G. W. BROWN.
Corn-Planter.

No. 198,760. Patented Jan. 1, 1878.

Fig. 1.

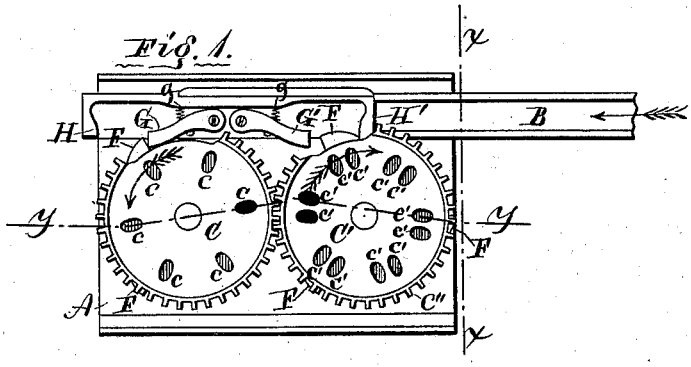


Fig. 2.

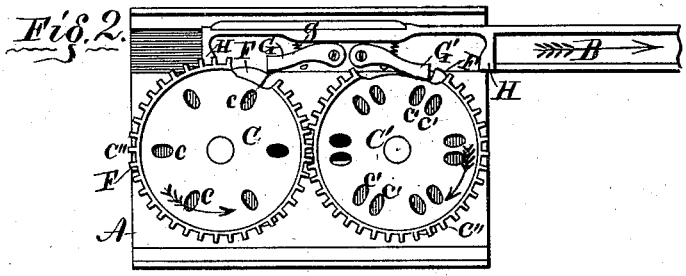


Fig. 3.

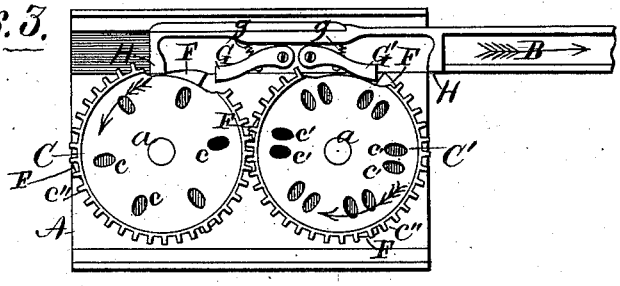


Fig. 4.

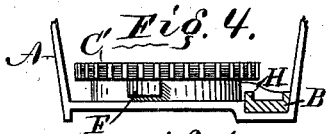
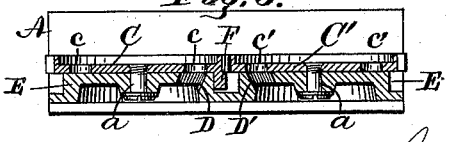


Fig. 5.



Witnesses:
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By P. R. Richards,
Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. BROWN, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **198,760**, dated January 1, 1878; application filed July 28, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. BROWN, of Galesburg, Knox county, Illinois, have invented certain new and useful Improvements in Corn-Planters; and I 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 a top-plan view of the interior of a corn-planter seed-box, with the cap or cover for the seed-slides and the cut-offs removed, and the cogs partly removed from the seed-slides to show the operation of the parts. Fig. 2 is a similar view to Fig. 1, showing the parts in different relative positions from the positions shown at Fig. 1. Fig. 3 is a top-plan view, showing the parts in different relative positions from Figs. 1 and 2. Fig. 4 is a sectional view in the line *x x* in Fig. 1. Fig. 5 is a sectional view in the line *y y* in Fig. 1.

The same letter designates the same part in each view in the drawings.

In corn-planters heretofore employing rotary seed-cup plates, single plates have been used, and where single plates were provided with seed cups or passages, each of which was to hold but one grain of corn, and arranged to drop from four or five cups at the same time, an impractical size of plate was necessitated.

One object of this invention is to overcome this difficulty; and to this end the invention consists in the use of two seed-cup plates in each hopper, geared to each other, so as to have simultaneous movements.

The mechanism heretofore employed for actuating rotary seed-cup plates in corn-planters has consisted of a bifurcated bar, which was more or less liable to derangement from the frequent turning and twisting of the seed-boxes and the frame which carried them when in use.

Another object of this invention is to impart an intermittent rotary motion to the seed-cup plates by means of devices located at one side of said plates; and to this end the invention consists in the combination of an actuating-bar with dual seed-cup plates, geared to each other, so arranged that said actuating-bar will act on the plates alternately, to impart to them simultaneous intermittent rotary motion.

The invention further consists in combinations of special devices and details of construction, hereinafter fully described, and set forth in the claims hereto annexed.

Referring to the drawings by letters, A represents a seed-box of any ordinary corn-planting machine. B is the reciprocating bar by means of which the seed-cup plates are operated. C C′ are circular disks or seed-cup plates, the one, C, provided with a series of single seed cups or passages, *c*, and the other, C′, provided with a series of dual seed cups or passages, *c′ c′*. The disks or seed-cup plates C C′ are each journaled, by an axial stud, *a*, or otherwise, in the bottom of the seed-box A, and have their edges formed into teeth *c″*, by means of which they are geared each with the other, so as to have simultaneous movements, and so that when any two of the holes *c′* in the seed-cup plate C′ coincide with the opening D′ in the bottom of the seed-box one of the passages *c* in the seed-cup plate C will coincide with a similar adjacent opening, D, both of which openings D D′ communicate with the throat of the tube which conducts the seed to the ground.

The seed-cup plates C C′ are preferably made of thin metal where the passages *c c′* are located, and seated on cylindrical elevations E from the bottom of the box A.

Each disk or plate C and C′ has a series of cam-shaped projections, F, projecting downward from its under surface, exterior to the elevations E, formed as shown in the drawings.

The end of the bar B is seated in suitable ways in the bottom of the box A, so that it may be reciprocated in close proximity to both disks C C′, and has journaled to its upper side two pawls, G G′, projecting in opposite directions, and each provided with a spring, *g*, which presses its free end toward the disks C C′. H H′ are lugs on the bar B, which act as stops, as hereinafter described.

At Fig. 1 in the drawing the bar B is represented as at the end of its throw made in the

direction shown by the arrow on the bar; and in making said throw, the spring-pawl G, acting on one of the cams or projections F, has propelled the seed-cup plate C, and with it the seed-cup plate C′, each one-sixth of a revolution, in the respective directions shown by the arrows on each seed-cup plate, and has at the same time brought the stop H′ into position to rest against a cam, F, on the seed-cup plate C′, and thus stop each seed-cup plate with a seed cup or cups coincident with their discharge-openings D D′.

In commencing the return movement of the bar B toward the right hand, the stop H′ will be withdrawn from the projection F, and the spring-pawl G′ brought into action upon a projection, F, on the seed-cup plate C′, thus giving the seed-cup plates C and C′ another forward impulse in the same direction, as hereinbefore described, and bringing the next in succession of the seed-cups *c* and *c′ c′* to the discharge-openings D D′, where they are arrested and their momentum prevented from carrying them farther by the stop H acting on one of the projections F, as shown at Fig. 3. Fig. 2 will illustrate the action of the cams F in allowing the spring-pawls to pass over them to reach their seats in their rear.

The number of projections F on each seed-cup plate should be one-half the number of seed-cups *c* or *c′ c′* in the slides C C′, respectively, so that reciprocating the bar B longitudinally will give an intermittent rotary motion to the seed-cup plates C C′, acting on them alternately, and alternately communicating motion to each directly, and also alternately to each through the instrumentality of the other, and thus bringing the seed-cups in each series *c* and *c′* successively over their respective discharges D D′.

The seed-cups *c c′ c′* being small and only receiving a grain of corn each, their arrangement, as shown and described, will discharge three grains at a time.

By using seed-cup plates having more holes in each set of the series a greater number of seeds may be dropped, and by covering the seed-cups in either or both slides in any well-known manner, any number less than the whole may be left open for planting in hills, and the discharge diminished until only one is left, in which case, by rapid motion of the seed-cup plates, the corn may be drilled, if desired.

The cut-off and cap over the seed-cup plates C C′ may be constructed in any of the well-known ways.

I claim as new—

1. The dual seed-cup plates C C′, arranged in the same seed-box, and provided with seed-cups, and geared to each other, so as to have simultaneous movements for simultaneous discharges, substantially as described, and for the purpose specified.

2. In combination with seed-cup plates C C′, geared together, a reciprocating bar provided with devices which, acting on the disks alternately, will produce intermittent rotary motion of said disks, substantially as and for the purpose specified.

3. In combination with seed-cup plates C C′, geared to each other, and provided with projections or cams F, a reciprocating bar, B, having pawls G G′, substantially as and for the purpose specified.

4. In combination with seed-cup plates C C′, geared to each other, and provided with projections F, a reciprocating bar, B, having spring-pawls G G′ and stops H H′, substantially as and for the purpose specified.

5. The seed-cup plates C C′, journaled on elevations E, and provided with cams F, exterior to and projecting downward over the elevation E, substantially as described, and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE W. BROWN.

Witnesses:

I. S. PERKINS,

JAMES E. BROWN.