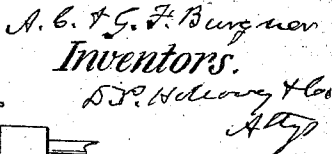


Corn-Planters.

Patented Feb. 4, 1873.



UNITED STATES PATENT OFFICE.

ALLEN C. BURGNER AND GEORGE F. BURGNER, OF CHARLESTON, ILLINOIS.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 135,521, dated February 4, 1873.

To all whom it may concern:

Be it known that we, ALLEN C. and GEORGE F. BURGNER, residing at Charleston, in the county of Coles and State of Illinois, have invented certain Improvements in Corn-Planters, of which the following is a specification:

The nature of our invention consists, first, in the combination, with the dropping mechanism, of markers which operate in unison with the droppers, and mark check-rows midway between the respective outside rows being planted and the respective lines where the next adjacent rows should be planted; so that such check-rows may be used as guides in planting the return rows; second, in the combination, with the dropping mechanism and the markers, of adjusting devices affording the means for readily adjusting the same, so that at the beginning of a return row the marker over the check-row shall step into the prints previously made; this adjustment becomes also necessary during the progress of planting a return row when, by reason of unevenness of the ground or other causes, the marker over the check-row misses the guide-prints; third, in making the connection between the markers and the shaft, or other device by which they may be operated, yielding to guard against breakage in case the markers strike a rock or other unyielding object.

Figure 1 is a plan view of our improved corn-planter. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a vertical transverse section. Figs. 4 and 5 are detail views on an enlarged scale.

The same letters of reference are employed in all the figures in the designation of identical parts.

The various parts of the machine are mounted upon a suitable frame, which is carried upon the axle of two supporting-wheels. The latter turn loosely upon the axle, and are provided with pawls engaging with ratchet-wheels keyed to the axle, all in such manner that the axle will be turned only when the machine is drawn forward. This arrangement of parts also permits the machine to be turned within a smaller compass and with greater facility than it could be were the wheels fast to the axle. The machine illustrated in the drawing is intended to plant two rows of corn at a

time, and is consequently provided with two drills, A and B, which are hung upon a transverse shaft, C, and may be tied to the frame in any preferred manner. The respective drills are surmounted by or terminate at the upper end in hoppers A¹ and B¹, having each a perforation in its bottom, through which the seed falls into apertures of measured capacity in the reciprocating slide D, which is located directly under the bottoms of the hoppers and between them and narrow plates D' fastened centrally in each drill transversely to the slide. Beneath the plates D' the drills are divided vertically by a short partition, *a* and *b*, forming two chambers, receiving seed alternately from the seed-slide. At the lower end of the vertical partition is a valve, E, extending horizontally from a vertical spindle, E¹, which has its bearings on the partition at one side of the drill, or when the drill has the form shown in Fig. 5 in the angle of the converging sides and terminates at its upper end in a crank, E², the wrist-pin *e* of which passes into a slot, *d*, in the seed-slide. The valve E is thus oscillated by the reciprocating seed-slide, and is caused to close the bottom of the chambers of the drill alternately to support the seed falling from the slide. From the plane in which this valve oscillates up some distance the back of the drill is composed of wire-gauze, or some other transparent material, A² and B², to give the driver an opportunity to watch the action of the dropping mechanism. The shaft C carries a loose gear-wheel, F, which is driven through intermediate gearing from the axle of the machine. The hub F' of this wheel constitutes one section of a clutch, which may be engaged by the lugs of the sliding clutch G, which turns with the shaft, being secured thereto by a feather and groove in the well-known manner. The clutch-box G is controlled by a shipper, H, which is pivoted at *h* on the frame and operated by a treadle, H', in convenient proximity to the driver's seat. The long or forked arm of the shipper is pressed toward the wheel F by a spring, *h'*, so that the clutch shall ordinarily engage the lugs on the hub of the wheel and cause the rotation of the shaft C when the axle is revolved. I is a cam-plate fastened upon the shaft C and turning with its periphery between lugs on the seed-

slide so as to give the latter the required reciprocating motion. The ends of the shaft C protrude some distance beyond the frame, and at each end is pivoted a marker, K, the pintle connecting the two standing at a right angle to the bar or legs of the marker, so that when the feet of the latter strike an impediment like a rock the marker may turn on its pivot. The joint is made stiff enough for the ordinary purposes of marking by springs L and L', which are fastened at one end either to the shaft or to the marker, and lap over the joint with their other ends, as best illustrated in Fig. 1. The legs and feet of the markers may be made rigid and inadjustable, or adjustable and flexible, as preferred. The distance of the markers upon the drills is equal to half the distance between the drills, so that they will mark check-rows upon each side of the machine midway between the respective rows planted by the drills A and B and the line where the next adjacent rows should be planted in returning. As the machine drops seed twice during each revolution of the shaft, therefore we use markers which will make two impressions during each such revolution, so that the number of marks will be equal to the number of hills planted. In planting the return rows the inside marker should stand over the check-row and step into the marks previously made in order to plant in rows longitudinally and transversely. In order to attain this end when the marker does not happen to step into the check-row marks at the beginning of a return row, or to readjust the markers with reference to such marks when they overstep or miss the marks during the progress of planting a return row, we have provided a loose spur-wheel, M, upon the shaft C, meshing into the segmental rack N' of a hand-lever, N. The hub of the wheel M ter-

minates in lugs corresponding to recesses in the adjacent end of the clutch G. The distance between the wheels M and F being such that the clutch G can engage only one of them at a time, the shaft may be turned independent of the axle of the machine by means of said clutch and the gearing M N' to regulate the position of the markers at any time with reference to the check-row marks.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a seed-planter, the combination of a seed-dropper, check-row markers, and intermediate devices which connect the dropper and markers, and cause them to act simultaneously.

2. A seed-dropper and check-row markers connected together as stated in the first claim, in combination with gearing for imparting motion to the dropper and markers, and devices by which the connected dropper and marker may first be disconnected from the actuating-gearing and then be shifted, for the purpose set forth.

3. The shaft C I, seed-slide D, and markers K, in combination with the loose wheel F F', sliding clutch G, and gearing M N', substantially as and for the purpose specified.

4. The combination of the shaft C or its equivalent and markers K pivoted thereto, the joint being stiffened by springs, substantially in the manner and for the purposes specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALLEN C. BURGNER.
GEORGE F. BURGNER.

Witnesses:

ANDREW MOORE,
I. H. SEARFOSS.