

No. 695,042.

Patented Mar. 11, 1902.

G. E. GEDGE.
CORN PLANTER.

(Application filed Dec. 14, 1900.)

(No Model.)

2 Sheets—Sheet 1.

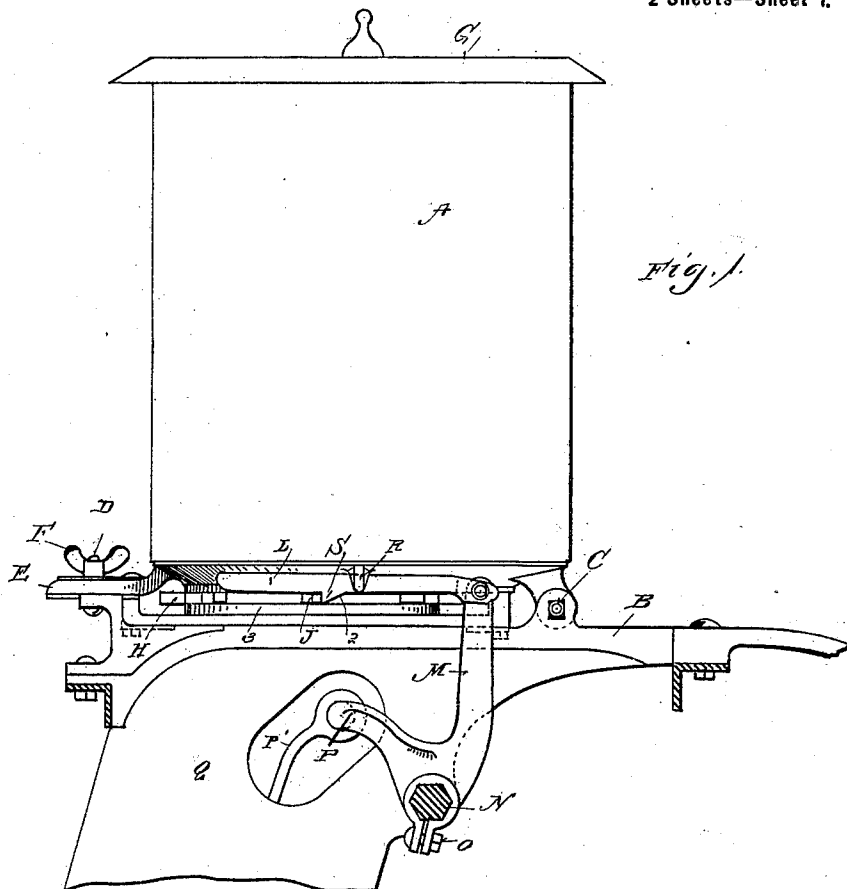


Fig. 1.

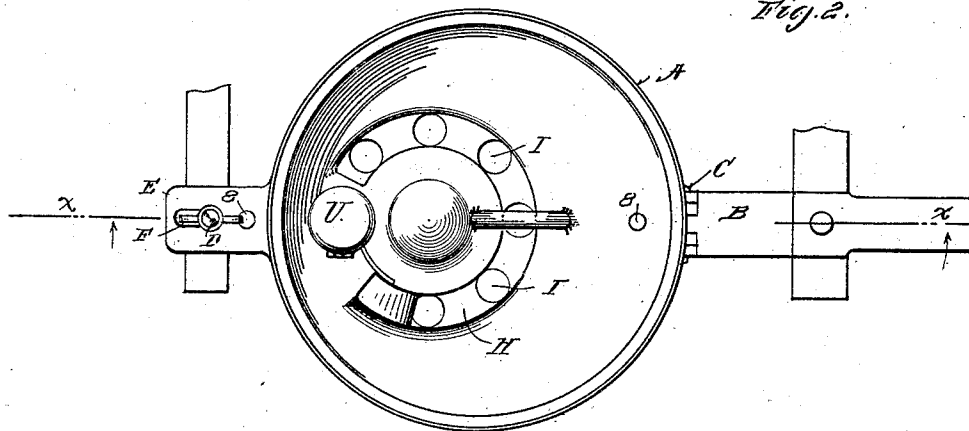


Fig. 2.

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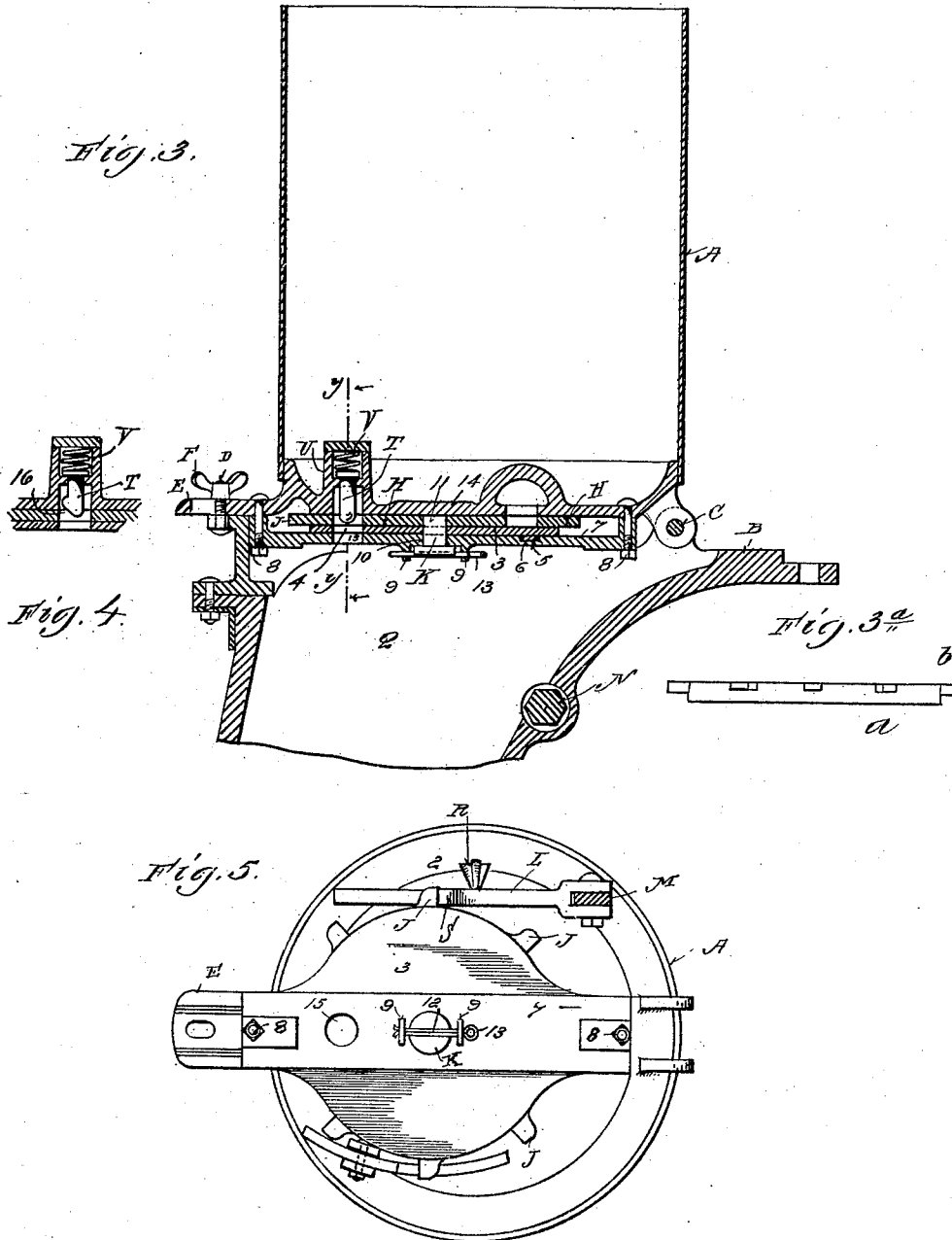
George E. Gedge, Inventor
By his Attorney,
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

GEORGE E. GEDGE, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE A. C. EVANS MANUFACTURING COMPANY, OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 695,042, dated March 11, 1902.

Application filed December 14, 1900. Serial No. 39,822. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. GEDGE, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Corn-Planters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in corn-planters.

The general object of this invention is to provide an improved device for rotating the dropper-plate by means of a rock-shaft.

Another object of this invention is to provide an improved arrangement whereby the dropper-plates may be quickly changed without removing the grain from the hopper.

My invention also relates to details of construction and arrangement hereinafter appearing, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 is a side elevation of a grain-hopper, showing my improvements applied thereto and also showing a portion of a boot or spout, together with a rock-shaft in section, and also the manner in which the hopper is operated; Fig. 2, a plan view of what is shown in Fig. 1 with the cover removed; Fig. 3, a sectional view on the line *x x* of Fig. 2 looking in the direction of the arrows; Fig. 3^a, a detail view of an interchangeable dropper-plate and auxiliary plate; Fig. 4, a sectional view on the line *y y* of Fig. 3 looking in the direction of the arrows, and Fig. 5 an inverted plan view with the spout or boot portion removed.

The letter A represents a suitable hopper for receiving the grain. This hopper is hinged to a frame structure B, as shown at C.

The letter D represents a bolt which is adapted to pass through the frame structure and through a projection E from the base of the hopper. A wing-nut F is screwed upon the bolt D to hold the hopper in its upright position. When it is desired to turn the hopper over on its side to change the dropper-plates, as will hereinafter appear, the wing-

nut is loosened from the bolt D and the hopper is thrown back about its hinge C. A cover G is provided for closing the upper end of the hopper.

Referring to Figs. 1 and 2 particularly, it will be seen that to the under side of the hopper is fitted a rotatable dropper-plate H. This dropper-plate has a number of holes I therein arranged in a circle in the plate. From the outer periphery of the dropper-plate extend radial lugs J. This dropper-plate fits upon a stud K (hereinafter referred to) and is rotated about such stud by means of a reciprocating pawl L, hinged to a double crank-lever M, such lever being mounted upon a rock-shaft N. A bolt O acts to clamp the double crank-lever tightly upon the shaft. One arm P of such lever engages with a valve-stem P' in the boot Q and operates such valve-stem to drop the grain from the boot into the soil in a manner well known in the art to which this invention pertains; but the feature of invention herein is this double-armed lever acting through one of its arms to actuate the dropper-plate and through its other arm to actuate this valve-stem, so that the dropper-plate and valve are synchronously actuated by a single primary device—to wit, the double-armed lever M. The pawl L is held in position by a lug R, extending downward from the bottom of the hopper. It will be observed that the pawl L has a tooth S thereon which is adapted to engage with one of the radial lugs J at a time, and as the rock-shaft N rocks in one direction the lug S carries the dropper-plate H around from one hole I to the next hole. The instant one of the holes passes into dropping position a detent T, mounted in a housing U, is forced into such hole by means of a spring V. This holds the plate with one of its holes in dropping position and at the same time knocks out any grain which may be in such hole, so that as the pawl L returns to its normal position it will not act to rotate the dropper-plate backward. The tooth S also has a rearward bevel 2, and inasmuch as there is a space between the pawl and the bottom of the hopper such tooth will ride over the next tooth presented in its path

by reason of previous partial rotation of the dropper-plate. Thus as the pawl is ready to make another working stroke a second tooth on the dropper-plate has presented itself in the path of the lug S.

By referring to Fig. 2 particularly it will be observed that the bottom of the hopper has a substantially annular opening therein of a width the same as the holes in the dropper-plate. Thus the corn may fill in a number of these holes at once, and in order to hold such corn within the holes I provide an auxiliary plate 3, which is also mounted upon the stud K immediately beneath the dropper-plate H. This plate has but one hole or opening therein, as shown at 4, and which is immediately over the boot or spout, so that grain which has filled the holes in the dropper-plate cannot drop into the boot until such holes register with the hole in the auxiliary plate 4. It will be observed that this auxiliary plate is secured in place by means of one or more lugs 5, which enter holes 6 in a supporting-bar 7. This supporting-bar is secured to the base of the hopper by means of bolts 8, and consequently when the hopper is thrown back about its hinge such supporting-bar will also be thrown back. This supporting-bar has a pair of lugs 9 extending downward therefrom each side of its center and also a hole 10 therein, through which is inserted a stud K, such stud having a head with a notch or groove 12 therein. A cotter-pin 13 extends through the lugs 9 and also across the head of the stud 11 and within the groove 12, so that the stud is held snugly within the hole 10 and up against the base of the hopper, as shown at 14. It will be observed that the supporting-bar 7 is provided with a hole 15 therein, normally standing in line with the grain-hole in the auxiliary plate and with the grain-holes in the dropper-plate. This permits the grain to drop directly through into the boot from the dropper-plate as soon as one of the holes in said dropper-plate matches with the hole in the auxiliary plate.

Let it be supposed that it is desirable to plant a larger quantity of grain in each hill, which is accomplished by changing the dropper-plate for a thicker plate, so that more grain may pass into each hole in such plate. The hopper is thrown backward, so that the grain falls away from the bottom. The cotter-pin 13 is then removed, thereby permitting the stud K to be withdrawn. The dropper-plate is then readily slid from beneath the hopper, as also the auxiliary plate. A thinner auxiliary plate *a* and a thicker dropper-plate *b* are then inserted, as shown in Fig. 3^a, and when in place the stud K is again inserted, thereby holding the dropper-plate in position.

Referring again to the detent T, which I will term a "grain-forcing device," since it forces the grain out of the dropper-plate, so that it will fall into the boot, it will be seen

from Fig. 4 particularly that its lower end is inclined sufficiently so that it may extend slightly above the rotatable dropper-plate, as shown at 16. The spring V causes the detent T to instantly descend the moment a hole in the dropper-plate is rotated beneath such detent, yet at the same time by reason of the inclined lower end it will ride up out of such hole on top of the dropper-plate, when such plate is again rotated by means of the reciprocating pawl L.

When the hopper is thrown backward, the grain is prevented from spilling out by means of the lid or cover G, yet at the same time falls away from the base, so that when the dropper-plate is removed the grain will not fall through the substantially annular opening, and consequently with my improved construction it is unnecessary to remove the grain before changing the plates.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a corn-planter, the combination, with a frame or support, of a hopper hinged thereto and provided with an annular opening in its bottom, a supporting-plate secured to the under side of the hopper-bottom at a point below the same, said supporting-plate being provided with an opening for the passage of the grain and with a removable stud, and means for fastening the same accessible on the under side of the bar, a non-rotating dropper-plate supported on said bar and having an aperture for the passage of the stud and provided with an opening registering with the grain-opening of the bar, and a rotating dropper-plate mounted on the stud, between the non-rotating dropper-plate and the hopper-bottom, and provided with a plurality of apertures adapted to successively register with that of the non-rotating plate, whereby when said stud is removed the dropper-plates may be removed and others of different thickness substituted, the combined thickness of the plates being such as to fill the space between the bar and hopper-bottom, substantially as described.

2. In a corn-planter, the combination, with a frame or support, of a hopper hinged thereto, a supporting-bar secured to the under side of the hopper-bottom, a non-rotating and a rotating dropper-plate fitting between the hopper-bottom and supporting-bar, said bar and non-rotating plate being each provided with a grain-discharge aperture, and the rotating plate being provided with a plurality of apertures successively registering therewith, a removable stud passing through apertures in the bar and in each of the dropper-plates, lugs projecting from the under side of the bar on each side of the stud and provided with apertures, and a removable pin passing through said lugs and under the stud to hold the same in place, substantially as described.

3. In a corn-planter, the combination, with

a hopper, and a rotatable dropper-plate provided with peripheral teeth, of a slotted boot or conduit, a valve mounted therein, a rock-shaft, and an integral double-armed lever
5 mounted on said rock-shaft, one arm of said lever being provided with a pawl to engage the teeth of the rotating dropper-plate, and the other arm of said lever being operatively

connected with the valve, substantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

GEORGE E. GEDGE.

Witnesses:

B. B. ESTERLINE,
W. M. MCNAIR.