

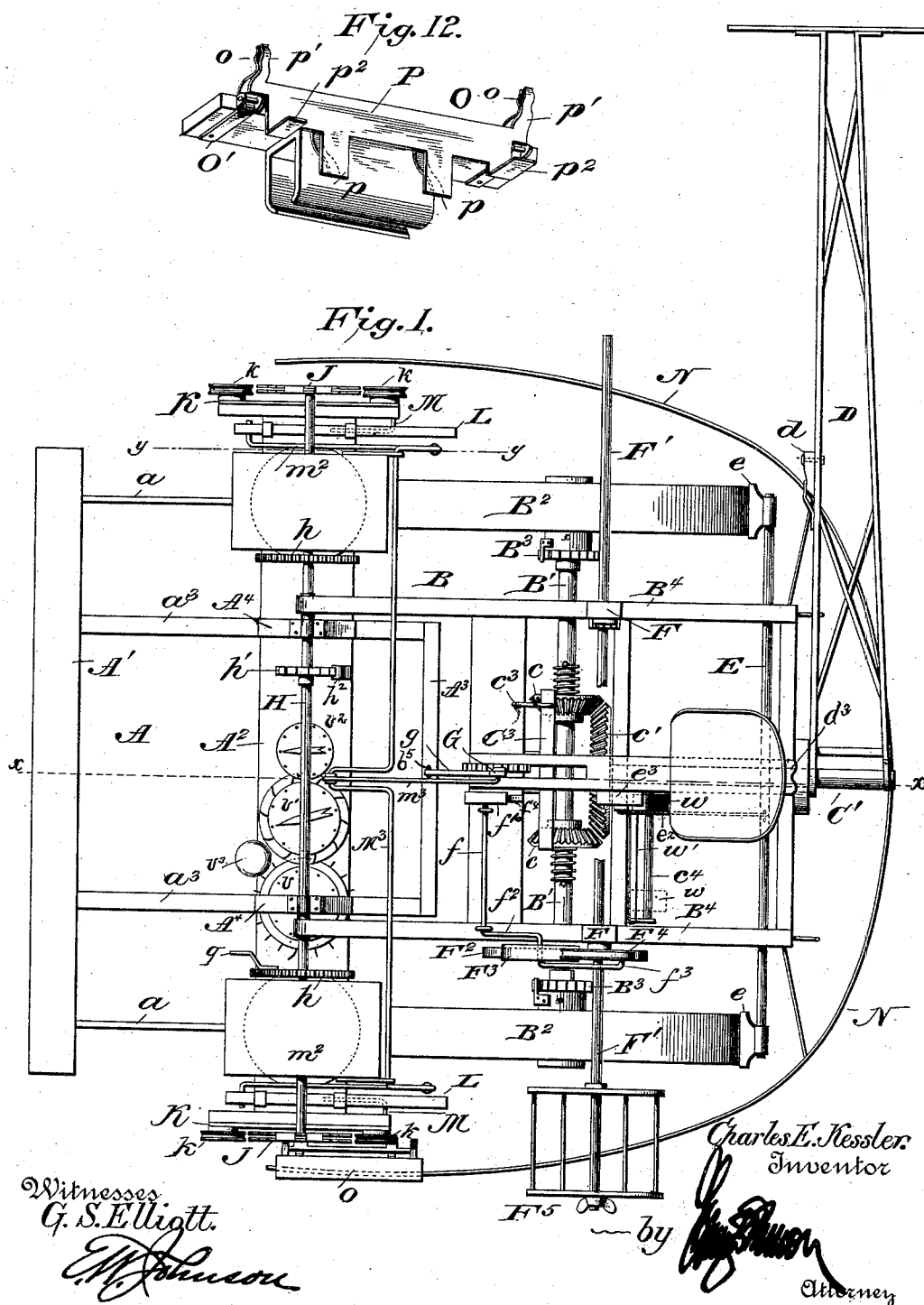
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4 Sheets—Sheet 1.

C. E. KESSLER.
CHECK ROW CORN PLANTER.

No. 476,149.

Patented May 31, 1892.



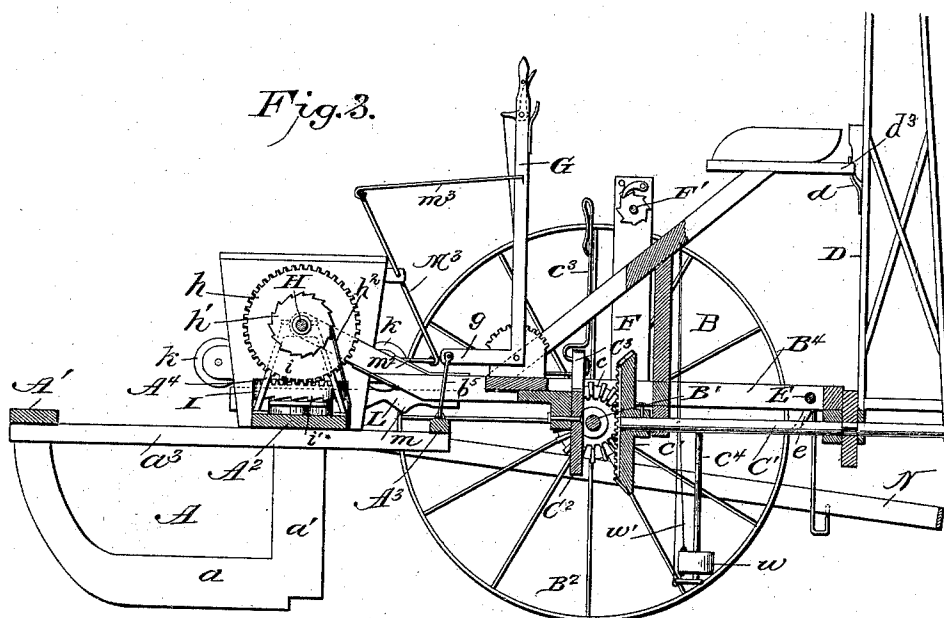
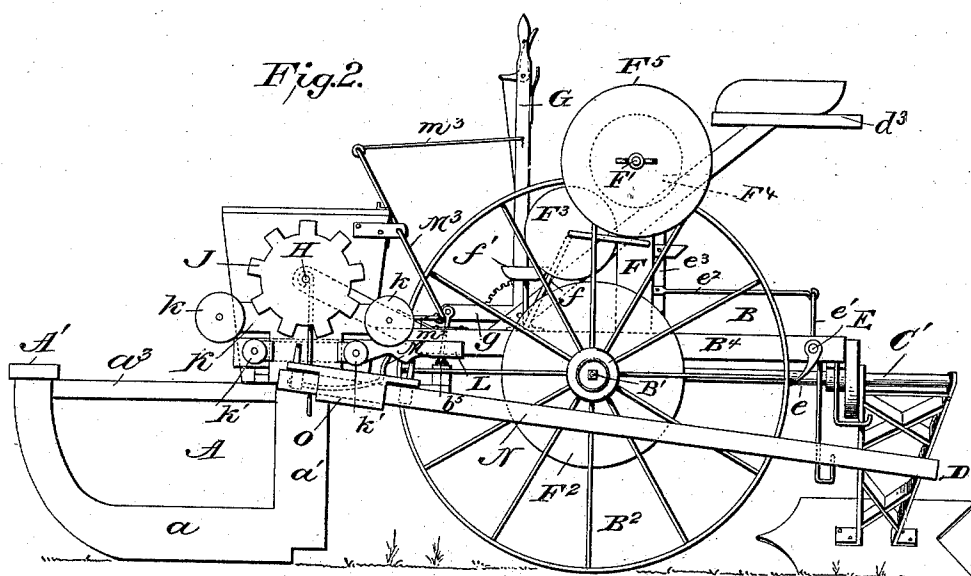
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4 Sheets—Sheet 2.

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No. 476,149.

Patented May 31. 1892.



Charles E. Kessler
Inventor

Witnesses
G. S. Elliott.
E. W. Johnson.

Inventor
by *[Signature]*
Attorney

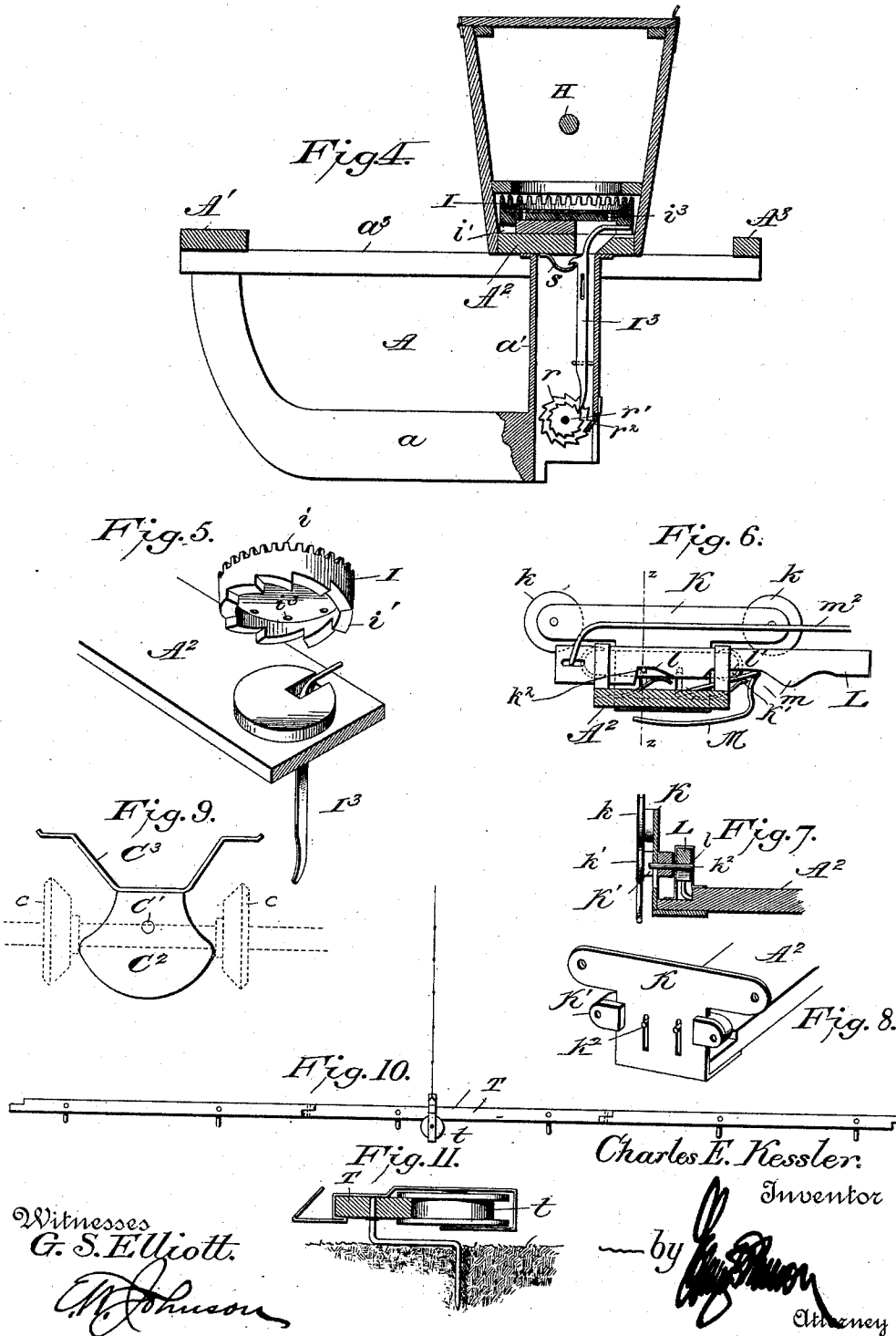
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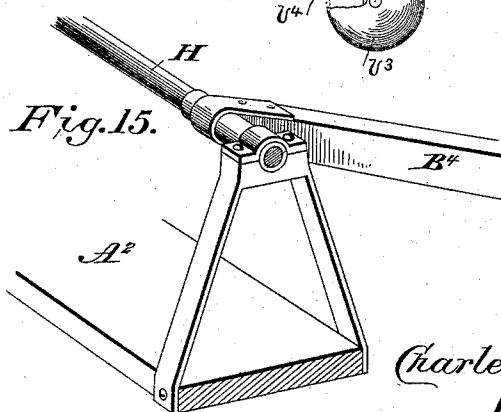
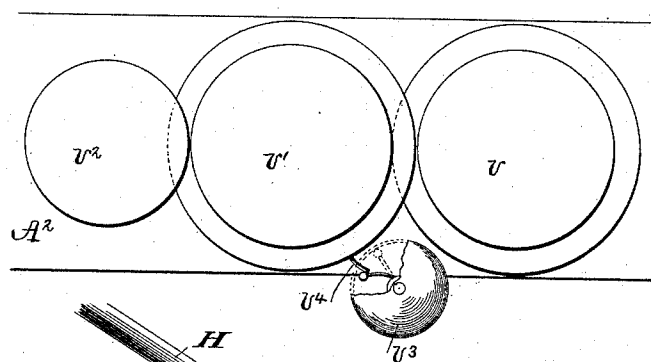
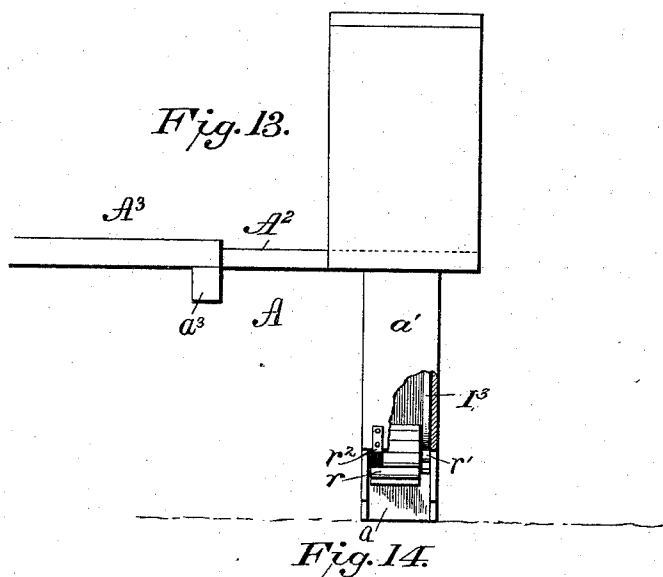
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UNITED STATES PATENT OFFICE.

CHARLES E. KESSLER, OF DECATUR, ILLINOIS.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 476,149, dated May 31, 1892.

Application filed December 17, 1891. Serial No. 415,411. (No model.)

To all whom it may concern.

Be it known that I, CHARLES E. KESSLER, a citizen of the United States of America, residing at Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Check-Row 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 This invention relates to improvements in check-row corn-planters.

The object of the invention is to provide an improved corn-planter with mechanism whereby the check-cord can be shifted from one side of the planter to the other, said check-cord operating the seed-dropping mechanism, the shaft thereof also actuating registering mechanism for determining the acreage planted.

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

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view. Fig. 2 is a side elevation, the parts being positioned as shown in Fig. 1. Fig. 3 is a longitudinal section on the line *xx* of Fig. 1, the marker being elevated. Fig. 4 is a sectional view through the seed spout and box. Fig. 5 is a detail perspective view of a portion of the seed-dropping mechanism located within the seed-box. Fig. 6 is a sectional view on the line *yy*, Fig. 1, illustrating the portion of the frame which carries the rollers over which passes the check-cord and mechanism operated thereby. Fig. 7 is a sectional view on the line *zz*, Fig. 6. Fig. 8 is a detail perspective view of the supporting-plate which carries the guide-rollers. Fig. 9 is a detached view of a cam for throwing the gear-wheels on the driving-shaft out of engagement with the shaft which carries the marker. Fig. 10 is a plan view of the anchoring-bar having a roller or pulley, to which the end of the check-cord is attached. Fig. 11 is a sectional view

of the same, taken in proximity to the pulley. Fig. 12 is a detail perspective view of the carriage for shifting the check-cord from one side of the planter to the other. Fig. 13 is a rear elevation of Fig. 4, partly in section. Fig. 14 is a view showing the mechanism for operating the bell-hammer. Fig. 15 is an enlarged view of the means for connecting the front and rear frames of the planter together.

A designates the front frame of the planter, which consists in part of the runners *aa*, having seed-spouts *a' a'*, said runners being connected to each other by the transverse beams *A' and A²*. At intermediate points the transverse beams are braced by bars *a³*, which extend to the rear of the beam *A²* and are connected to each other by a bar *A³*. This front frame is pivotally connected to the forward ends of the side beams *B⁴* of the rear or main frame B by means of laterally-extended bearings or sleeves fixed to the upper ends of supports carried by the beam *A²*, said sleeves passing through apertures in the ends of said side beams.

The main or wheel frame B is mounted upon the axle *B'*, and upon the ends of said axle are loosely journaled the drive-wheels *B²*, the hubs of which carry spring-pawls for engagement with ratchet-wheels *B³*, rigidly fixed to the axle. About centrally upon the driving-axle *B'* are mounted two bevel-pinions *cc*, which are held in sliding engagement therewith by a spline or feather, said pinions being normally thrown in engagement with a bevel-wheel *c'* by helical springs, which encircle the axle and bear against the same. These pinions are held out of engagement with the bevel-wheel *c'* and alternately thrown in engagement therewith by a cam *C²*, mounted on the frame and operated by the driver's foot, as will be hereinafter described, said bevel-wheel being rigidly keyed on the inner end of a horizontal shaft *C'*, which is journaled upon the frame and projects beyond the rear end thereof to receive a marker D. This marker is thrown from one side of the machine to the other by one of the pinions *c* meshing with the bevel-wheel *c'* to properly turn the shaft, and said marker is retained in an upright position by the catch *d* engaging with the notched end

of a plate d^3 , which projects from the driver's seat.

The cams C^2 for operating the pinions c is provided with a curved lower edge, above which the sides are cut away, as shown, a bent bar C^3 being secured to the upper edge, by means of which the operator may rock the cam to throw both pinions out of gear with the bevel-wheel by placing the ends of said cam against the hubs of the pinions or permit either one of the pinions to move in mesh by depressing one end of the cam out of engagement therewith, while the curved face bears against the other pinion to hold it. The ends of the cam are held or locked in engagement with the hubs of the pinions by a lever c^3 , which has a looped portion, which embraces the end of the bar C^3 to prevent it being operated. By this construction it will be observed that as the axle B' is rotated said power can be used to shift the marker from side to side, and at any time the marker can be raised and held out of contact with the ground. The shaft C' , which carries the marker, is provided with an arm c^4 , having a sliding weight w , said arm being positioned on a line with the marker, so as to permit said weight to act as a counterbalance for the marker to prevent its falling in place too rapidly. The weight is slid upon the arm by means of flexible connections w' , one of which passes from the weight through an opening in the shaft C' to the driver's seat, while the other passes from the weight through a plate at the end of the arm and from there to the driver's seat.

Supported by the side beams B^4 of the main frame is a transverse shaft E , which carries scrapers e at its ends, which are adapted to contact with the periphery of the drive-wheels, said shaft being operated by a T-shaped rocking lever e^3 , pivoted to the seat-support and connected to an arm e' on the shaft by a rod e^2 .

Upon the side beams B^4 of the main frame B are rigidly secured uprights F' , which have bearings for a horizontal shaft F' , the ends of which project beyond the sides of the planter to receive the spool or reel F^5 , which carries the check-cord, and this shaft is operated from the axle by the disks F^4 and F^2 , between which is interposed a disk F^3 . The interposed disk F^3 is mounted on the bent end of a rock-shaft f , said disk being thrown in and out of engagement with the disks F^4 and F^2 by the operator rocking the shaft by means of the foot-piece f' , beneath which is a spring f^4 for moving said foot-piece in one direction to normally hold the disk F^3 away from the disks F^4 and F^2 . The outer end of the rock-shaft f is extended beyond the periphery of the disk F^3 and bent so that when said disk is moved away from the disks F^4 and F^2 the extended end of the shaft will contact with the periphery of the disk F^4 and act as a brake. The spool F^5 , which carries the check-cord, is removable from the shaft, so that it may be

placed on either end or in operation on the opposite side of the planter from that occupied by the marker.

G designates a lever, which is pivoted on the seat-support and is provided with a forwardly-projecting portion g , which is connected to the rear transverse bar A^3 of the front frame by a link b^5 , so that when this lever is operated the position or angle of the frames A and B with respect to each other can be varied. The lever is held in an adjusted position by means of a pawl located thereon engaging with a curved rack-plate, as shown. This lever is connected above its pivot-point to a shaft, which is mounted on the seed-boxes, and is adapted to operate in connection with the check-row mechanism, as will be hereinafter described.

H designates a shaft, which passes through the seed-boxes, and upon which shaft the forward end of the main frame is mounted. The shaft H carries adjacent to the inner side of each seed-box a gear-wheel h , which actuates a crown-wheel I , located under the seed-box, said crown-wheel having gear-teeth i upon its upper edge, while its lower edge is formed with ratchet-teeth i' , which actuate the second drop-valve adjacent to the lower end of the seed-spout a' through the intervention of the bar I^3 . The shaft H is held against backward rotation by a ratchet-wheel h' , with which a spring-pawl h^2 engages. Forked or armed wheels J are mounted on the ends of the shaft H , under which the check-cord passes for turning said shaft, said cord being also passed over suitable guide-pulleys. The teeth of the wheels J are notched, so that the cord will enter said notches, while the knots will lie between the teeth.

K K designate plates attached to each end of the beam A^2 . The upper end of each plate is extended forward and rearward to support guide-rollers k k , and beneath these rollers and upon the ends of a bar K' , movably attached to said plate, are mounted guide-pulleys k' . The bar K' is provided with projecting pins k^2 , which pass through slots in the plate K , the opposite ends of said pins being engaged by a sliding bar L , located in loops secured to the beam A^2 . This sliding bar is provided with projections l and l' on its under edge, which will pass over the pins k^2 when the bar is moved forward, so as to depress the bar K' . In addition to the inclined recesses mentioned, this bar has, also, a depending portion m , which is adapted to contact with the spring-bar M , carried by the beam A^2 , so that said spring-bar will be elevated and depressed by the sliding bar L to operate the jaws of the cord-carrier. (Illustrated in Fig. 12.) The forward end of the bar L is slotted to receive a rod m^2 , which is connected to the bent end of a rock-shaft M^3 , said rock-shaft being operated by the lever G by means of the rod m^3 . When the shaft is rocked, the spring-bar M will be properly manipulated to depress the spring-bar M

and bar K', carrying the pulleys, so as to lower the position of the check-cord to cause the carrier-fingers to engage therewith in shifting the same from one side of the planter 5 to the other.

N designates a track, which is supported by the frames A and B and extends around the rear end of the planter and below the marker. Upon this track or bow is mounted 10 a traveling carriage O, having depending pieces, which embrace the track to hold it thereon. The plate O' has attached to its inner edge upwardly-projecting spring-fingers o, and adjacent to said fingers is pivotally secured a plate P, having upwardly-projecting 15 fingers p', which are moved in contact with the fingers o by springs bearing against the depending members p of said plate. This plate has, also, outwardly-projecting members 20 p², which are adapted to be engaged by the bar M, and when in engagement with said bar will compress the springs and move the plate P to separate the fingers and permit the check-cord to be grasped between said 25 fingers, so that it can be carried by said carriage from one side of the planter to the other.

When it is desired to transfer the cord from the forked wheel J to the carrier O, the carrier is brought to the position shown in Fig. 30 1 and the jaws thereof will be opened. The cord is then released from the wheels which operate the seed-dropping mechanism and is grasped between the spring-actuated fingers of the carrier, when said carrier is transferred 35 to the opposite side of the machine, where the cord is placed in engagement with the forked wheel J, mounted on the shaft H.

The beam A² between the seed-boxes carries a number of dials or disks V V' V², having indicating marks or figures and geared to 40 each other, said dials being actuated by a finger g, carried by one of the gear-wheels h, so that the amount of ground planted can be readily determined. The registering mechanism 45 is also provided with an alarm-bell V³, which will be sounded at a proper time, as on the completion of each acre, the hammer of the bell being actuated by a projecting pin V⁴, carried by the registering mechanism.

Near the base of each seed-spout and within the same is secured a serrated or fluted-faced cylinder r, adjacent to which is secured a ratchet-wheel r', with which the 50 lower end of a vertically-movable bar I³ engages, said bar being held normally elevated by a spring s and moved downward by contact with the inclined faces r' of the crown feed-wheel I, said crown-wheel being provided 55 with perforations r², through which the seed passes to the feed-ducts in the seed-spout. Against the serrated or fluted cylinder r a spring-finger r² bears, which is projected outward to permit the seed to pass beyond the same when the feed-cylinder is rotated and 65 to avoid backward rotation of said cylinder, as previously described.

T designates a jointed bar, which is pro-

vided with pins for anchoring the same to the ground, said pins being bent to permit the passage beyond them of the roller t, to 70 which the end of the check-cord is made fast, the sheath of said pulley being peripherally grooved, while the band thereof, upon which is formed the hook, is bent over to lap the front end of said bar and prevent the dis- 75 placement of said pulley.

In operation the check-cord, having been unwound from the spool or drum, is passed under the armed wheel and between the upper and lower guide-pulleys and the marker 80 positioned on the proper side of the planter. As the planter is drawn across the field, the shaft H will be turned to operate the seed-dropping mechanism, as well as the registering and alarm mechanism, projecting pins on 85 one of the dials of the registering mechanism operating the clapper of the bell. Before starting the check-cord is made fast to the pulley t. In crossing the field, should the marker meet with an obstruction the driver 90 can manipulate the cam C² to throw either one of the bevel-pinions c in gear with the bevel-wheel carried by the shaft C', so as to elevate the marker, and should it be desired said marker can be brought to and retained 95 in a vertical position and released when desired, and when released the counterbalancing-weight w can be manipulated by the cords, so as to overcome the shock incident to the falling and sudden stoppage of said marker. 100 It will also be noted that by the particular form of the hand-lever c³ the cam C² can be held in position when not in use or while the driver's attention is engaged in setting or shifting the anchor back. It will also be observed that a single lever G is used for two 105 purposes—to wit, adjusting the angle of the frames to each other so as to shift the point or contact of the runners with the ground to make a deeper or shallower furrow, and when 110 moved beyond the limit for such purpose said lever operates the mechanism for opening the fingers of the carriage for the check-row cord. It will also be noted from the previous description that means are provided for rotating 115 the shaft which carries the spool around which the check-cord is wound, so that said spool can be rotated for winding for taking up the cord and letting it out.

In using the carriage, as illustrated in Fig. 120 12, for shifting the check-cord from side to side the planter is turned so that said cord will be held substantially on the same line, thereby rendering it unnecessary to shift the position of the pulley on the bar T at the end 125 of the field where said bar is anchored.

I am aware that registering mechanism has been attached to a corn-planter for determining the acreage or number of hills planted, and do not claim such construction, 130 broadly; but as far as I am aware such mechanism has been so arranged that the index-plates and mechanism for operating them do not lie flat, but vertically, so as to obstruct the

front view, while in the present instance the indicator-plates are arranged flat and upon a part of the frame usually unoccupied.

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

1. In combination with a check-row corn-planter, a bow or track extending on each side and around the rear end of the planter, and a movable carriage mounted thereon for carrying the check-cord from one side of the planter to the other, substantially as set forth.

2. In combination with a check-row corn-planter, a bow or track supported thereby, so as to extend from one side of the planter around the end to the other, and a carriage adapted to travel thereon and provided with fingers for grasping the check-row cord, substantially as shown, and for the purpose set forth.

3. In a check-row corn-planter, the combination of a bow or track supported thereby, a movable carriage mounted thereon and provided with grasping-fingers, and a bar adapted to be projected to separate the fingers of the carriage for grasping the cord, substantially as set forth.

4. In a check-row corn-planter, the combination of the bow or frame, a carriage movably secured thereto, said carriage carrying a pivoted plate-spring actuated in one direction, and outwardly-projecting members p^2 for engagement with the bar for separating the fingers for grasping the check-row cord, substantially as shown, and for the purpose set forth.

5. In combination with a check-row corn-planter, a curved bow or track supported thereby, a movable carriage mounted on said bow or track, said carriage having grasping-fingers, outwardly-projecting members adapted to engage with an actuating-bar, and a spring for operating the fingers to open the same, so as to grasp the check-row cord, substantially as set forth.

6. The combination, with a check-row corn-planter constructed substantially as shown and provided with a horizontal shaft C' , geared to the driving-wheel of the planter, a marker secured to the rear end of said shaft, and a weighted arm c^4 , projecting from said shaft, substantially as shown, whereby the shaft C' , which carries the marker, can be caused to engage with the driving-shaft and be turned thereby, for the purpose set forth.

7. In combination with a corn-planter, a marker secured to a horizontal shaft supported in bearings, an arm c^4 , rigidly secured to said shaft, a weight mounted on said arm, and means for sliding said weight, substantially as shown, and for the purpose set forth.

8. In combination with a corn-planter, a marker mounted on a shaft, substantially as shown, an arm c^4 , rigidly secured to said shaft, and flexible connections attached to

said weight, one of said connections passing through a plate carried by the free end of said arm, substantially as set forth.

9. In combination with a shaft C' , carrying a marker and bevel-wheel, bevel-pinions c , held to move with the drive-shaft, and a cam C^2 , suitably pivoted and adapted to hold the pinions out of mesh with the bevel-wheel or throw them alternately in engagement therewith, substantially as shown, and for the purpose set forth.

10. In combination with a shaft C' , carrying a marker at one end and bevel-wheel at the other, sliding bevel-pinions c , spring-actuated in one direction, and a cam C^2 , adapted to engage with said pinions to throw either one or both out of engagement with the bevel-wheel carried by the shaft, substantially as shown, and for the purpose set forth.

11. In combination with the gearing constructed, substantially as shown, for operating a marker, a cam C^2 , provided with a plate or bar C^3 for rocking the same, and a lever c^3 , pivoted to the frame adjacent to the bar C^3 of the cam, said lever having bent portions adapted to hold the cam in different positions, substantially as set forth.

12. In a planter, the combination of a cord-carrying carriage and track therefor, and a lever G , connected to a movable bar L , said bar being adapted to actuate the bar M in one direction for opening the grasping-jaws carried by the movable carriage, substantially as shown, and for the purpose set forth.

13. The combination, in a check-row corn-planter, of fixed guide-pulleys, a forked wheel located between said guide-pulleys, a vertically-movable bar carrying inwardly-projecting pins, guide-rollers mounted on said bar, and a sliding bar L , adapted to engage with the projecting pins, so as to depress the bar carrying the guide-rollers to release the check-row cord and at the same time operate grasping-fingers attached to a carrier, substantially as shown, and for the purpose set forth.

14. In a check-row corn-planter, the combination of a frame or plate K , carrying guide-rollers, vertically-movable guide-rollers k' , mounted on a bar having projecting pins, a spring for holding said bar normally elevated, and a movable bar L , having an inclined lower edge adapted to engage with the vertically-movable bar K' for ejecting the cord, substantially as set forth.

15. In a check-row corn-planter, the combination of fixed or permanently-mounted guide-rollers, a vertically-movable bar K' , carrying smaller guide-rollers, said bar being held normally in a raised position by springs, an arm M , together with a sliding bar L , which engages with pins carried by the vertically-movable bar K' , and oppositely-inclined portion m for depressing the bar M , so as to contact with grasping-fingers of a movable carriage to open or throw apart said fingers to permit

the entrance between the same of the cord, substantially as shown, and for the purpose set forth.

16. In combination with a check-row corn-planter, a lever G, pivoted to the main frame B thereof and connected by a link to the rear portion of the front frame, said frames being pivotally connected, substantially as shown, and a crank-shaft connected to the lever G above its pivot and by a rod m^3 to a sliding bar for actuating said sliding bar and mechanism engaged thereby, so as to lower the check-cord and cause the fingers of the carrier to engage therewith, substantially as shown, and for the purpose set forth.

17. In a seed-planter, the combination of a feed-wheel I, having gear-teeth i , horizontal plate with perforations and ratchet-teeth, an apertured disk lying partially within the lower portion of the crown-wheel, and a vertically-movable bar I^3 , spring-actuated in one direction, said bar being adapted to be engaged by the ratchet-teeth, and when depressed will turn the lower feed-cylinder, substantially as set forth.

18. In combination with a shaft H, driven by a check-cord, substantially as shown, a gear-wheel having a projecting finger q , horizontal dials geared to each other and adapted to be actuated by said finger, one of the dials carrying a projecting finger, which actuates a bell-hammer, substantially as set forth.

19. In combination with a check-row corn-planter, a shaft H, driven by a check-cord and provided with means for actuating the seed-slides, a series of dials mounted on the horizontal beam A^2 of the front frame between the seed-boxes, the first of said dials having projecting pins, with which the finger q engages, and a projecting finger for actuating a bell-hammer, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. KESSLER.

Witnesses:

LEONARD HERMAN,
M. J. WALLACE.