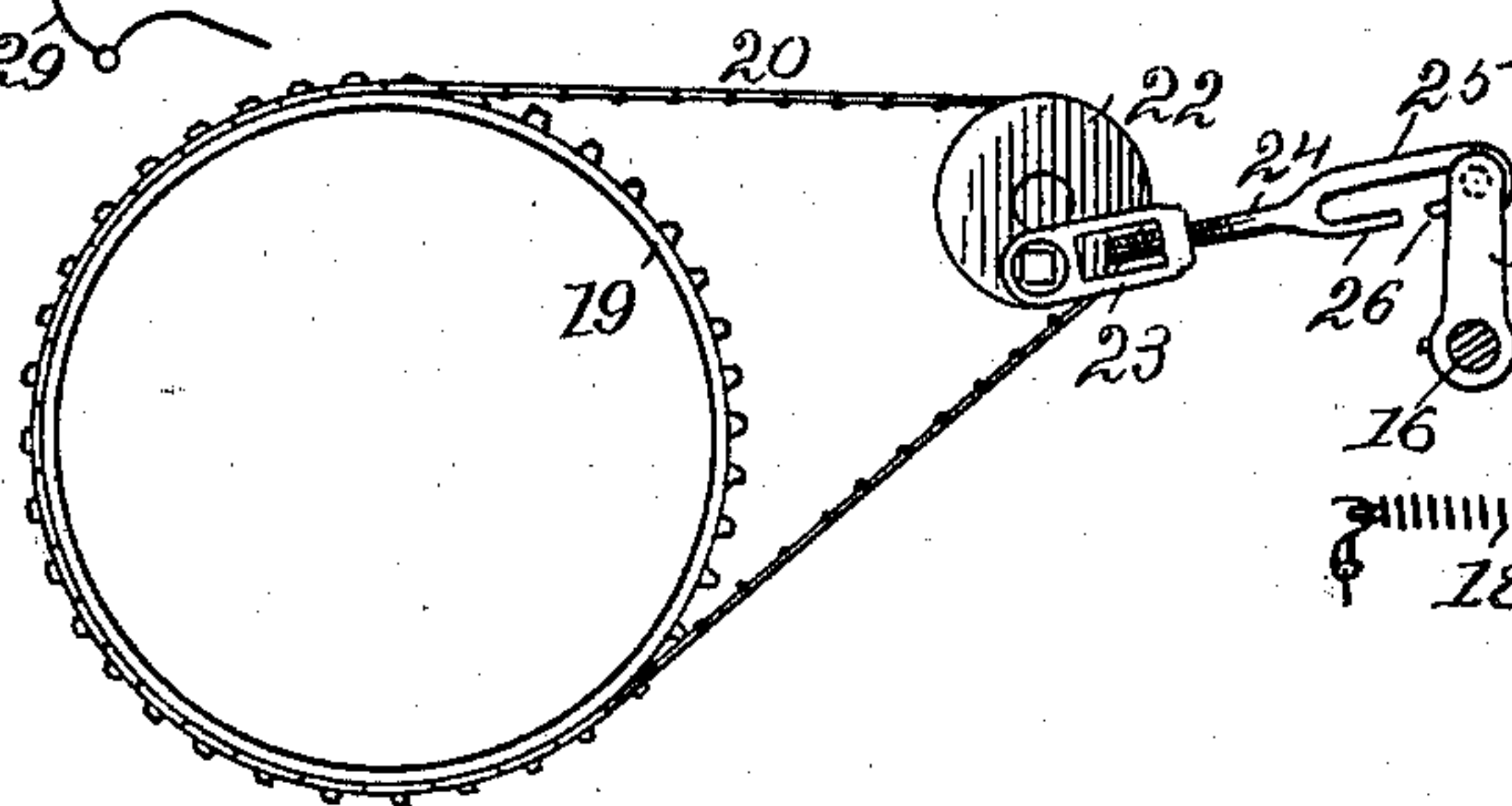


Fig. 6.

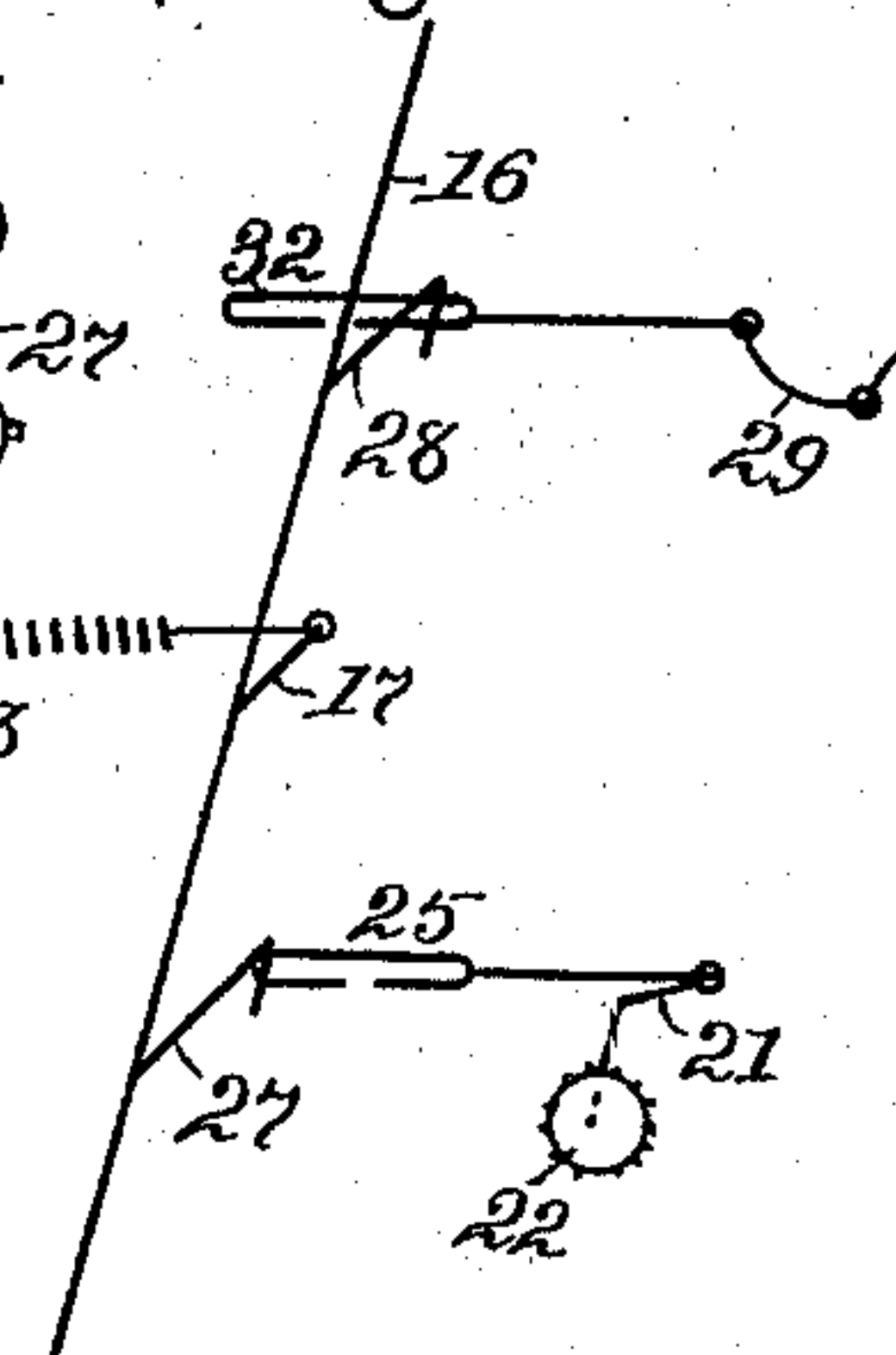


Fig. 4.

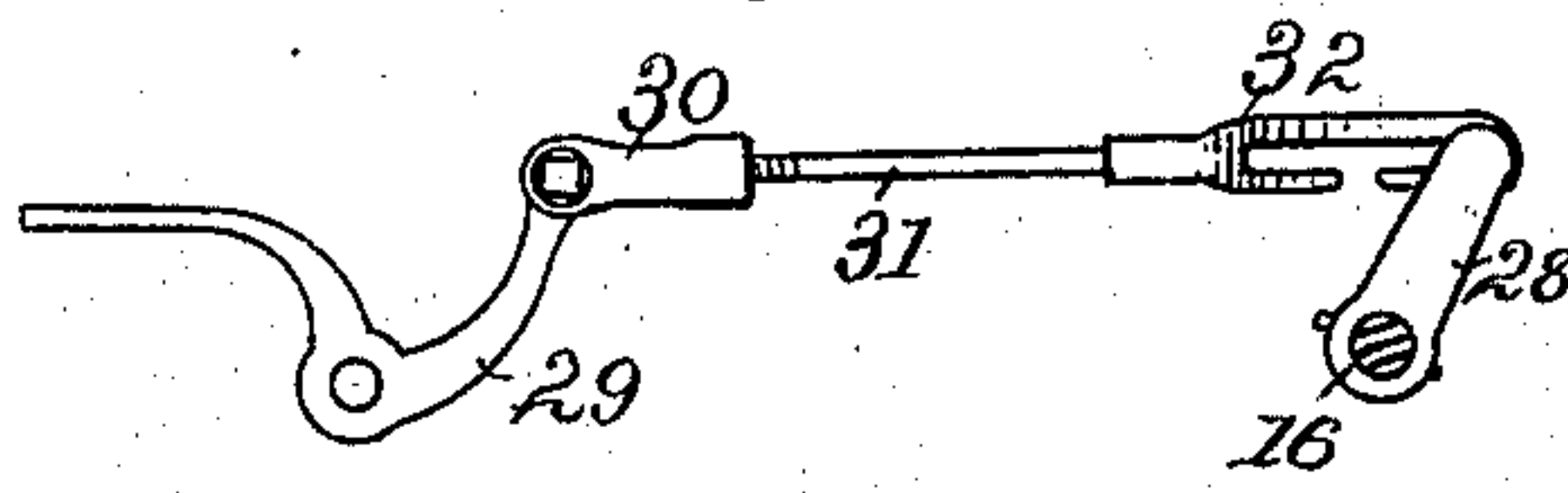
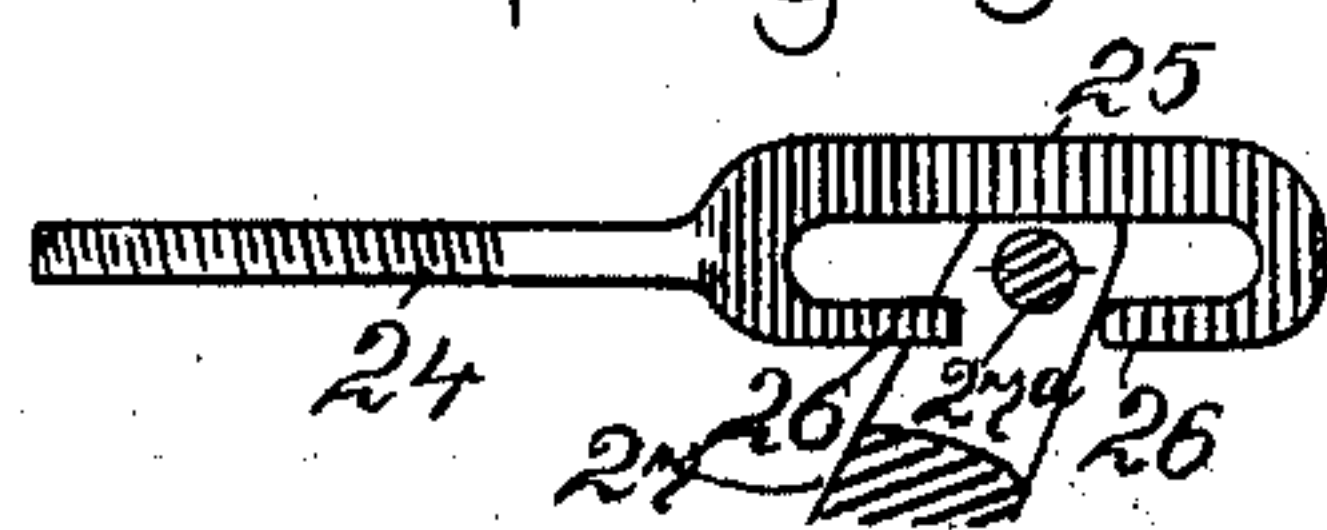


Fig. 5.



ATTEST
Nora Graham.
Ana Graham.

INVENTORS
M. SATTLEY,
A. SATTLEY,
M. HEINEKE.
by *L. P. Graham*
their attorney

UNITED STATES PATENT OFFICE.

MARSHALL SATTLEY, ARCHIBALD SATTLEY, AND MARTIN HEINEKE, OF
SPRINGFIELD, ILLINOIS, ASSIGNORS TO THE SATTLEY MANUFACTUR-
ING COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 609,215, dated August 16, 1898.

Application filed February 14, 1898. Serial No. 670,233. (No model.)

To all whom it may concern:

Be it known that we, MARSHALL SATTLEY, ARCHIBALD SATTLEY, and MARTIN HEINEKE, of Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention relates in part to means for facilitating accurate and sensitive control of the depth of planting when the frames are running unlocked, in part to drill mechanism, and in part to a combined drill and foot or hand drop. It is exemplified in the structure hereinafter described and it is defined in the appended claims.

In the drawings forming part of this specification, Figure 1 is a plan of an embodiment of our improvements. Fig. 2 is a section on line *x* in Fig. 1. Fig. 3 is a section on line *y* in Fig. 1. Fig. 4 is a section on line *z* in Fig. 1. Fig. 5 is a detail of a crank-arm and pitman-head. Fig. 6 is a diagram illustrative of the correlation of the drill mechanism and the foot-drop while the drill mechanism is operating. Fig. 7 is a diagram showing the correlation of the drill mechanism and the foot-drop when the drill mechanism is made inoperative by action of the foot-drop.

One feature of the device comprises a spring, as 8, connected at one end with an upper portion of the seat-bar 3 and at the other end with the runner-frame. The connection is made with the seat-bar through a plate 9, which is slotted at 9^a to receive a securing-bolt 11 and is provided with a hook 10 to engage the spring. The tension of the spring is regulated by shifting the plate up or down on the seat-bar, the bolt 11 being loosened to permit the adjustment and retightened to hold the strap in its new position. The connection with the runner-frame may be made in any desirable manner, and in this instance it is made with a bar which connects with the end of the tongue 1. The function of the spring is to aid in sustaining the runner-frame and in raising it from the ground preparatory to turning or the like.

Another feature of the invention comprises a lift-lever, as 4, a bracket, as 14, fastened onto the tongue 1 or some other accessible portion of the front frame, a rod, as 13, pivotally connected with the lift-lever and extended through a hole in the bracket, an adjustable collar 15^a on rod 13 between the lift-lever and the bracket, and a compression-spring 15 on the rod between the collar and the bracket. It is immaterial in what manner the lift-lever is connected with the runner-frame and the wheel-frame so long as a forward motion therein tends to lower the runner-frame; but in this particular instance the lever is pivoted in the tongue and makes connection with the shaft 2 of the wheel-frame through link 5, bell-crank lever 6, and bar 7.

The spring 15 is pretty stiff, and its function is to coöperate with foot or hand pressure on the lever in guiding the runners at even depth through uneven ground. The collar is set at the required position on the rod to give the spring proper tension. The lock-bolt of the lever is held out of engagement with its rack, and the feet of the driver are placed on foot-rest 12. Then as the planter moves along the runners may be forced downward into a sharp depression by action of the feet and will quickly rise to meet an elevation whenever the foot-pressure is removed.

The spring 15 acts only when the runners are in operative position and does not tend, as does spring 8, to lift the runners clear of the ground.

The drilling mechanism comprises a sprocket-wheel 19, connected with a planter-wheel or the shaft thereof, a chain 20 connecting the wheel 19 with a sprocket-wheel 21 on the shaft of a crank-disk 22. A pitman composed of the journal-head 23, rod 24, and slotted head 25 connects the crank-disk with an arm 27 on a drop-rod 16. The slotted head 25 consists of a continuous upper bar and a lower broken bar. The lower bar is broken away at its center to form the fingers 26. (Shown in Fig. 5.) The arm 27 is forked to receive the slotted head of the pitman, and

it has a cross-pin 27^a in Fig. 5, which engages the slot of head 25. The separation between the fingers that form the lower wall of the slot is wide enough to permit the passage of the cross-pin 27^a, and the pitman may be detached from the arm by moving the head 25 until the pin is in line with the space between the fingers and then simply lifting the head away from the arm. The end of rod 24 is exteriorly screw-threaded, and the journal-head 23 is bored and interiorly screw-threaded to receive the rod. So whenever it is desired to lengthen or shorten the pitman the slotted head is lifted from engagement with the rock-arm, the rod is turned in the journal-head in the required direction to the necessary extent, and the slotted head is reconnected with the arm.

The length of the pitman of the drill mechanism is so proportioned to the distance between the crank-shaft and the drop-shaft that the rock-arm may be pulled backward, but not pushed forward, and a spring 18, connected with an arm 17 on the drop-shaft, is provided to return the shaft to its normal position after it has been carried back by the action of the drilling mechanism. In this particular instance the drop-rod 16 is the check-row shaft of the planter, which is not material, and its operative throw—that is, the motion by which the corn is dropped—is backward or in the direction of the pull of the pitman, while its inoperative return movement is in the direction of the pull of the spring. In other words, the pitman pulls the drop-shaft one way and the spring pulls it the other, and between the two a rocking action is developed, which may be imparted to the dropping mechanism of the planter by any desired means. In turning around at the ends of a field or in traveling from place to place it is necessary that the drill mechanism be disconnected from the dropping mechanism, as otherwise the dropping operation will go on continuously, and various clutches and movements more or less complicated have been devised to accomplish this result; but when the drop-shaft is thrown in one direction only by the actuating mechanism and returned by a spring the question of disengaging the dropping mechanism from the drill mechanism becomes simply a matter of rocking the drop-shaft back and holding it there. This condition is illustrated in diagram in Fig. 7, where the drop-shaft 16 is held back by pressure applied to arm 28, and the slotted head 25 of the drill-pitman rides ineffectively back and forth on the cross-pin 27^a of the arm 27 as the planter moves along.

A complete modern corn-planter is provided with a foot or hand lever for checking short rows, and it is a part of economy of construction in this instance to utilize the foot drop-lever in disengaging the dropping mechanism from the drilling-movement. To accomplish

this, the foot-lever 29, which may be of any desired construction, is provided with a pitman substantially the same as that of the drill-movement, and such pitman is connected with an arm on the drop-shaft.

The slotted head of the pitman of the foot-lever is shown at 32, the pivot-head at 30, and the rod at 31. The rock-arm with which the head 32 connects is shown at 28, and such arm is substantially the same as 27. The foot-lever operates in conjunction with the spring 18, the same as the drill-movement, and it rests with its pitman thrown forward. While the drill is in operation the pin of arm 28 plays back and forth in the slot of head 32, as suggested in Fig. 6, and when the end of the field is reached the foot-lever is rocked, as shown in Fig. 7, carrying arm 28 and the drop-shaft backward and rendering subsequent throws of the crank 21 inoperative. As soon as the planter is ready for planting pressure is removed from the rear end of the foot-lever and the spring 18 at once carries the shaft back to its normal position.

What we claim is—

1. In a planter, the combination of a lift-lever, a rod connected pivotally with the lift-lever and extended through a relatively-fixed bearing in front of the lever and a compression-spring on the rod between the lever and the bearing.

2. In a planter, the combination of a lift-lever, a rod connected with the lift-lever and extended through a relatively-fixed bearing in front of the lever, a collar adjustable on the rod and a compression-spring on the rod between the collar and the bearing.

3. In a planter, the combination of a drop-actuating rock-shaft, an arm on the shaft having a transverse pin, and a pitman having a slotted head one side of which is broken away to receive the pin of the arm.

4. In a planter, the combination of a drop-actuating rock-shaft, an arm on the shaft having a transverse pin, and a pitman composed of a slotted head one side of which is broken away to receive the pin of the arm, a pivot-head bored and threaded and a rod rigidly connected with the slotted head and threaded to screw into the pivot-head.

5. In a planter, the combination of a drop-actuating rock-shaft, drill planter-driven mechanism actuated from a planter-wheel to throw the shaft in one direction only, a spring to throw the shaft in the opposite direction, and means whereby the operator may rock the shaft against the action of the spring and hold the spring extended.

6. In a planter, the combination of a drop-actuating rock-shaft, a crank-shaft driven from a planter-wheel, a connection between the crank-shaft and the rock-shaft whereby motion is imparted to the rock-shaft in one direction, a spring to carry the rock-shaft in the opposite direction and means under the

control of the operator for rocking the rock-shaft against the action of the spring and holding the spring extended.

7. In a planter, the combination of a drop-
5 actuating rock-shaft, an arm on the rock-shaft having a transverse pin, a crank-shaft driven from a planter-wheel, a pitman on the crank-shaft having a slotted head engaging the pin of the arm, a spring to return the
10 shaft after a throw of the crank-arm and a foot drop-lever connected with the rock-shaft,

whereby the motion of the crank-shaft is lost on the rock-shaft when the foot-lever is held under pressure, substantially as set forth.

In testimony whereof we sign our names in 15
the presence of two subscribing witnesses.

MARSHALL SATTLEY.

ARCHIBALD SATTLEY.

MARTIN HEINEKE.

Witnesses:

SAMUEL P. WHEELER,

ELWIN A. WILSON.