W. B. CHAMBERS & J. E. BERING.

Corn-Planter.

No. 207,251. Patented Aug. 20, 1878.

Fig. 1.

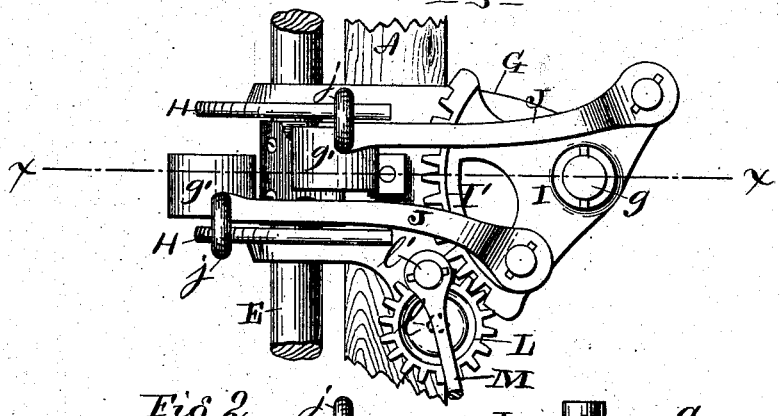


Fig. 2.

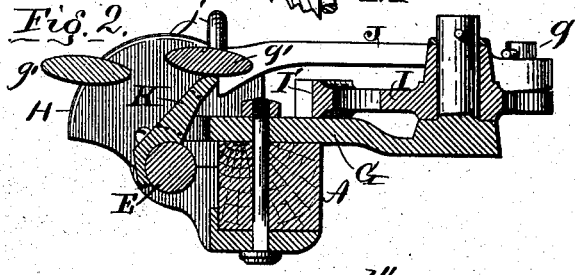
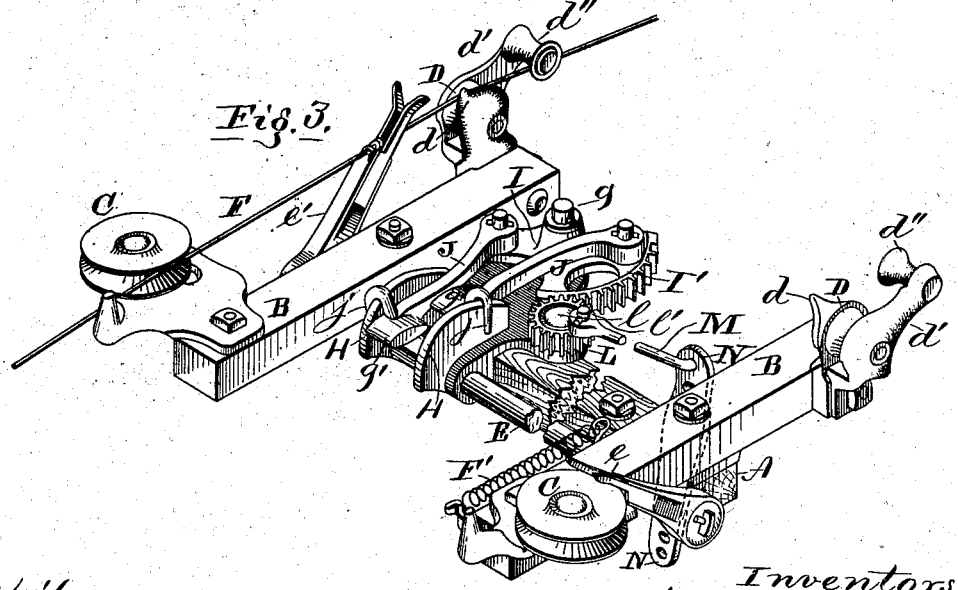


Fig. 3.



Witnesses;
M. H. Barringer.
John Wilson.

Inventors;
Wm. B. Chambers,
Jas. Edwan Bering,
By W. B. Richards
atty.

UNITED STATES PATENT OFFICE.

WILLIAM B. CHAMBERS AND JAMES E. BERING, OF DECATUR, ILLINOIS, ASSIGNORS TO CHAMBERS, BERING & QUINLAN, OF SAME PLACE.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **207,251**, dated August 20, 1878; application filed August 3, 1878.

To all whom it may concern:

Be it known that we, WILLIAM B. CHAMBERS and JAS. EDWARD BERING, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Corn-Planters; and we do hereby declare that the following is a full, clear, and exact description thereof, 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, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is an enlarged top-plan view of parts shown at Fig. 3. Fig. 2 is a sectional view in the line *x x* in Fig. 1. Fig. 3 is a perspective view of a construction embodying our invention, partly broken away to diminish the surface covered by the drawing.

Our invention relates to devices for actuating the seeding mechanism of corn-planters, and specially to that class of devices which are seated on the corn-planting machine as attachments, and are adapted to be operated by a knotted check-row wire or cord; and the invention consists in combining, with a pinion and the devices actuated thereby, a segmental gear, for giving an oscillating motion to the pinion, and constructed to act as a stop at the end of each throw of the pinion.

The invention also consists in arranging the oscillating pinion relatively with the seed-slides and connecting-rod therewith, in such manner that the connecting-rod will be over or nearly over the center of the pinion at the end of each throw of the slides, and will prevent any accidental jar from operating the slides.

The invention also consists in constructions and combinations hereinafter described and claimed.

Referring to the drawings by letters, letter A represents a transverse bar, with head-bars B B on each end, having guide-pulleys C on their front ends and guide-pulleys D on their rear ends, and a rock-shaft, E, with forked lever *e* on one end, and another, *e'*, on its other end.

F is a stretched knotted wire or cord for actuating the rock-shaft E in one direction by contact with the forked levers *e e'*, and F' is a spring which gives it the necessary return movement.

The foregoing parts are of common and ordinary construction and operation, and need not be further described here.

The rear pulleys, D, have each an arm, *d*, projecting upward on its inner side, to prevent lateral displacement in that direction of the cord or wire F, and an arm, *d'*, projecting rearward at an incline, and provided with a pulley, *d''*, which retains the cord or wire upon the pulley D, and prevents lateral displacement in the direction opposite from the arm *d*.

G is a plate affixed to the bar A, and has cam-tracks H at its front end, and a stud, *g*, at its rear end, on which is journaled a bar, I, carrying pawls J J, the forward ends of which have guard-arms *j* to keep them in place on the cam-tracks H, and cams *g'* to properly elevate the pawls in passing each other. The parts described in this paragraph are same as the similar parts described in patent to Jas. E. Bering and A. and M. Barnes, No. 197,818, except that the cam-tracks H have not any "shoulders *i*," and the bar I has not any "arm *e''*," as described in said patent, and the bar I has in our improved device a segment-gear, I', on one end. The pawls J receive motion alternately from a tappet, K, on the rock-shaft E, and thus impart an oscillating movement to the bar I, same as in aforesaid patent, and therefore not needing description here.

L is a pinion, journaled on a stud, *l*, which projects upward from the plate G. The pinion L gears with the segment-gear I', and has a wrist-pin, *l'*, from which a connecting-rod, M, extends to the upper end of a lever, N, which is fulcrumed at its midlength to the bar A, and the lower end of which may be connected to the ordinary bar which connects the seed-slides of a corn-planter, and by which they are operated.

It will be seen that the oscillating motion of the rock-shaft E will impart alternate reciprocating movement to the pawls J, and thus oscillate or vibrate the segment-gear I', which will in turn impart a rocking or reciprocating rotary movement to the pinion L, and thus give the necessary oscillating movement to the lever N by means of the connecting-rod M.

The segment-gear I′ has such number of teeth that they are exhausted at the end of its throw in each direction, as shown at Figs. 1 and 3 of the drawings, and its ends thus become a lock to prevent the further movement of the parts in one direction, while the relative positions of the connecting-rod M and pinion L (the rod M on or near the center of the pinion) will prevent a movement in the other direction, except it comes through a movement of the segment-gear I′, and thus prevent any sudden jars of the corn-planter or other causes from moving the seed-slides.

It will readily be seen that the pinion L may have a limited number of teeth as an equivalent stop device for the limited number in the segment-gear I′.

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

1. In a check-row attachment for corn-planters, a segment-gear, I′, constructed with its ends adapted to act as stops for the pinion L, in combination with said pinion and rod M, whereby said pinion is revolved half a revolution at each throw, substantially as described, and for the purpose specified.

2. The rock-shaft E, tappet K, and pawls J J, in combination with the segment-gear I′, pinion L, and connecting-rod M, substantially as described, and for the purpose set forth.

3. In a check-row attachment to corn-planters, an oscillating pinion, L, and rod M, for actuating the planter seed-slides, relatively arranged with each other and with the slides, so that the rod M is brought in line or near in line with the center of the pinion at each end of the throw of the seed-slides, so as to act as a stop to prevent movement of the slides until moved by the pinion, substantially as and for the purpose specified.

4. In a check-row attachment to corn-planters, an oscillating pinion, L, and rod M, for actuating the seed-slides, relatively arranged as described, in combination with a segment-gear, I′, substantially as and for the purpose specified.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

WILLIAM B. CHAMBERS.
JAMES EDWARD BERING.

Witnesses:
W. B. RUSH,
J. M. HUGHES.