

(No Model.)

2 Sheets—Sheet 1.

H. MORRISON.

CHECK ROW CORN PLANTER.

No. 349,259.

Patented Sept. 14, 1886.

Fig. 1.

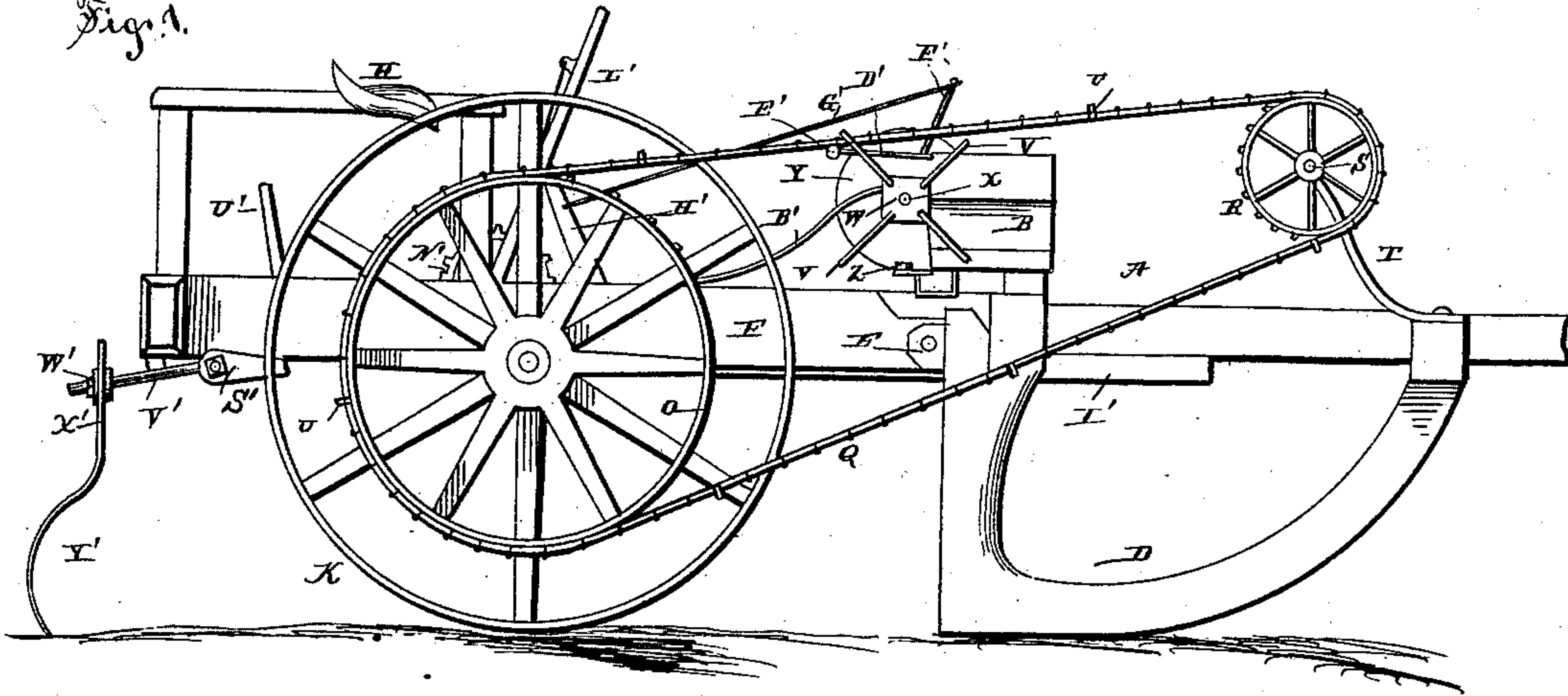
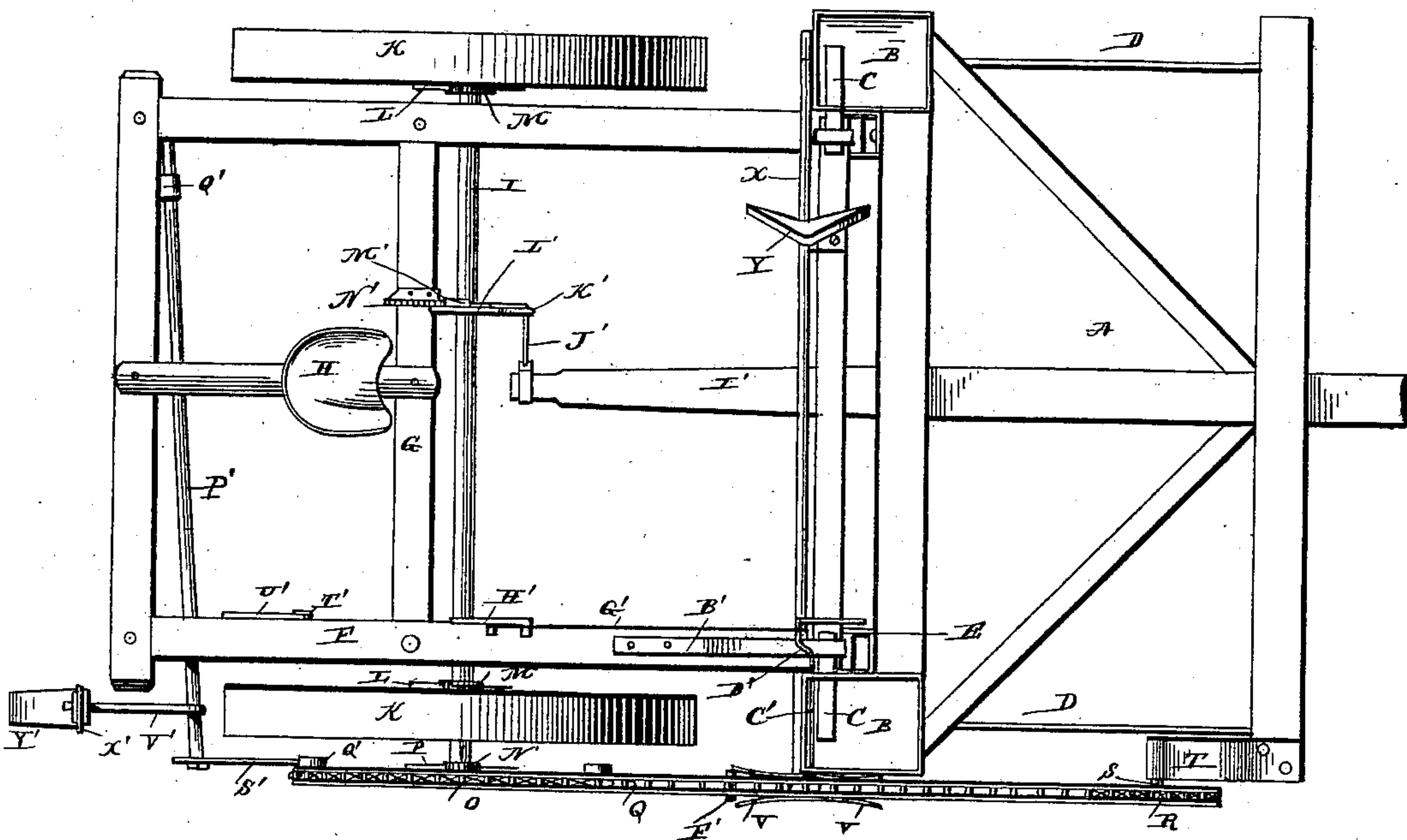


Fig. 2.



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(No Model.)

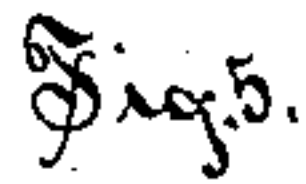
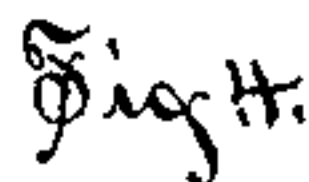
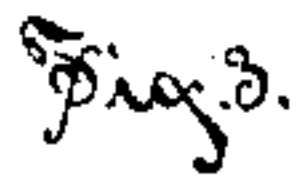
2 Sheets—Sheet 2.

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## CHECK ROW CORN PLANTER.

No. 349,259.

Patented Sept. 14, 1886.



*WITNESSES*

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# UNITED STATES PATENT OFFICE.

HAMON MORRISON, OF XENIA, KANSAS, ASSIGNOR OF ONE-HALF TO JOHN R. ANDERSON, OF SAME PLACE.

## CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 349,259, dated September 14, 1886.

Application filed May 18, 1886. Serial No. 202,567. (No model.)

*To all whom it may concern:*

Be it known that I, HAMON MORRISON, a citizen of the United States, and a resident of Xenia, in the county of Bourbon and State of Kansas, have invented certain new and useful Improvements in Check-Row Corn-Planters; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view of my improved check-row corn-planter. Fig. 2 is a top view of the same. Fig. 3 is a front view. Fig. 4 is a rear view; and Fig. 5 is a perspective detail view of the marking mechanism.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of check-row corn-planters in which the dropping mechanism is operated from the drive-wheels; and it consists in the improved construction and combination of parts of such a corn-planter, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the front frame, which is provided with seed-boxes B B, of any desired construction, having the seed-slide C sliding transversely with its ends in the boxes, and the rear portion of this front frame, which has the runners D D, is provided with two rearwardly-projecting pairs of perforated lips, E E, with which the frame is hinged to the forward ends of the side pieces, F F, of the main frame, upon the cross-pieces G G of which the seat H for the driver is secured. The drive-axle I is journaled in bearings J J in the side pieces of the frame, and the drive-wheels K K are journaled upon the ends of this axle outside of the side pieces, revolving freely upon the axle, and having spring-pawls L, which engage ratchet-wheels M upon the axle. The outer end of the axle at one side is provided with a ratchet-wheel, N, outside of the drive-wheel, and a chain-wheel, O, is journaled upon the axle outside of the ratchet-wheel, having a pawl, P, engaging the ratchet-wheel, and a chain, Q,

passes over this chain-wheel and over a smaller chain-wheel, R, journaled upon a short shaft, S, projecting laterally from a bracket, T, upon the forward end of the front frame. This chain is provided at equal distances with buttons U, having laterally-projecting lugs, and the chain passes between a number of forks, V, radiating from a disk, W, secured upon a shaft, X, journaled in bearings upon the rear sides of the seed-boxes, the buttons and their lugs engaging the forks and tilting them. A waved cam-disk, Y, is secured upon the shaft, and engages with its waved periphery two rollers, Z Z, journaled upon upwardly-projecting studs upon the seed-slide, and the cam-disk has a number of bulges or waves registering with and corresponding to the number of forks upon the disk, so that the seed-slide will be moved when a fork is tilted by a button upon the chain. The shaft is provided with a disk or block, A', having a number of flat sides corresponding to and registering with the forks and with the bulges or waves upon the disk, and a flat spring, B', is secured with its rear end upon the side piece of the main frame, and bears with its forward free end against the faces of the said block or disk, stopping the revolution of the shaft and retaining the forks and disk in the proper position until the next fork is tilted. A short rock-shaft, C', is journaled in the rear side of the seed-box nearest to the disk having the forks, and this shaft is provided at its outer end with a rearwardly-projecting arm, D', having an outwardly-projecting end, E', which projects under the chain, and the inner end of the rock-shaft is provided with an upwardly-projecting arm, F', to the upper end of which is pivoted a connecting-rod, G', the rear end of which is pivoted to a lever, H', pivoted upon the side piece of the frame near the seat for the driver and within reach of the same. By tilting this lever and consequently the arm forward, the rearwardly-projecting arm is tilted upward, and the chain may be raised so as to travel clear of the forks, and so as not to tilt the same, allowing the planter to be turned at the ends of rows and to be driven over a field or upon a road without planting. The rear end of the front frame is provided with a rearwardly-projecting arm, I', and a connect-



ing-rod, J', is pivoted to the rear end of this arm, and has its upper end pivoted to a forwardly-projecting arm, K', of a lever, L', pivoted upon the forward cross-piece of the main frame, and having a latch, M', engaging a segmental rack, N', upon the said cross-piece, and the front frame may be tilted with its forward end downward or upward by tilting this lever and adjusting it so that the depth to which the runners shall cut and plant may be regulated. The innerside of the large chain-wheel upon the drive-axle is provided with two inwardly-projecting lugs, O' O', and a shaft, P', is journaled in a rigid bearing, Q', and a longitudinally-sliding bearing, R', upon the rear ends of the side pieces of the main frame, and has a forwardly-projecting arm, S', which may be engaged and tripped by the lugs upon the chain-wheel when the latter is revolved. The sliding bearing has an inwardly-projecting bail, T', which is engaged by the lower end of a lever, U', pivoted upon the side pieces of the frame, and by tilting this lever, which is within convenient reach from the seat of the driver, the bearing may be slid forward or rearward, causing the arm to engage the lugs or to be disengaged from them. The shaft has a rearwardly-projecting arm, V', the rear end of which is screw-threaded and provided with nuts and washers W', which clamp the upper slotted portion, X', of a marker-blade, Y', projecting downward and nearly touching the ground with its lower end. When one of the lugs upon the chain-wheel strikes the forwardly-projecting arm, the marker will be forced down, making a mark in the ground, so that the driver of the planter may calculate his distance from the rows planted, when passing up a new row, by observing the marks made by the marker. It will be seen that by increasing or decreasing the number of buttons upon the chain the distances between the hills may be varied; or the planter may be converted into a drill by placing a number of buttons upon the chain, so that the forks will continually be engaged and the shaft revolved, continually reciprocating the seed-slide. The drive-axle having the ratchet-wheels, which are engaged by the pawls upon the drive-wheels, will allow the wheels to be revolved backward without revolving the axle or any of the dropping mechanism, and will allow one wheel to revolve faster than the other and at the same time revolve the axle, and the ratchet-wheel, upon the axle being engaged by the pawl from the frame, will prevent the axle from revolving backward when the wheels are revolved in that direction. The chain may be thus adjusted with reference to the forks upon the disk that it may tilt the forks just a sufficient space ahead of one of the lugs tilting the marker, that the marker may be depressed at a hill; or it may be so adjusted that the marker will be depressed in a space between the hills by simply removing the chain from the large chain-wheel and moving it forward or backward sufficiently

to cause the buttons of the chain, when the latter is replaced upon the wheel, to fall intermediate the places they previously occupied. 70

The marker-shaft is provided with a rearwardly-projecting arm, Z', which bears with its under side against the free end of a spring, A'', secured upon the under side of the rear cross-piece of the frame, and the marker may be raised each time it is tilted by means of this spring and arm. 75

The marker-blade may be adjusted by means of the longitudinal slot in its upper end and by means of the nuts upon the rearwardly-projecting screw-threaded arm, which nuts clamp the marker-blade in place upon the arm, and it is desirable to have the marker adjusted so that it will pass immediately above the ground with its lower end without marking, so that it will mark at the slightest depression of its arm, caused by the tilting upward of the forwardly-projecting arm. 80 85

The block or disk upon the operating-shaft, having the flat faces and having the flat spring bearing with its outer end against the said faces, will serve to stop the operating-shaft in its revolutions, preventing it from being revolved too far, and holding it firmly until the shaft is revolved by another fork being tilted. 90 95

The seed-boxes and slides may be of any desired construction, the only requirement of the slides being that they are operated by a transverse reciprocating slide, so that the seed-cups may be in the ends of the slide; or the ends of the slide may operate reciprocating or revolving slides or disks. 100

The shoes and seed-tubes may be of any desired construction which may be found most effective and convenient. 105

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

1. In a check-row corn-planter, the combination of a chain-wheel upon the drive-shaft, a chain-wheel at the forward end of the front frame, a slide-operating shaft having a disk provided with radiating forks, an endless chain passing over the wheels and having equidistant buttons, a rock-shaft journaled parallel with the operating-shaft, and having a rearwardly-projecting arm with an outwardly-bent end below the upper half of the chain, and an upwardly-projecting arm, and a lever having a connecting-rod pivoted to the upwardly-projecting arm, as and for the purposes shown and set forth. 110 115 120

2. In a check-row corn-planter, the combination of an operating-shaft having a disk at one end provided with radiating forks, and having a cam-disk upon it formed with registering and corresponding bulges or waves in its periphery, and a disk or block having registering and corresponding flat faces, a seed-slide having two upwardly-projecting studs provided with rollers clamping the edge of the cam-disk, a flat spring bearing with its free end against the flat faces of the block or disk, and an endless chain driven by the drive-axle and 125 130



having equidistant buttons engaging the forks, as and for the purpose shown and set forth.

3. In a check-row corn-planter, the combination of a chain-wheel having equidistant inwardly-projecting lugs upon its inner side and revolving with the drive-shaft, a chain-wheel journaled upon the forward end of the front frame of the machine, an operating-shaft having radiating forks, a chain having equidistant buttons and passing over the wheels, and a transverse shaft having a forwardly-projecting arm engaging the lugs and having a rearwardly-projecting marker-blade, as and for the purpose shown and set forth.

4. In a check-row corn-planter, the combination of a chain-wheel upon the drive-axle, having inwardly-projecting equidistant lugs upon its inner face, and having a chain provided with buttons revolving an operating-shaft, a rigid bearing at one side of the frame, and a sliding bearing at the other side, near the wheel, provided with a bail, a transverse shaft journaled in the bearings and having a forwardly-projecting arm and a rearwardly-projecting screw-threaded arm, a lever fulcrumed upon the frame and engaging the bail of the sliding bearing with its

lower end, and a marker-blade secured with its longitudinally-slotted upper end upon the screw-threaded arm of the shaft clamped by means of nuts and washers, as and for the purpose shown and set forth.

5. In a check-row corn-planter, the combination of a drive-shaft having three ratchet-wheels upon it, a spring-pawl upon each of the two drive-wheels, each pawl engaging with one of said ratchet-wheels, and a spring-pawl secured upon the frame of the planter and engaging the third ratchet-wheel, as and for the purpose shown and set forth.

6. In a check-row corn-planter, the combination, with a disk upon an operating-shaft having radiating forks, of an endless chain passing over suitable wheels having means for revolving them, and having buttons at equal distances, and provided with laterally-projecting lugs, as and for the purpose shown and set forth.

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

HAMON MORRISON.

Witnesses:

ARTHUR BROWNE,  
THOMAS JOHNSTON.