

(No Model.)

2 Sheets—Sheet 1.

S. M. WIXCEL.
CORN PLANTER.

No. 605,039.

Patented May 31, 1898.

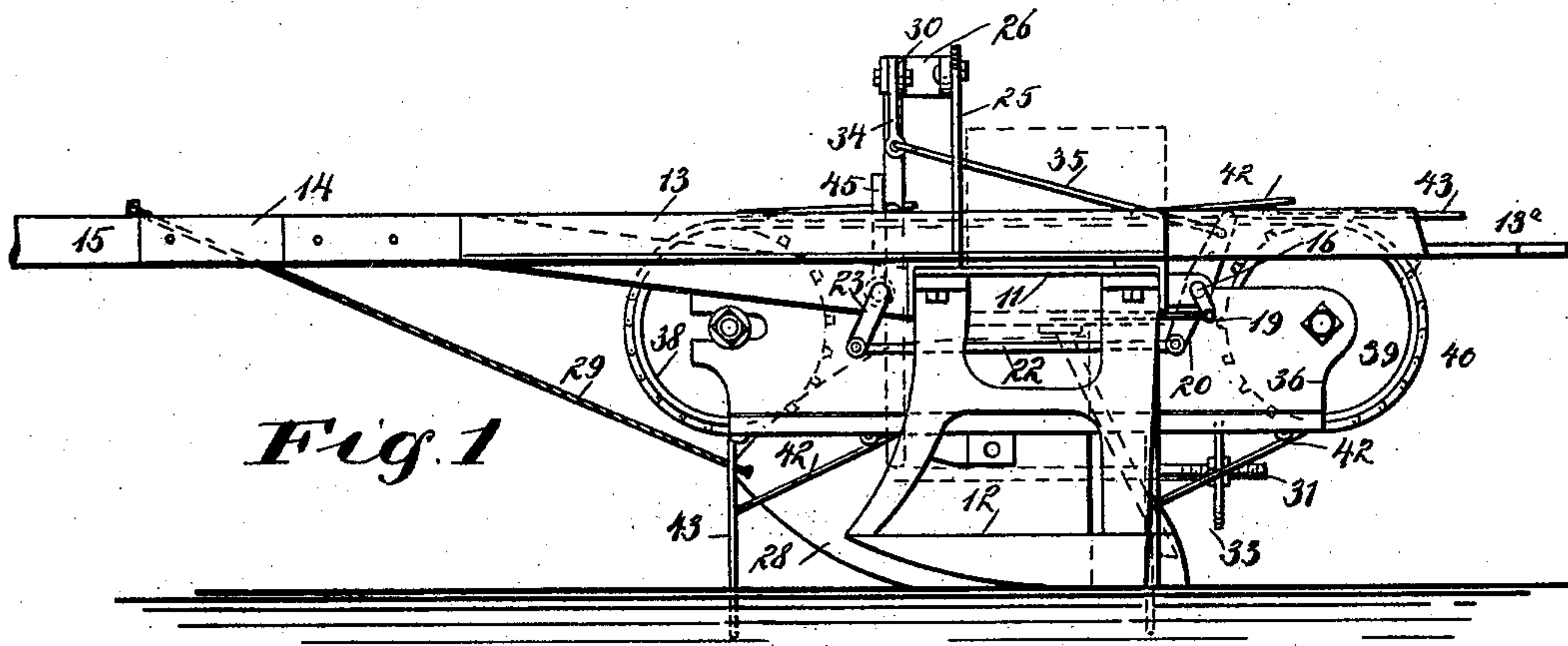


Fig. 1

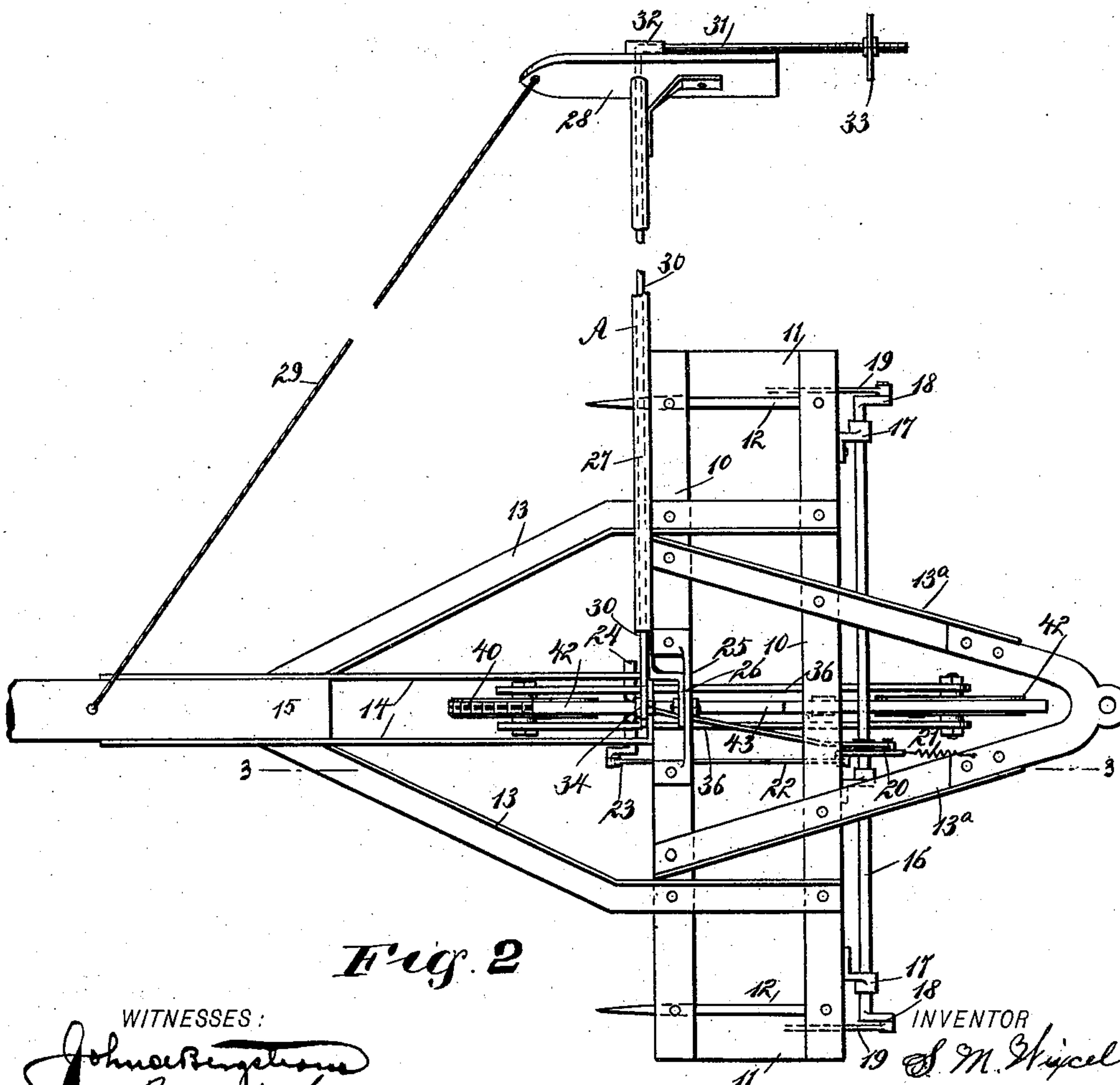


Fig. 2

WITNESSES:

John Bengel
John A. Ker

INVENTOR

BY

Wm. M. Wixcel
ATTORNEYS.

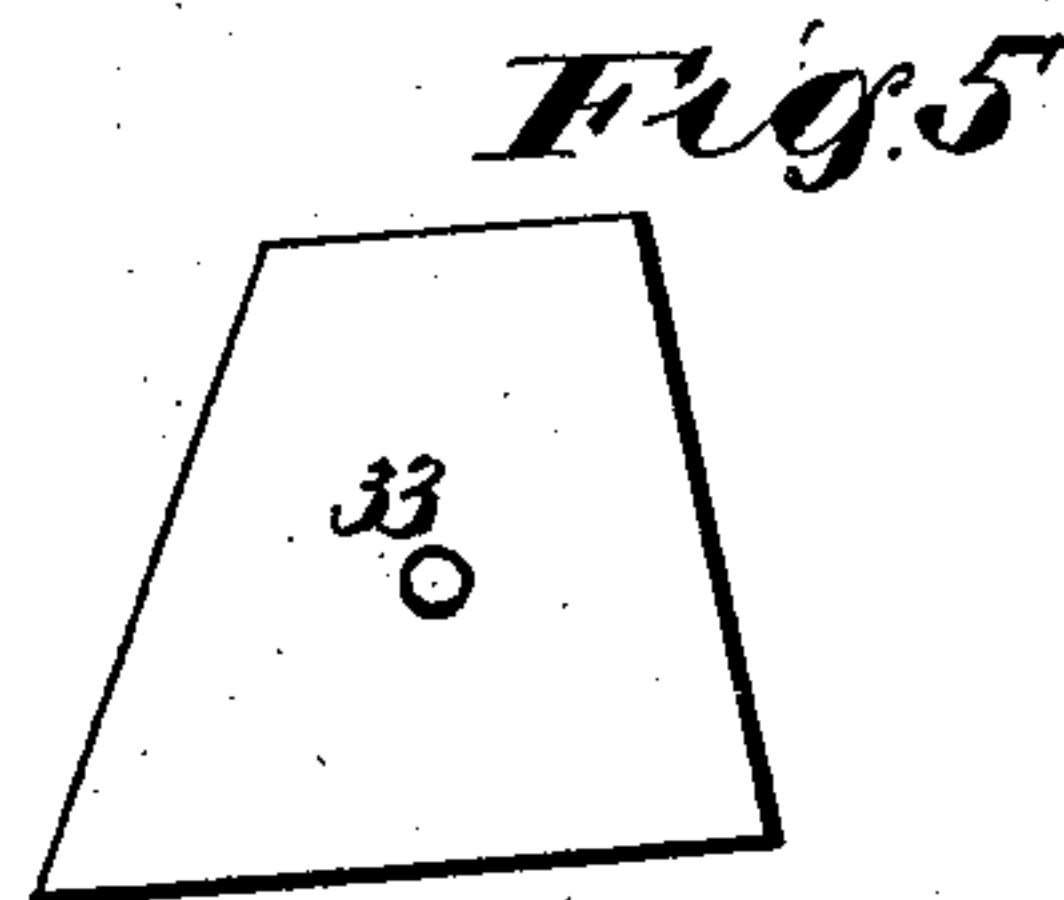
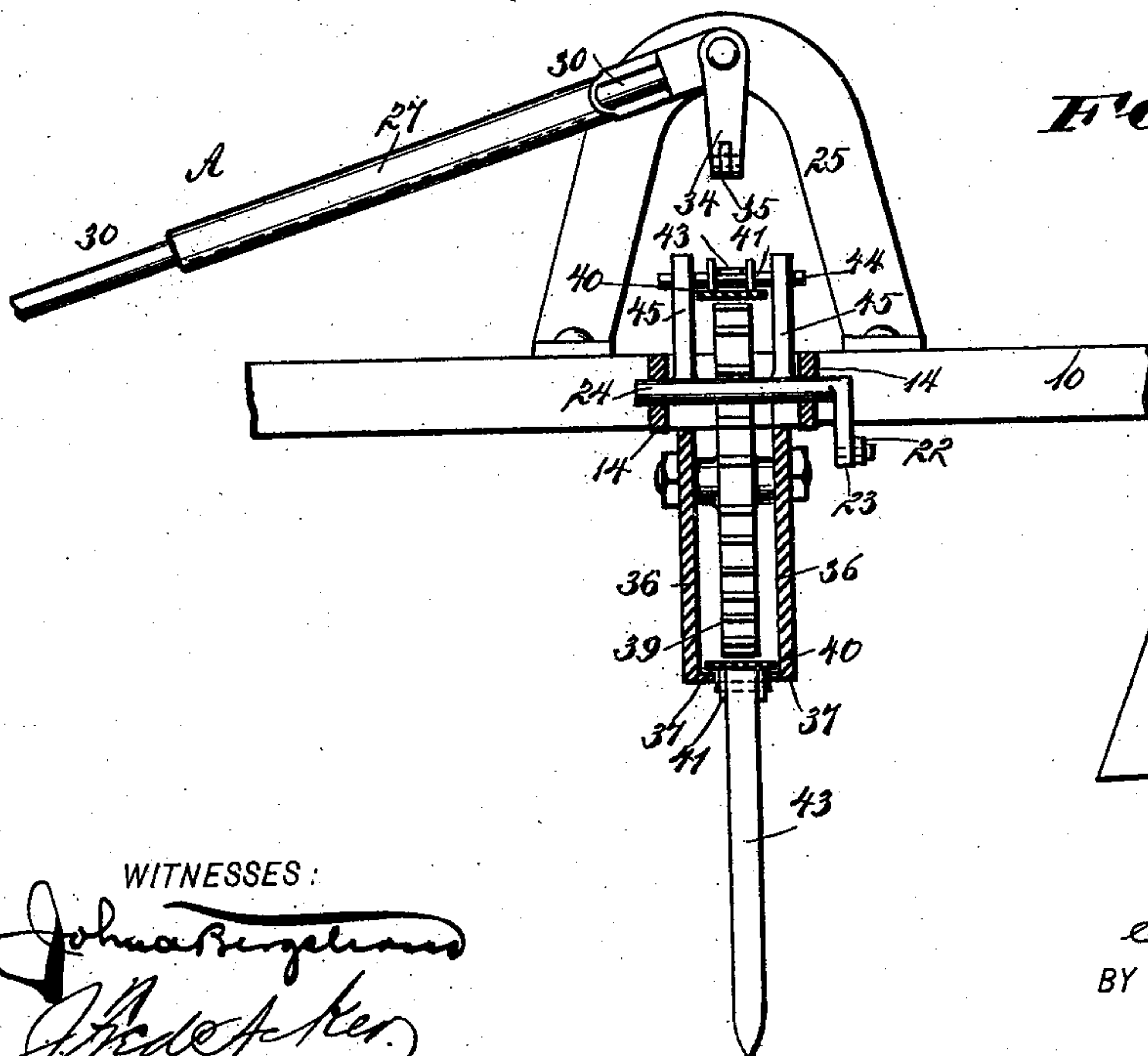
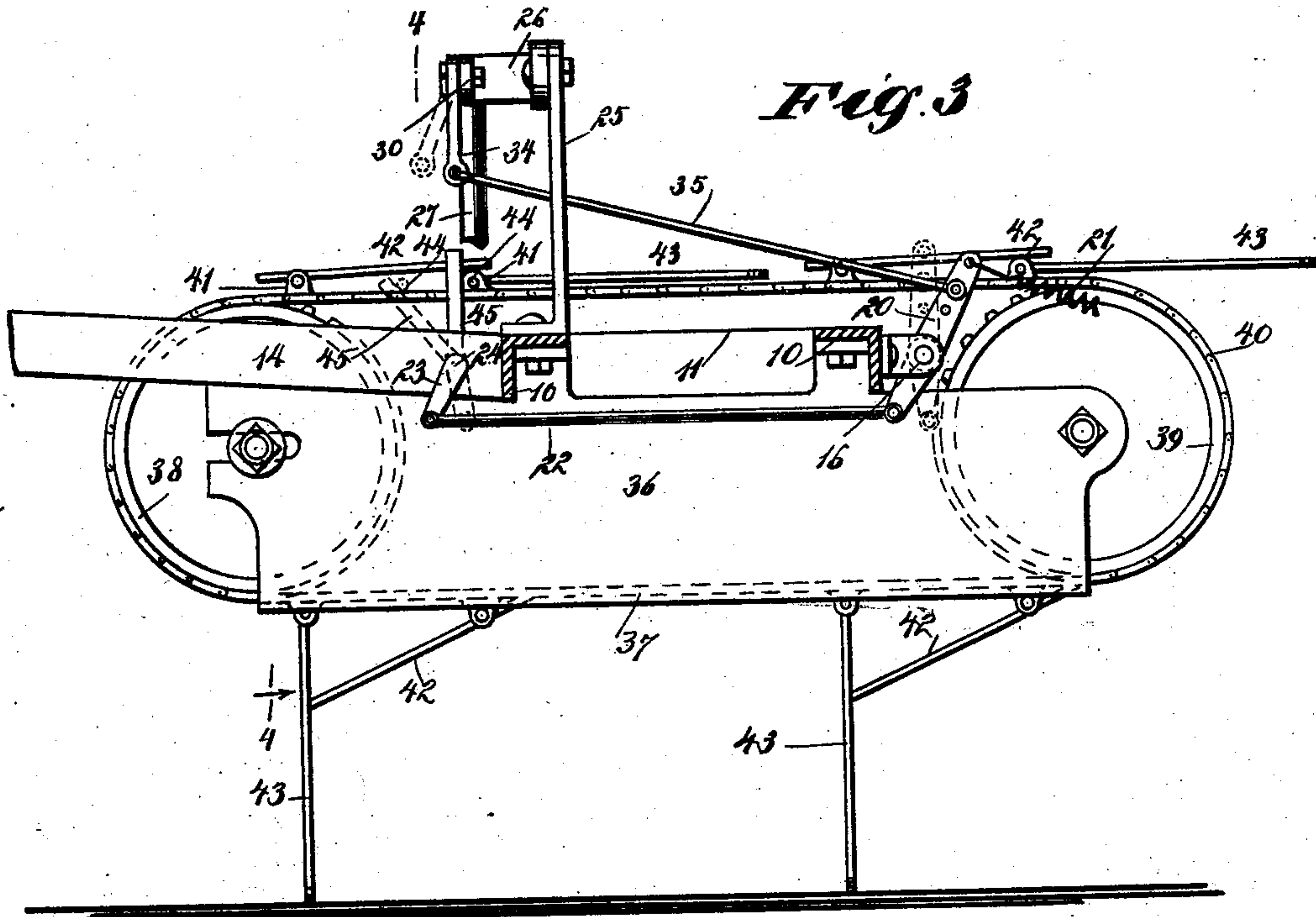
(No Model.)

2 Sheets—Sheet 2.

S. M. WIXCEL.
CORN PLANTER.

No. 605,039.

Patented May 31, 1898.



WITNESSES:

John Bengel
John A. Ker

INVENTOR

S. M. Wixcel

BY

Munn

ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL M. WIXCEL, OF MARCUS, IOWA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 605,039, dated May 31, 1898.

Application filed January 25, 1898. Serial No. 667,874. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. WIXCEL, of Marcus, in the county of Cherokee and State of Iowa, have invented a new and useful Improvement in Corn-Planters, of which the following is a full, clear, and exact description.

The invention relates to an improvement in corn-planters, and especially to checking and marking devices employed in connection with such planters.

The object of the invention is to provide a device to be used as a substitute for the check-wire—namely, a belt contained in its entirety upon the machine and provided with driving devices operated by contact with the ground.

Another object of the invention is to provide a simple, durable, and economic mechanism whereby the dropping mechanism of the seedboxes is operated by the check-belt and the markers are operated from the seed-dropping mechanism.

Another object of the invention is to provide a marking device which will make a mark to draw by and also a mark to drop by.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved machine. Fig. 2 is a plan view of the same, the seedboxes being omitted. Fig. 3 is a vertical section taken substantially on the line 3 3 of Fig. 2. Fig. 4 is a vertical transverse section on the line 4 4 of Fig. 3, and Fig. 5 is a plan view of the hoe.

The frame of the machine usually consists of parallel front and rear bars 10, connected by end bars 11, brace-bars 13, which extend from the main frame, converging at their forward ends to meet a U-shaped horizontal arm 14, secured at its rear end to a front cross-bar, and the tongue 15 is secured between the members of the arm 14. The main frame is supported upon runners 12, and the runners are provided with the usual shoes to deliver the seed, receiving the seed from seedboxes of any description, located one over each runner, a seedbox being indicated by dotted

lines in Fig. 1. Hangers 17 are secured to the rear cross-bar of the frame and the seed-drop shaft is journaled in these hangers and is designated as 16. A crank-arm 18 is usually formed at each end of the seed-drop shaft 16, and each crank-arm is shown as pivotally attached to a connecting-rod 19, the said rods being adapted for attachment to the valves in the seedboxes, to open and close the same by the movement of the said shaft 16.

Near the center of the seed-drop shaft 16 a lever-arm 20 is secured, extending preferably a greater distance above the shaft than below it, as shown in Fig. 3, and a spring 21 is attached to the upper end of the lever-arm and to a rearward extension 13^a from the frame, normally holding the upper end of the lever inclined rearwardly. The rear extension 13^a of the frame is adapted for attachment to any wheeled support, and any known mechanism may be employed for raising and lowering the frame of the machine. A connecting-rod 22 is attached to the lower end of the lever-arm 20 and to a crank-arm 23, forming a portion of a shaft 24, which shaft is journaled usually in the arm 14 at a point in front of the front bar 10 of the frame, the shaft being shown best in Figs. 2 and 4, and posts 45, preferably two in number, are carried upward from the shaft 24, between the members of the arm in which the shaft is journaled.

At or about the center of the front bar 10 of the frame an arch 25 is secured to the upper surface of the said bar, as illustrated in Figs. 3 and 4. An angle extension 26 from a tube 27 is pivoted to the central portion of the said arch 25, as shown in Fig. 2, the said tube forming a portion of the marker A. The tube is of sufficient length to extend beyond the end of the frame, as shown in Fig. 2, and the outer end of the tube 27 is secured to a runner 28, which is preferably pointed at its forward end and is connected at said end by a rod or a chain 29 with the tongue 15. The runner 28 is designed to make a mark which will serve as a guide in driving the machine across a field.

A shaft 30 is loosely mounted in the tube 27 and is likewise loosely carried through the runner 28, the shaft 30 at its outer end being

provided with an arm 31, which is at right angles to the body and parallel with the runner 28. The crank-arm 31 of the shaft 30 extends beyond the rear end of the runner 28 and is preferably exteriorly threaded in order that a hoe 33, preferably made with inclined sides, may be adjustably secured to it.

The hoe is shown in detail in Fig. 5 and is placed on the crank-arm 31 with its shorter end uppermost. A guard 32 is attached to the runner 28, and said guard may serve to prevent the earth entering the opening through which the marker-shaft 30 passes and interfering with the working of the shaft, but is especially adapted to maintain the shaft 30 in position. A crank-arm 34 is secured to the left-hand end of the marker-shaft 30, as illustrated in Figs. 1 and 3, and the said crank-arm 34 is connected by a rod 35 with the upper portion of the lever-arm 20, located on the seed-drop shaft 16. Thus whenever the seed-drop shaft is turned, which is accomplished by the forward movement of the shaft 24, the upper end of the lever-arm will be carried forward, the rod 35 will likewise move forward, together with the crank-arm 34, and the marker-shaft will be turned in a direction to carry the hoe into the ground to make a mark, the hoe being normally held out of contact with the ground by the spring 21.

At each side of the center of the machine parallel plates 36 are secured to the frame, extending in direction of the front and of the rear of the machine, and each plate 36 is preferably provided with an inwardly-extending flange 37 at its lower edge, as shown in Fig. 4. A forward sprocket-wheel 38 and a rear sprocket-wheel 39 are journaled respectively in the front and rear portions of the said plates 36, the bearings of one of the said sprocket-wheels being adjustable, as shown in Fig. 3. A chain belt 40 passes over both sprocket-wheels, and the said chain belt is designed to take the place of the check-wire ordinarily employed in connection with corn-planters. Sundry of the links of the chain are provided upon their outer faces with ears 41, the ears being arranged in groups of two pairs, as shown in Fig. 3. The distance between the pairs of ears will correspond to the distance between the hills planted by the machine.

In one pair of ears a brace rod or bar 42 is pivoted between its center and one end, the shorter end of the bar being adapted to engage with the chain when the longer end is carried away therefrom. Between the second pair of ears of a group one end of a stake 43 is pivoted. The stakes and likewise the brace-bars 42 are preferably made of steel. The stakes are free to move upon their pivots either forward or rearward, so as to lie in either direction flat upon the chain. On the lower stretch of the check-belt the stakes assume a vertical position, as shown in Figs. 1, 3, and 4, and the brace-bars 42 provided for the stakes at the lower stretch of the belt will drop downward at their longer ends and bear

against the back of said stakes, the upper shorter ends of the brace-bars resting against the belt. Thus the stakes are held vertically while they remain beneath the machine except at the extreme rear end of the said machine, or when the brace-bars are ascending the rear wheel 39, at which time the brace-bars will rest upon the belt and the stakes will drop forward and likewise rest upon the belt, so that on the upper stretch of the belt the brace-bars and the stakes will be practically parallel with said stretch, the longer ends of the brace-bars resting upon the pivot portions of the stakes to which they belong, as shown in Fig. 3. The brace-bars 42, in addition to holding the stakes in any upright position in the ground, also serve to hold the stakes at a proper angle to enter the ground.

A predetermined number of the pivots 44 provided for the stakes are made to extend outward beyond the sides of the belt, as shown in Fig. 4, so that as the belt is made to travel in a forwardly direction the projecting ends of the longer pivots 44 will engage with the posts 45, extending upwardly from the front shaft 24, and will rock the said shaft and thus communicate movement through the connecting-rod 22 and lever-arm 20 to the seed-drop shaft 16, the movement of the shaft 16 being sufficient to open the valves of the seedboxes and effect a dropping of the seed.

It will be observed that the wheels 38 and 39 are turned by the movement of the chain and that the movement of the chain is effected by the advance of the machine, the stakes on the lower stretches of the belt entering the ground and remaining in the ground a predetermined length of time. The hoes 33 are so adjusted that they will be in line with the heels of the planter-shoes.

The machine is exceedingly easy to operate, and the driver is not required to dismount from the machine when said machine is to be turned and another row is to be started.

The operation is practically as follows: When the end of a row is reached, the marker A is swung to the other side of the machine, and the machine is turned around, the frame of the machine having been raised, and when the frame of the machine is elevated the lower stakes 43 will be carried out from engagement with the ground, since the lower stretch of the chain or belt travels along the upper surfaces of the flanges 37 on the cheeks or plates 36, as shown in Fig. 4. The machine having been turned around, it is simply necessary to grasp the belt and to pull said belt rearward until one of the stakes provided with an extension-pivot 44 is brought over the mark from which the row is to be started. The planter is then lowered until the stakes enter the ground and is then drawn ahead. The longer pivots 44 will contact with the posts 45 and operate the seed-drop shaft 16, corresponding to the knots that are formed upon the usual check-wire.

This machine is exceedingly simple. It is durable, and it is economic and does not require the setting up of a check-wire, its marking and guide mechanism being contained entirely upon the machine, so that no extra preparation is necessary when the field is reached, it being simply necessary to lower the frame of the machine and drive ahead. The form and location of the guide-flange 37 for the belt 40 may be changed as required by the character of frame employed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a planter, a marker consisting of a tube adapted to be pivoted to a support, a runner attached to the tube, and a shaft extending loosely through the tube and through the runner, the shaft being provided with a crank-arm parallel with the runner and arranged to receive a hoe, as and for the purpose set forth.

2. In a planter, the combination, with a seed-drop mechanism, of a marker consisting of a pivoted tube, a rock-shaft within the said tube, provided with a crank-arm at its outer end, and a hoe carried by the said crank-arm of the shaft, substantially as described.

3. In a planter, the combination, with a seed-dropping mechanism, of a marker consisting of a tube pivotally attached to the machine, a runner attached to the outer end of the tube, a rock-shaft loosely mounted in said tube and extending through said runner, the shaft at its outer end being provided with a crank-arm parallel with the runner, a hoe adjustable upon the said crank-arm, and a connection, substantially as described, between the said shaft and the seed-dropping mechanism of the planter, as and for the purpose specified.

4. In a planter, the combination, with the seed-dropping mechanism thereof, and wheels mounted in the frame on the said planter, one near the rear and the other near the front, of an endless check-belt passed over the said wheels, projections from the check-belt adapted for engagement with the ground, offsets formed at intervals on the said check-belt, a connection between the crank-shaft and the seed-dropping mechanism, a marker pivoted to a support of the said machine, the marker consisting of a tube carrying a runner, a shaft

loosely mounted in the said tube, a hoe carried by the said shaft, and a crank-and-link connection between the said marker and the seed-dropping mechanism, as and for the purpose specified.

5. In a seed-planter, the combination with a frame, of a check-belt mounted to run on the frame and driven by contact with the ground, a rock-shaft, a post attached to the rock-shaft and engaged by the belt to turn the rock-shaft, a seed-drop shaft having connection with the rock-shaft and mounted on the frame, a tube attached to the frame and outrunning laterally therefrom, a runner attached to the outer end of the tube, a rock-shaft extending through the tube and having connection with the said drop-shaft, and a hoe carried at the outer end of the rock-shaft.

6. In a seed-planter, the combination with a frame of a tube pivotally mounted thereon and outrunning laterally therefrom, a rock-shaft extending through the tube, a runner attached to the outer end of the tube, means for operating the rock-shaft, and a hoe carried at the outer end of the rock-shaft.

7. In a seed-planter, the combination with the frame, of a tube mounted thereon and outrunning laterally therefrom, a rock-shaft extending through the tube, means for turning the rock-shaft, and a hoe carried at the outer end of the rock-shaft and periodically engaged with the ground by the movement of the rock-shaft.

8. In a seed-planter, the combination with a frame, of a check-belt mounted thereon and driven in unison with the movement of the planter, a checking device mounted on the frame and running out laterally therefrom, and means engaged by the check-belt for periodically operating said checking device.

9. In a seed-planter, the combination with a frame, of a check-belt mounted thereon and driven in unison with the movements of the planter, and a checking device mounted on the frame and driven from the check-belt, the checking device being run out laterally beyond the frame to mark the earth at the check-row contiguous to that on which the planter is traveling.

SAMUEL M. WIXCEL.

Witnesses:

FRED WILKINS,
CHAS. E. ALLEN.