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Seed Droppers.

No. 119,325.

Patented Sep. 26, 1871.

Fig. 1.

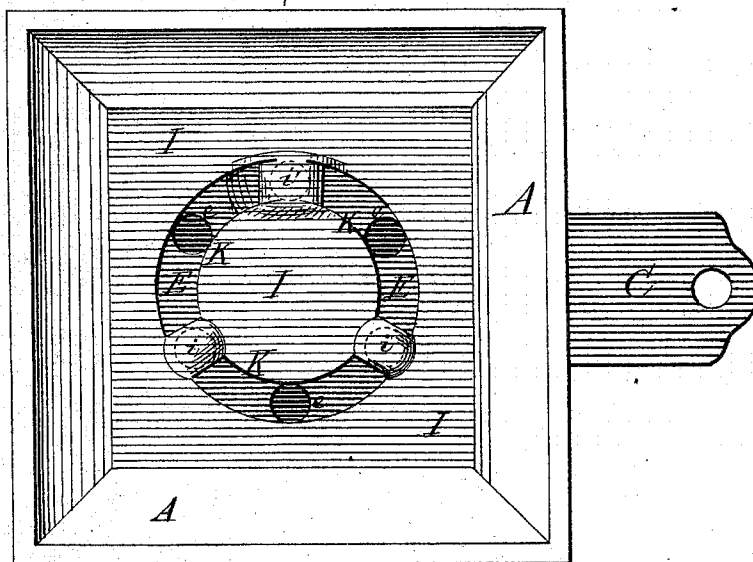
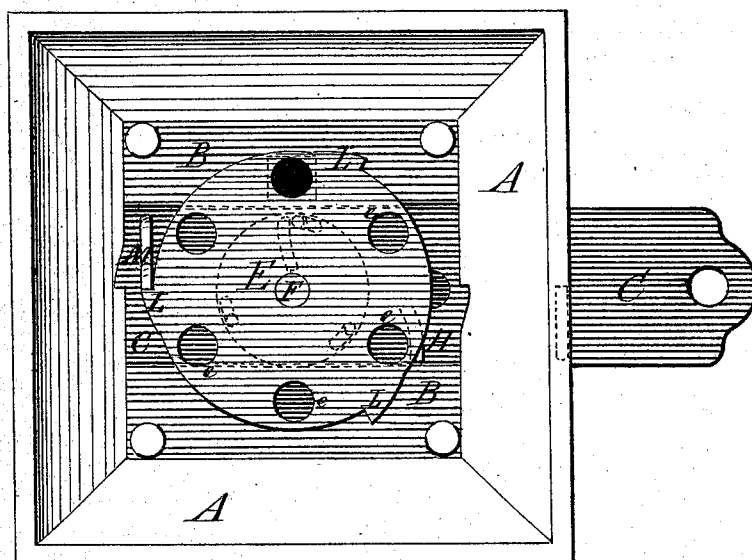


Fig. 2.



Witnesses.

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Prindle & Tyer, their attys.

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Fig. 3.

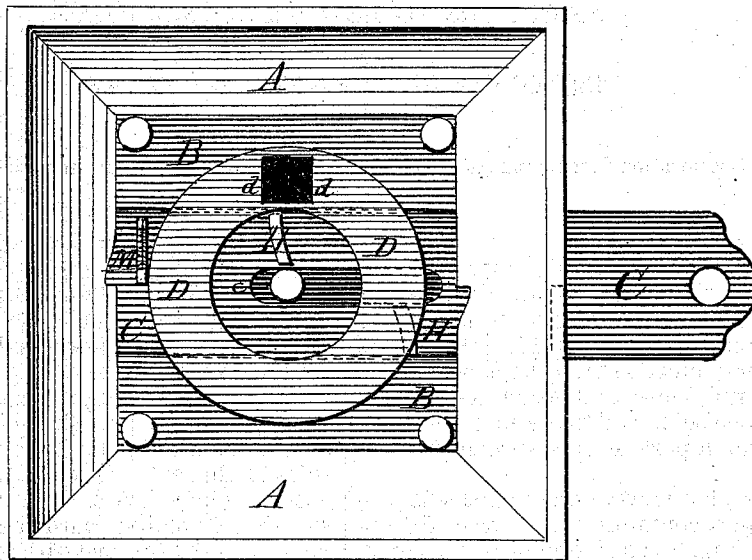


Fig. 4.

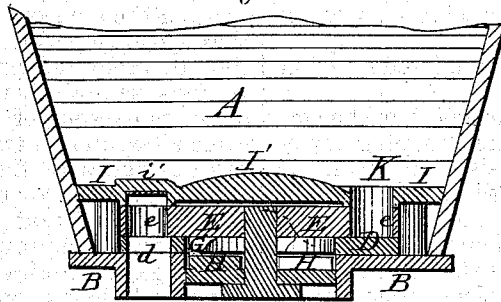
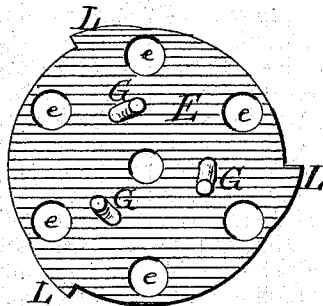


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

LEWIS H. CONVERSE AND JAMES K. WELTER, OF SPRINGFIELD, ILLINOIS,
ASSIGNORS TO LEWIS H. CONVERSE.

IMPROVEMENT IN SEED-DROPPERS.

Specification forming part of Letters Patent No. 119,325, dated September 26, 1871.

To all whom it may concern:

Be it known that we, LEWIS H. CONVERSE and JAMES K. WELTER, of Springfield, in the county of Sangamon and in the State of Illinois, have invented certain new and useful Improvements in Corn-Planters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of the upper side of a seed-box or hopper containing our improved dropping devices. Fig. 2 is a like view of the same, with the covering-plate removed from over the dropper. Fig. 3 is a similar view of said parts, with both covering-plate and dropper removed. Fig. 4 is a vertical central section upon the line *xx* of Fig. 1, and Fig. 5 is a plan view of the lower side of said dropper.

Letters of like name and kind refer to like parts in each of the figures.

Our invention is an improvement in the construction and operation of the dropping device of a corn-planter; and it consists, principally, in the peculiar construction of the dropper and in the means employed for giving to the same an intermittent rotary motion in one direction, substantially as and for the purpose hereinafter specified. It consists, further, in the means employed for arresting suddenly the motion of the dropper, substantially as and for the purpose hereinafter set forth.

In the annexed drawing, A represents a hopper or seed-box of usual construction, having secured to or upon its lower open side a metal plate, B, corresponding in size and general shape therewith, and provided at its transverse center with a right-angled groove, which corresponds in transverse dimensions and shape to and receives a metal slide, C, the ends of which slide project horizontally outward beyond said hopper to a sufficient distance to enable said slide to have the necessary longitudinal reciprocating movement within its groove without withdrawing said ends within said hopper. Resting upon and secured to the plate B at its radial center is an annular metal ring, D, upon which in turn is placed a circular metal disk, E, which disk is pivoted upon a stud, F, that is secured to said plate B, and extends vertically upward through a suitable slot in the slide C, with its upper end

flush with the upper surface of said disk. The opening within the ring D corresponds in diameter to the width of the slide C, and permits the downward passage of three studs, G, which are secured upon the lower side of the disk E at equidistant points and in a line with the inner edge of said ring. Secured upon the upper face of the slide C at opposite sides of the slot *c*, and at equidistant points from and upon opposite sides of its center of vibration, are two lugs, H, each of which has a slight curve from the outside of said slide toward the center stud F, said lugs being so arranged with reference to the studs G as to cause each, when moved by said slide toward the center, to bear against one of said studs and move it forward so as to rotate the disk E one-sixth of an entire revolution, or sufficiently to bring the adjacent stud into engagement with the opposite lug when the latter is moved toward the center by the return motion of said slide. As thus arranged it will be seen that a reciprocating movement of the slide will be communicated alternately through the curved lugs to the studs attached to the disk, so as to give to the latter an intermittent rotary motion in one direction. At equidistant points around the outer side of the disk E are provided six circular openings, *e*, having each a suitable size to enable it to contain any desired charge of corn, while through the ring D and plate B is cut a similar opening, *d*, which corresponds in radial position to said openings *e*, so that when said disk is rotated by the motion of the slide its openings will be alternately brought over and caused to coincide with said openings *d*. Resting upon suitable supports immediately above the disk or dropper E is a covering-plate, I, which fills the space horizontally within the hopper, and is provided with suitable openings K that correspond in width and radial position to the openings *e* within said dropper, so as to give free access to the same for any corn placed within said hopper. The central portion I' of the covering-plate being connected with the outer portion by means of three arms, *i*, one of said arms *i*' is placed directly over the passage *d*, so as to prevent corn from dropping directly through the same from the hopper. A metal spring, *k*, secured upon the lower side of the arm *i*', and from thence extending forward with its end resting upon the surface of the dropper, serves as a scraper and removes any corn

that may project above the openings within the same.

It will now be seen that if corn is supplied to the hopper and a reciprocating motion imparted to the slide the dropper will be rotated so as to cause each of its openings to fill with corn, and in turn pass over the passage *d* and drop its contents into and through the latter. When operated quickly the weight of the dropper is sufficient to cause it to revolve beyond the desired point, to guard against which three lugs, *L*, are secured to and extend outward from the periphery of the dropper *E* in such positions as to bring one of the same directly opposite the transverse center of the slide at the precise instant that the corresponding end of the latter has moved inward to its furthest point, in which position said lug strikes against a stop, *M*, that is secured to and projects upward from the face of said slide, by which means the forward motion of said dropper is instantly arrested, the shock given to the latter being sufficient to effectually loosen any corn that may have become wedged within its cups or openings.

Although the number of openings shown is preferably employed in our machines, we do not confine ourselves to that or any especial number, as the principle of operation would be the same whatever the number of openings or proportion of parts.

It will be seen that by the use of this device each of the cups or openings within the dropper has five opportunities for becoming filled before passing over the passage to the seed-tube, and

that, consequently, little or no possibility exists of a failure of the same to become filled, and, further, that the shock caused by so suddenly checking the motion of said dropper is sufficient to loosen the contents of said cups and cause the same to fall to the ground, however firmly said contents might have become fixed therein.

In addition to the above advantages the several parts composing the device are so simple as to render no fitting up necessary other than to clean them from the sand of the molds and to drill the screw-holes.

Having thus fully set forth the nature and merits of our invention, what we claim as new is—

1. The dropper *E*, suitably pivoted at its center and provided with the openings *e* and studs *G*, in combination with the slide *C* provided with the lugs *H*, when said parts are so arranged as that a longitudinally-reciprocating movement of said slide shall cause said dropper to rotate intermittently in one direction, substantially as and for the purpose specified.

2. In combination with the slide *C* and dropper *E*, arranged as shown, the lugs *L* and stops *M*, substantially as and for the purpose set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 22d day of July, 1871.

LEWIS H. CONVERSE.
JAMES K. WELTER.

Witnesses:

GEO. S. PRINDLE,
C. S. ZANE.

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