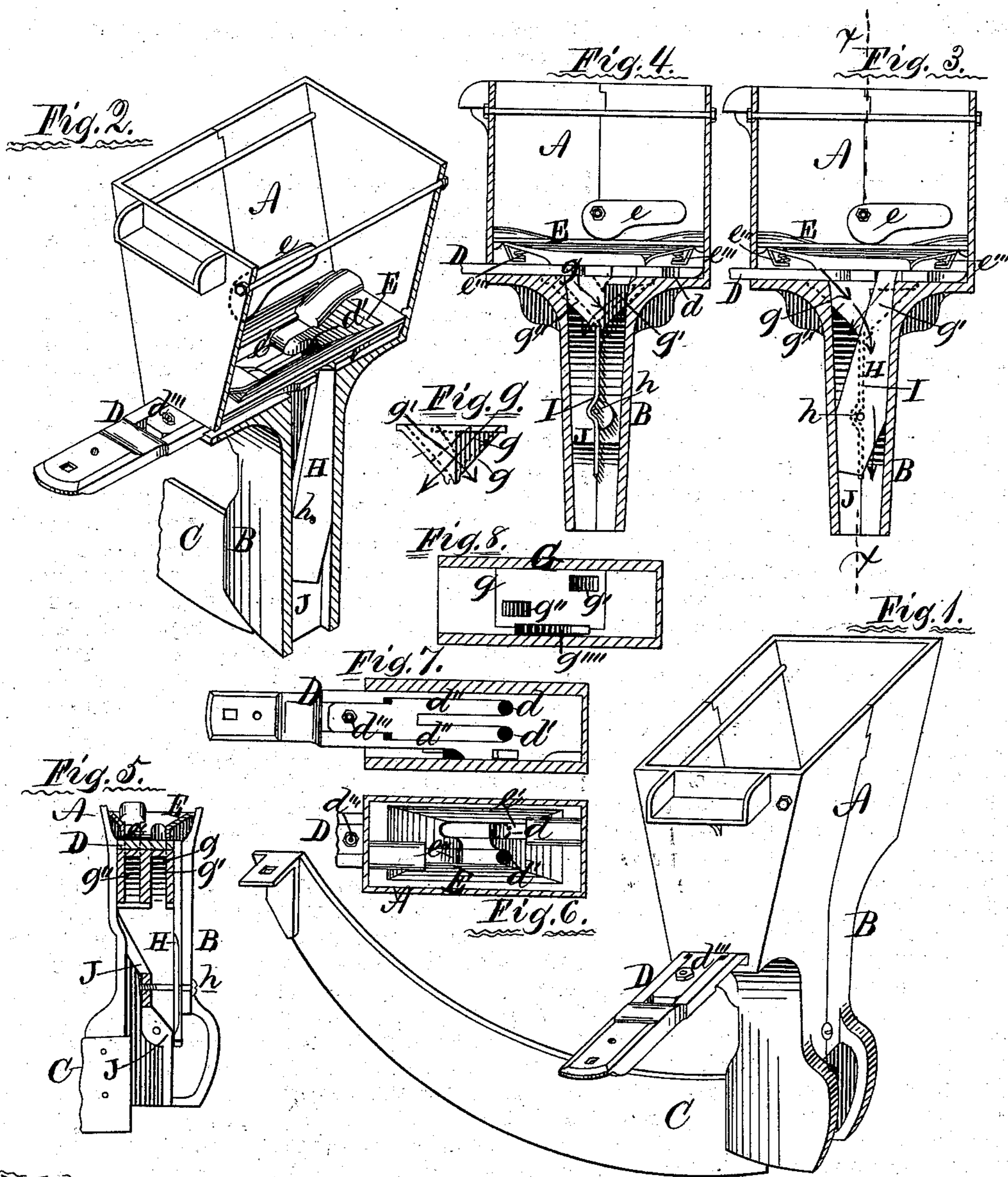


G. W. BROWN.
Corn-Planters.

No. 154,452.

Patented Aug. 25, 1874.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. BROWN, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 154,452, dated August 25, 1874; application filed February 7, 1874.

CASE E.

To all whom it may concern:

Be it known that I, GEORGE W. BROWN, of Galesburg, county of Knox and State of Illinois, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification:

The present invention relates to improvements in that class of corn-planters carried upon wheels, or wheels and runners, and in which what is known as a slide seed-cup bar is used for separating the seed intended for each hill from the mass of seed in the box; and it consists partly in improvements in the seed-cup bar, and partly in improvements in the cap and the arrangement of the cut-offs, and partly in the throat to the seed-tube, and partly in devices within the seed-tube, and constituting what is generally known as the lower dropper.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of seed-box, seed-tube, runner, and one end of seed-cup bar. Fig. 2 is a perspective view of the same parts, with the runner and the rear side of the seed-box and seed-tube broken away. Fig. 3 is a rear elevation of Fig. 2. Fig. 4 is the same as Fig. 3, with the vibrating valve or flipper removed. Fig. 5 is a sectional view of Fig. 3 on the line *xx*. Fig. 6 is a top view of the cap and slide beneath it. Fig. 7 is a top view of the slide or seed-cup bar alone. Fig. 8 is a top view of the throat to the seed-tube, with the parts above removed; and Fig. 9 is a rear elevation of the throat-piece.

The dropping mechanism heretofore used in machines of this class has consisted of a seed-cup bar, in which the seed-cups were arranged at some distance apart longitudinally in the bar, and the cut-off was so arranged centrally in the seed-box that the seed-cups approached it alternately from each side; and in order to give each cup travel enough to insure its filling with seed, with said arrangement it was necessary to project the end of the seed-cup bar through the outer side of the seed-box,

which was attended with several well-known disadvantages, and allowed of no remedy except a change of the operating devices, or else an unseemly and unpractical enlargement of the seed-box.

One of the principal objects of my invention is to remedy the above-named defect, and to provide a dropping device in which the seed-cups may have all the necessary travel, and the end of the seed-cup bar be kept at all times within the seed-box, without any unusual enlargement of said box.

Referring to the drawing by letters, letter A represents the seed-box or hopper; B, the seed-tube, and C the runner. These parts are attached to the other parts of a corn-planter in any usual manner, and may be constructed in any of the ordinary ways, except the seed-box, which only has an opening upon one side for the passage of the seed-cup bar. D is the seed-cup bar, and *d d'* the seed-cups, adjustable in capacity by means of a bar having two limbs, *d'' d''*, fixed by a set-screw, *d'''*. The seed-cups *d d'* are opposite to each other. E is the cap for covering the seed-cup bar and retaining the cut-offs in working position. It is secured in position by a ledge on one side, and button *e* upon the other. Its central part is cut away, as shown at Fig. 6, and two yielding cut-offs, *e' e''*, seated, one in each of its ends, with their ends toward each other, and made yielding by the spiral springs *e''' e'''*. G, Fig. 8, is a top view of the bottom of the hopper, and contains a throat-piece, *g*, through which two openings, *g' g''*, are arranged, so as to come under the cut-offs *e' e''*, respectively, and also contains an opening, *g'''*, through which the upper end of the vibrating valve H passes upward to receive motion from the seed-cup bar D, in the usual manner. The throats or passages *g' g''* cross each other's paths in descending, as shown at Figs. 3, 4, and 9. I is a gland, extending from the lower end of the throat-piece *g* downward, as shown at Fig. 4, and dividing the passage through the seed-tube B centrally from the front back to the vertical plane of oscillation of the adjacent side of the valve H. J is a wall, extending laterally across the passage through the

seed-tube B, and from a point on the front side of said passage diagonally downward to a vertical plane, same as the rear edge of the gland I. The shape of the vibrating valve H is plainly shown in the drawings, its axis of oscillation being at the point *h*, and its plane of oscillation on the face or lower end of the inclines formed by the division of the wall J by the gland I. It will be evident that it will intercept the charges of descending seed alternately on each side of the gland I in the V-shaped cavities formed between itself and the lower end of the wall J, and release them at the proper time at the rear side and open lower end of the seed-tube, where they may be seen as they fall therefrom to the furrow prepared for them by the driver from his seat upon the machine.

Fig. 6 will illustrate clearly the operation of the seed-cup bar, the dotted lines showing the seed-cup *d* beneath the cut-off *e'*, and in a position to discharge its contents through the opening *g'*, by which they are carried over, as shown by the arrows at Figs. 3 and 4, and discharged into the left-hand passage down the seed-tube, where they are intercepted, as hereinbefore described, by the valve H. On the return stroke of the bar D the cup *d'* will be brought beneath the cut-off *e''*, and the seed discharged to the right-hand channel of the tube, in the same manner as described to the left herein.

An inspection of Figs. 2, 3, and 4 will show clearly that the extreme end of the seed-cup bar does not pass through the adjacent side

of the seed-box; and the other figures, in connection therewith, will show as clearly that the construction of the cap and seed-bar is such that the seed-cups have abundant travel to insure filling without its being so extended.

I am aware that corn-planters have been known and used in which the sliding bars reciprocate back and forth through the outer as well as the inner ends of the seed-boxes, and that spring or pivoted cut-offs, arranged one on each side and toward the center of the seed-box, have also been known and used; and I do not, therefore, now claim such as the invention which I now desire to secure.

What I claim as new, and desire to secure by Letters Patent, is—

1. The cap E, having the cut-offs *e' e''*, one at each end and at opposite sides of the seed-box, and the sliding bar D, having the seed-cups *d d'* arranged opposite to each other and toward one end of the bar, operating substantially as described, to insure the filling of each cup without carrying the sliding bar through and beyond the outer side of the seed-box, as set forth.

2. In combination with the cap E and bar D, constructed and operating as described, the crossed passages or ducts *g g'*, to conduct the seed to the sides of the divided tube I, opposite to where discharged from the seed-box, substantially as and for the purpose set forth.

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