

(No Model.)

J. S. WARD.

3 Sheets—Sheet 1.

CORN PLANTER.

No. 274,065.

Patented Mar. 13, 1883.

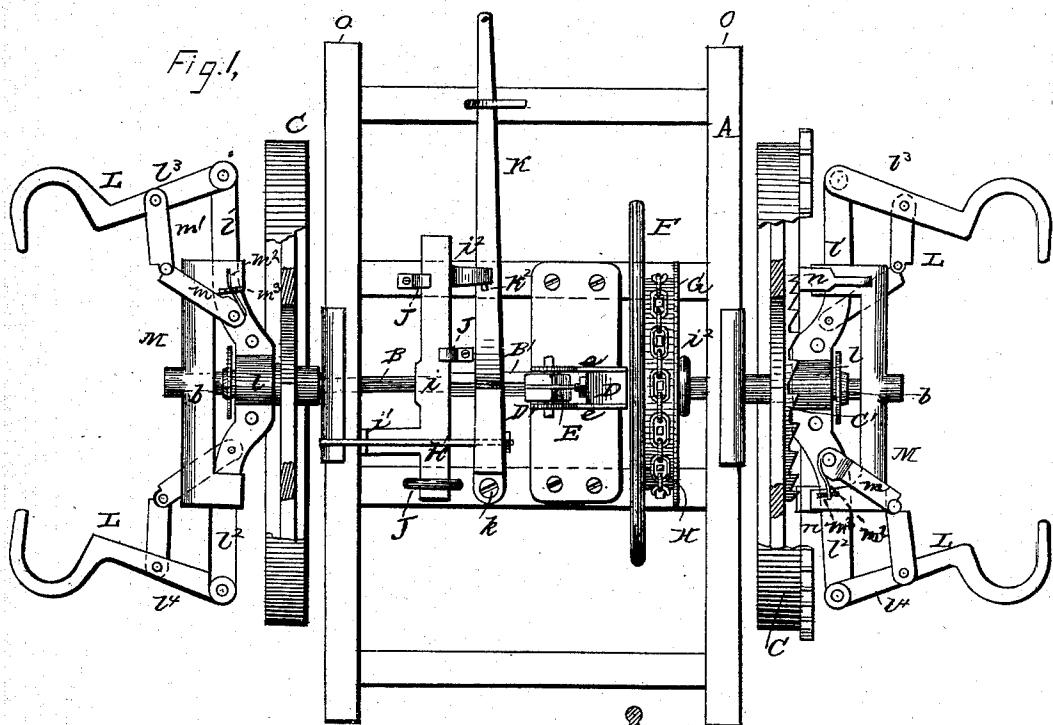
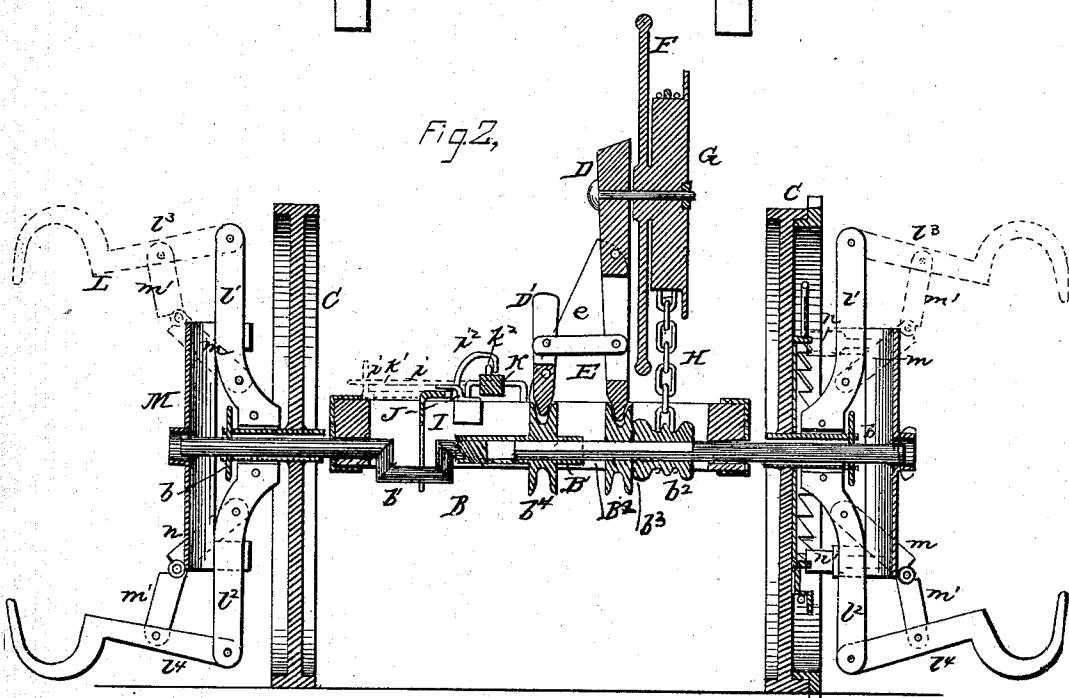


Fig. 2.



WITNESSES:

Med. S. Dietrich
D. G. Hinkel

INVENTOR.

John S. Ward
by Louis Bagger & C°
ATTORNEYS.

(No Model.)

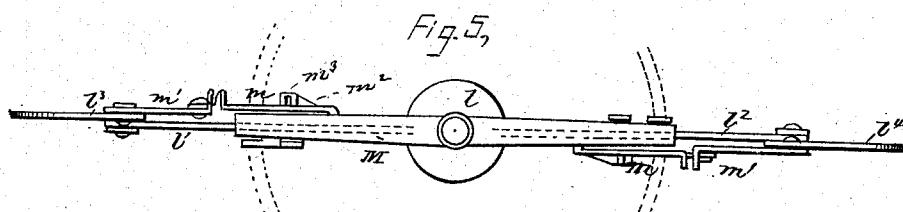
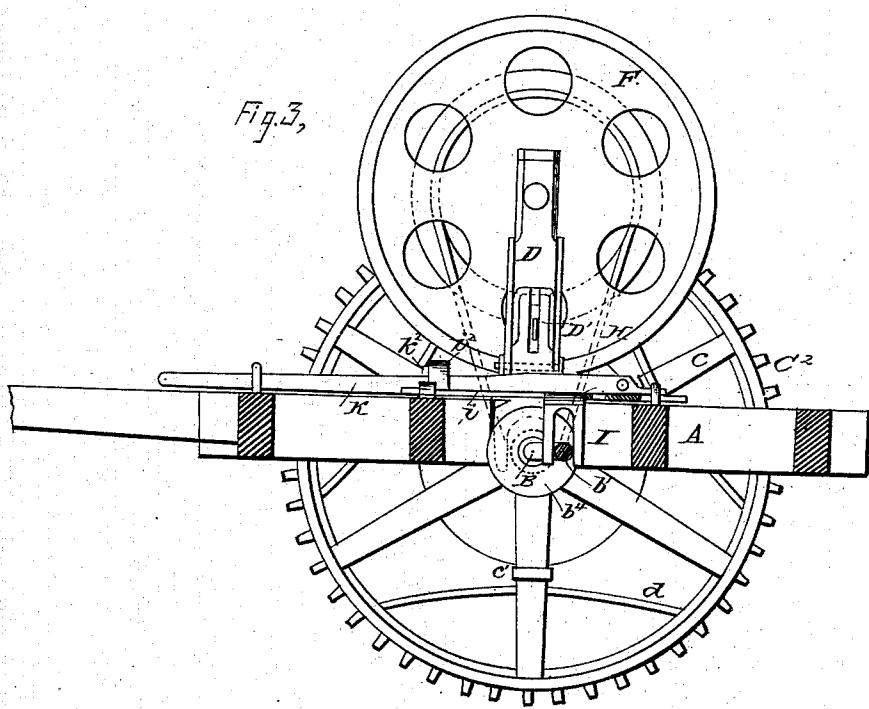
J. S. WARD.

3 Sheets—Sheet 2.

CORN PLANTER.

No. 274,065.

Patented Mar. 13, 1883.



WITNESSES:

*Fred. G. Dietrich
J. G. Frankel*

INVENTOR.

*John S. Ward,
by Louis Bagger & Co.*

ATTORNEYS.

(No Model.)

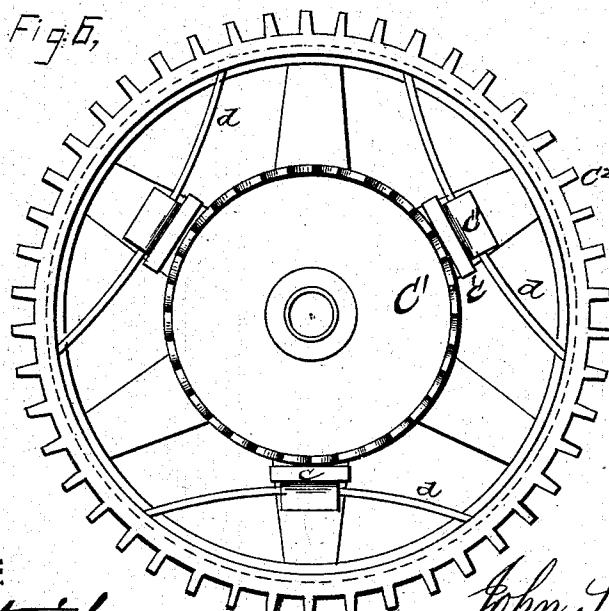
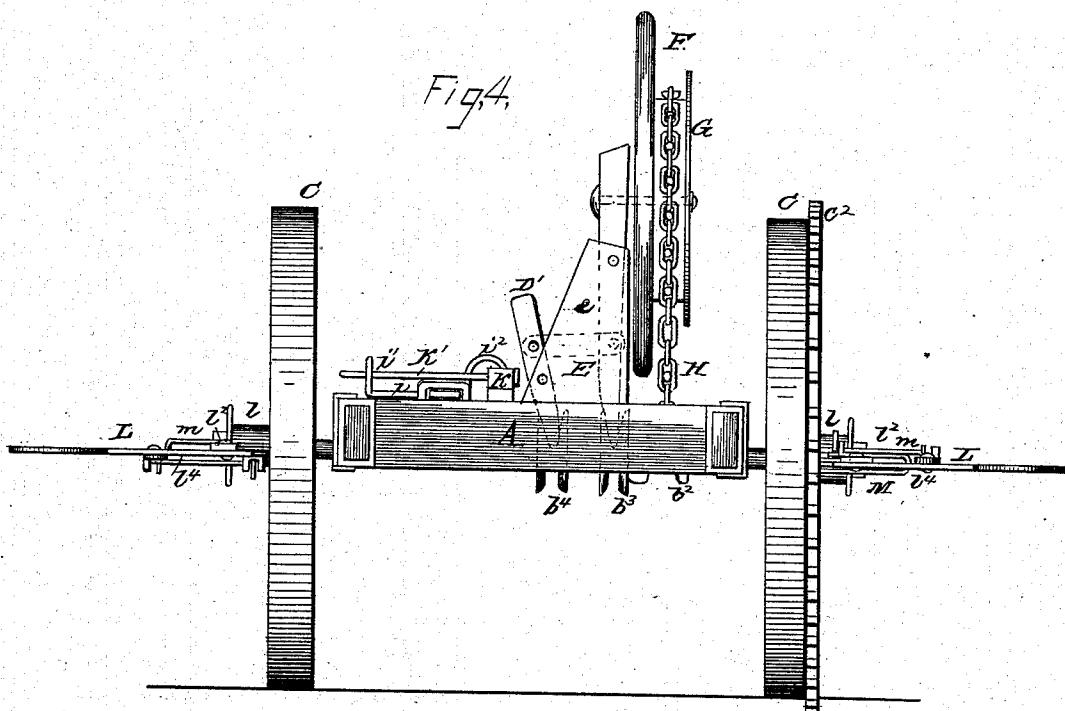
J. S. WARD.

3 Sheets—Sheet 3.

CORN PLANTER.

No. 274,065.

Patented Mar. 13, 1883.



WITNESSES:

*Med. G. Dietrich,
John G. Finkell*

INVENTOR.

*John S. Ward,
by Louis Bagger & C°*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN S. WARD, OF EUREKA, ILLINOIS.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 274,065, dated March 13, 1883.

Application filed August 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. WARD, of Eureka, in the county of Woodford and State of Illinois, have invented certain new and useful 5 Improvements in 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, 10 reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view, with the wheels partly broken away, of my improved corn- 15 planter. Fig. 2 is a vertical transverse section. Fig. 3 is a longitudinal vertical section. Fig. 4 is an end elevation thereof. Fig. 5 is a detailed plan view of one of the markers; and Fig. 6 is a plan view of one of the wheels, 20 showing the cogged-rim attachment for working in slippery soil.

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

My invention relates to improvements in 25 corn-planters, having for its object to put into and out of operation the markers, to effect their adjustment, to enable them to penetrate the ground a greater or less depth, to be folded to clear an obstruction, fence, post, 30 stump, &c., and to be locked as against ungearing the machine, to enable the simultaneous operation of the markers of the seed-slide, and to facilitate the adjustment of the hand-wheel, which controls mostly the aforesaid operation of parts; and it consists in the combination and arrangement of parts, substantially as hereinafter more fully set forth and claimed.

In the accompanying drawings, the letter A 40 indicates the frame, having a transverse opening through its middle, in which turns the axle B in bearings in the side pieces of the frame. The wheels C, having hubs b, turn upon the ends of this axle, which consists of 45 two sections, B' and B², the inner end of the one, B², fitting into and sliding in the hollow inner end of the other, B', so as to allow lateral movement of the two sections while they 50 rotate together, the end of B² being square and fitting into the square hollow end of B'. Inside its bearing in the frame the axle-sec-

tion B' forms a double crank, b', and its inner hollow end is provided with a pulley, b⁴, fastened upon it. Two pulleys—one larger, b³, and one smaller, b²—are fastened upon the axle-section B², inside its bearing. Upon braces e, firmly secured in an upright position upon the frame, are two levers, D and D', pivoted, the lower bifurcated ends of which ride astride the pulleys b³ and b⁴, and are connected by 60 an arm, E, hinged to lever D below and to lever D' above its fulcrum, so that by moving the upper end of lever D in either direction the lower ends of it and lever D' will either be brought nearer together or farther apart, which 65 motion is imparted to the axle-sections, the sections sliding together when the upper end of D is moved outward, and vice versa. Upon the upper end of lever D is pivoted a hand-wheel, F, having a smaller flanged portion, 70 over which a sprocket-chain, H, passes, which connects with and operates the pulley b², and through it the shaft, revolving the shaft independently of the wheels. The double crank b' operates the sliding plate i, and through it 75 the seed-slides, by means of a slotted downward-projecting plate, I, in the slot of which the crank turns and slides. The plate i slides in bearings J upon the upper surface of the frame, and has upon its forward end a side- 80ward-projecting curved lip, i², and upon its rear portion a projection, i', extending side- 85ward toward the wheel and having its outer end slotted.

K is a lever pivoted at the rear upon the 85 frame at k, and having a sideward-projecting spring, k', the outer end of which is clasped by the slotted upturned end of projection i', and provided upon its upper surface with an upward-projecting lug, k². As the plate i 90 moves forward and backward, operated by crank b', the curved lip i² will engage projection k² alternately upon either side, and the tension of spring k', which is produced by the slotted end of projection i', will force the lever from 95 one side to another when the lip i² passes projection k², releasing it. It will be seen that when plate i slides forward the spring will force the lever in toward the center of the machine, and when sliding rearward it will 100 throw it outward, the lip i² and lug k² holding it till it springs with a sudden motion, and

the seed-slides, which are connected by suitable means to the end of the lever, will be operated by this motion.

The markers L L are attached to the hubs 5 of the wheels C, and consist of two arms, $l^1 l^2$, projecting from a sleeve, l , turning upon the hub of the wheel. To the ends of these arms are hinged two hook-shaped arms, l^3 and l^4 , the outer convex edges of which serve to mark 10 and open the hills in which the corn is to be dropped. These arms may be extended or folded by means of elbow-levers $m m^2$, pivoted upon arms $l^1 l^2$, and connected with arms $l^3 l^4$ by means of hinged arms $m' m'$, which, with 15 levers $m m$, form toggle-levers. The inner arms, m^2 , of the elbow-levers project into and are operated by slotted projections m^3 upon the inward bent ends of yokes M, which are fastened upon the ends of the shaft, and are 20 provided upon the inward bent ends with spring-pawls n , which are adapted to engage the teeth of a ratchet-wheel, C', fastened upon one of the wheels C. It will now be seen that by drawing the ends of the axle-sections together 25 the yokes will act upon the elbow-arms m^2 , extending the arms, and at the same time the spring-pawls will engage the teeth of the ratchet-wheel, revolving the markers, and that the markers will be folded and 30 pawls disengaged when the axle-sections are pushed apart, throwing the whole mechanism out of action.

To secure the drive-wheel from slipping, it may be provided with a detachable cogged 35 rim, C², the inside of which is provided with a flange, which is slipped in under the rim of the wheel C. The rim is secured to the wheel by means of fastening-plates c', which project from the rim of the ratchet-wheel and clamp cross-bars d, extending across the space within the 40 rim and fastened to the inside of the latter. The fastening-plates c' are clamped to the spokes of wheel C by clamps e, so that, if desired, the rim and ratchet-wheel may be made 45 to revolve with the wheel C, or, by unfastening clamps e, they may revolve independently of wheel C.

In light ground, where the cogged rim is not necessary, it may be detached by unfastening 50 clamps c'.

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

1. In a corn-planter, the combination of the 55 sleeve or collar l, adapted to turn on the wheel hub or spindle, and having arms $l^1 l^2$, hook-

shaped markers $l^3 l^4$, hinged to the ends of said arms, yoke M, secured to and turning with the end of the axle, having slotted projections m^3 , and spring-pawls n, adapted to engage a ratchet- 60 et-rim upon the wheel and toggle-levers $m m^2$ m' , as and for the purpose set forth.

2. The combination, in a corn-planter, of the axle B, consisting of sections B' and B², sliding into and turning with each other, provided with 65 the folding markers upon their outer ends and with pulleys b^4 and b^3 upon their inner portions, with the levers D' and D, straddling the pulleys, with their lower bifurcated ends pivoted upon the frame, and connected to each 70 other by arm E, hinged to them respectively above and below their fulcrum, as and for the purpose shown and set forth.

3. In a corn-planter, the combination of the 75 folding markers L L, turning on the hubs of the wheels and connected to the shaft, the driving-wheels C, detachable cogged rim C², the sectional shaft B, and the bifurcated levers engaging with pulleys on the sections of the shaft, as and for the purpose shown and set 80 forth.

4. In a corn-planter, the combination of the 85 sliding plate i, operated by the crank-shaft b', and having sideward projection i', slotted at its outer upturned end, and curved lip i², with lever K, pivoted at k, having spring k', projecting into the slotted projection i', and lug k², operating the seed-slides, as and for the purpose shown and set forth.

5. In a corn-planter, the combination of the 90 sectional axle B, double crank b, sliding plate i, having slotted downward projection I, slotted projection i', and curved lip i², and seed-slide-operating lever K, having spring k' and lug k², and pivoted at k, as and for the purpose shown and set forth.

6. The herein-described corn-planter, consisting of the frame, the sectional axle capable of lateral extension and contraction, a double crank, the folding markers, the wheels having 100 a ratchet-wheel and a detachable cogged rim, the hand-levers capable of being rocked simultaneously in opposite directions, and the seed-slide-operating device, substantially 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.

JOHN SWAYZE WARD.

Witnesses:

CARL JOHANN,
A. V. S. BAIRD.