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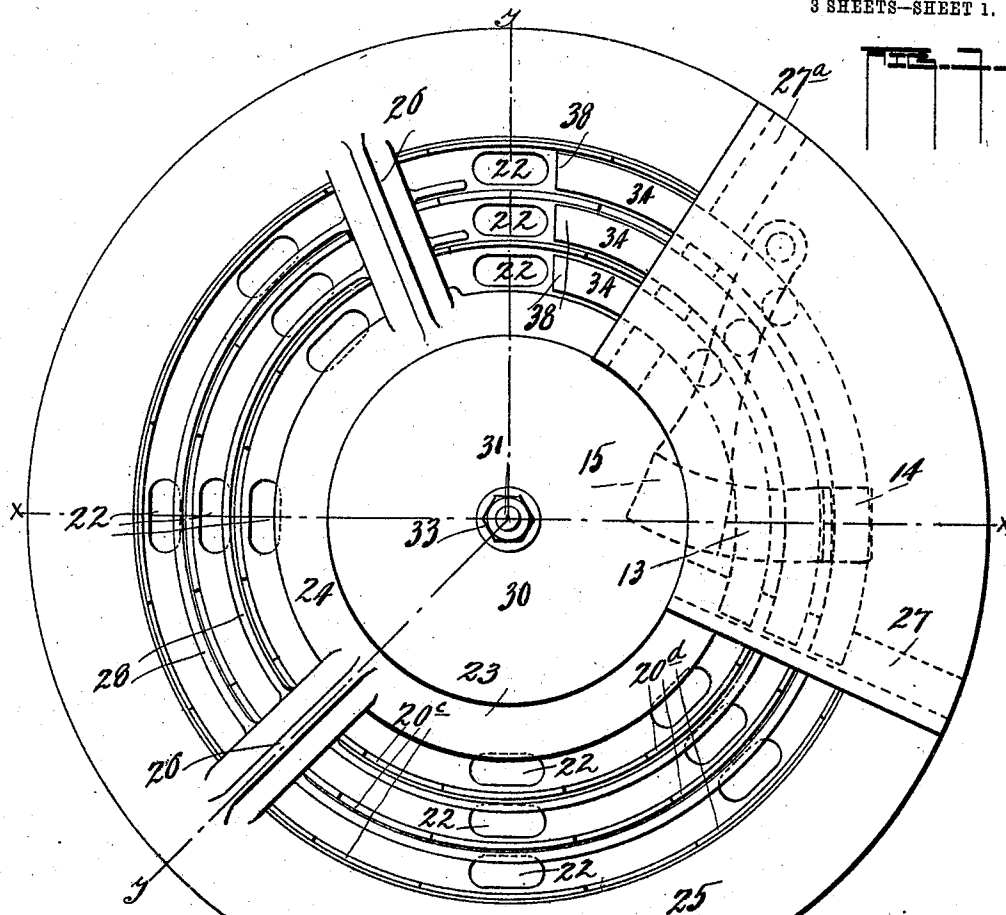
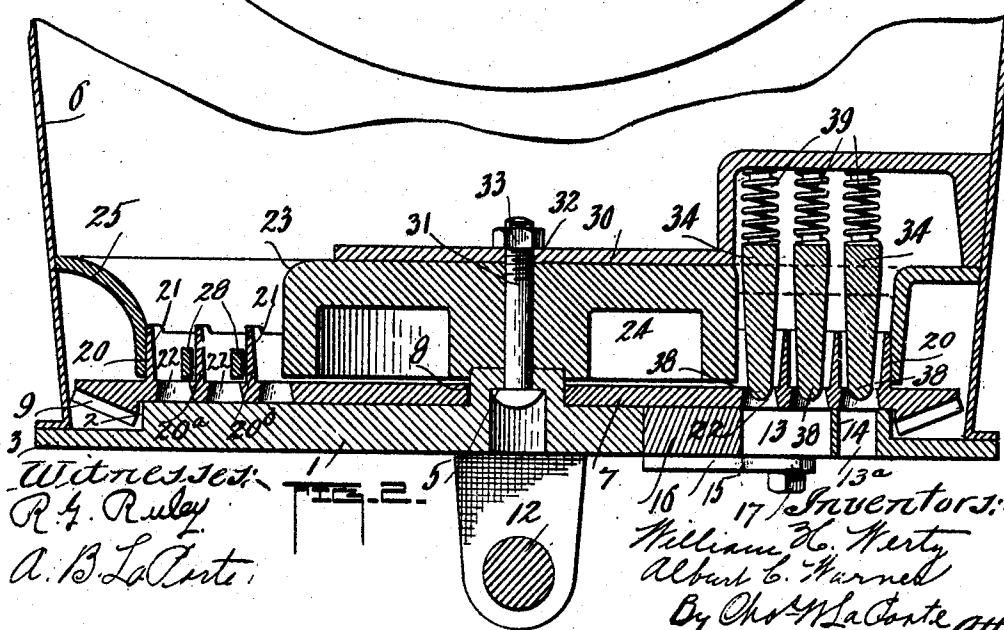
PATENTED NOV. 28, 1905.

W. H. WERTZ & A. C. WARNER.

CORN PLANTER.

APPLICATION FILED OCT. 6, 1902.

3 SHEETS—SHEET 1.



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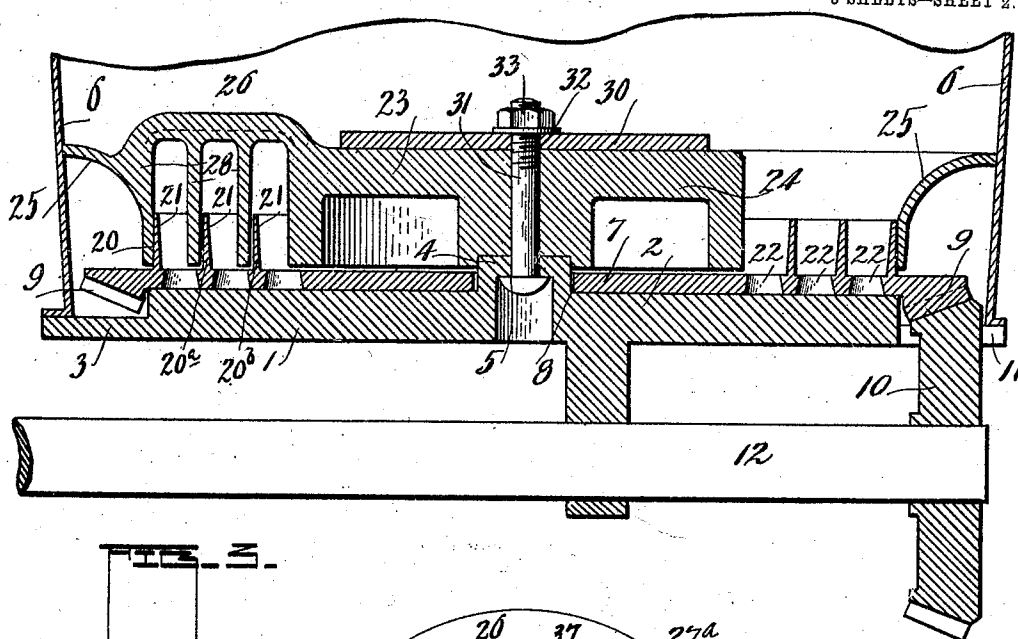
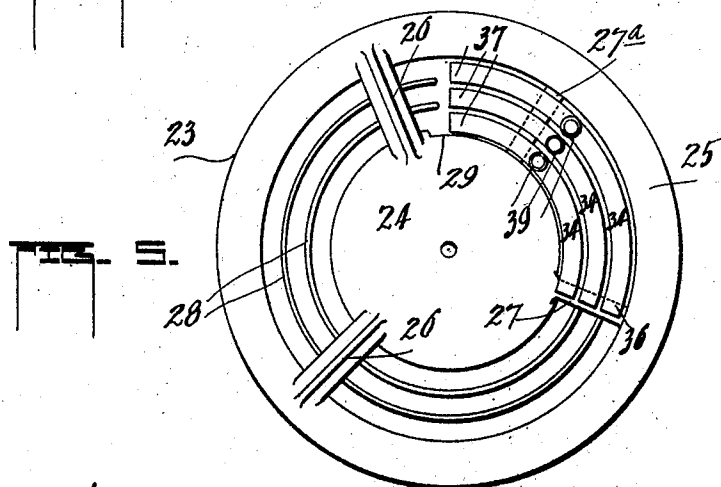
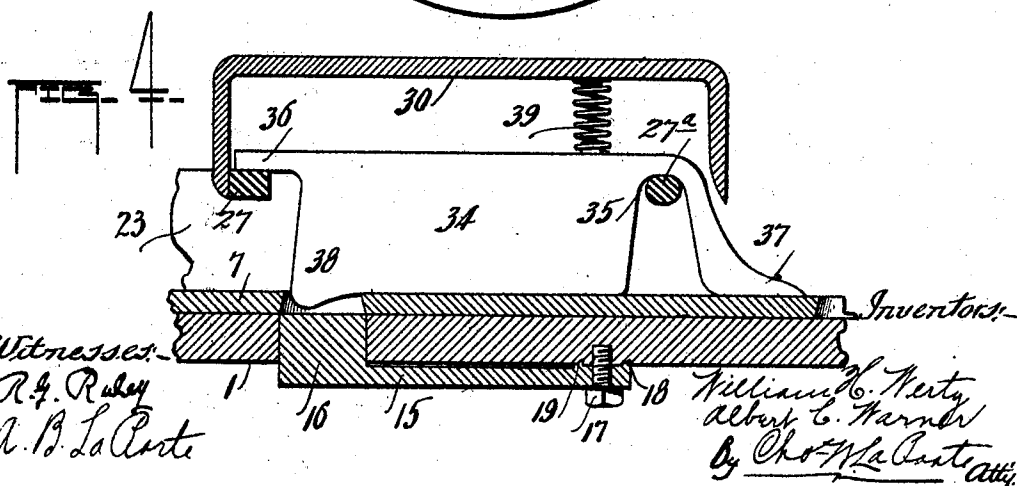
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3 SHEETS--SHEET 2.



Witnesses -
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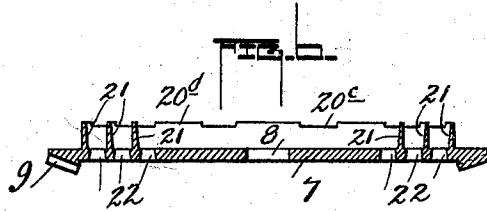
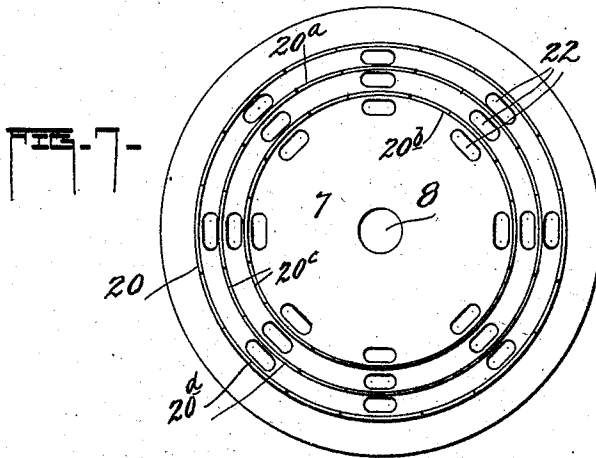
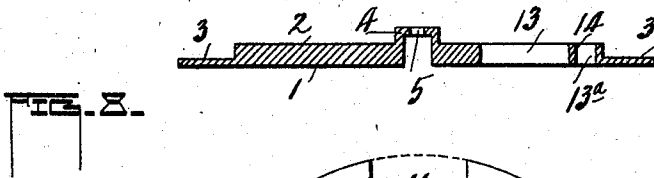
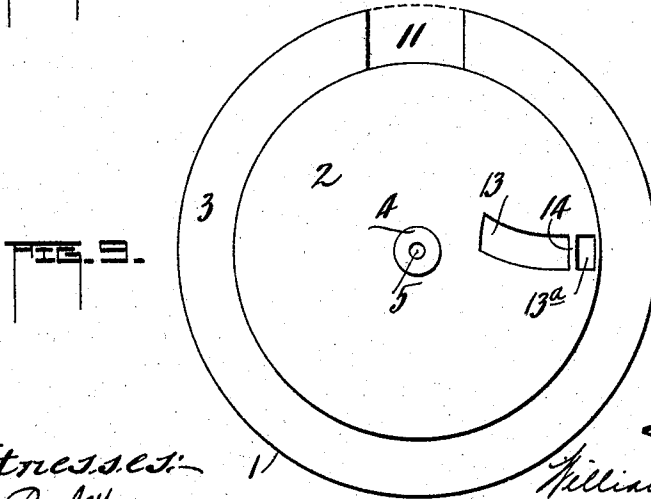
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CORN PLANTER.

APPLICATION FILED OCT. 6, 1902.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. WERTZ, OF ELMWOOD, AND ALBERT C. WARNER, OF PEORIA,
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CORN-PLANTER.

No. 806,032.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed October 6, 1902. Serial No. 126,182.

To all whom it may concern:

Be it known that we, WILLIAM H. WERTZ, of Elmwood, and ALBERT C. WARNER, of Peoria, in the county of Peoria and State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Corn-Planters; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to a corn-planter; and the improvement herein relates to the seed-dropping devices thereof.

The aim of the invention is to provide a simple but effective dropping device wherein it is designed by one motion of the dropping-plate to drop three kernels out of three separate cells or seed-cups or two or one, as may be desired, accomplished through and by the movement of a valve-plate controlling the egress of kernels of corn through the cells of the seed-plate.

The invention has for its further object the handling of kernels of corn both edgewise and flat, the seed-plate having annular channels or feedways formed by the arrangement of a series of rings and a portion of said channels contracted by the interposition of spacing-plates supported in said channel-ways and between the rings, the top edges of the rings formed with extensions of the same acting as agitators.

The invention further consists of a cut-off and knocker of one piece, of which three are employed or two or one, as may be desired, according to the number of rows of cells being used for dropping, the said knocker and cut-offs being suspended from a tower-plate and in the channels formed by the rings of the seed-plate and coacting with the seed-cups of the plate, as they are coincident, and the said cut-offs and knockers are held in their normal positions by springs.

Other and various important features of invention are employed in the construction of our device, all of which will be more fully described in the specification following and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a plan view of our invention, illustrating the same assembled in operative relation. Fig. 2 is a cross-section of Fig. 1 on the line X X, also showing the hopper in

section and attached to the hopper-base. Fig. 3 is a cross-section on the line Y Y of Fig. 1 and is a view similar to Fig. 2. Fig. 4 is a section through the hopper-base, seed-plate, and tower-plate, showing the arrangement of the single-piece knocker and cut-off. Fig. 5 is a plan view, reduced in size, of the cap-plate, showing the filling-rings and the plan of supporting the series of single-piece cut-offs and knockers. Figs. 6 and 7 show, respectively, a cross-section and plan, reduced, of the seed-plate; and Figs. 8 and 9 show, respectively, a cross-section and plan, reduced, of the hopper-base.

In the figures, 1 designates a hopper-base having the annular-shaped extension 2, providing the outer horizontal flange portion 3, and 4 is a centrally-disposed tubular extension of the base, provided with an opening 5. To the base is suitably attached and supported a hopper 6. (Shown in cross-section in Figs. 2 and 3 sufficient to illustrate the relation of the hopper-base and hopper to the operative parts of our device assembled therein and supported by the base.)

7 indicates a seed-dropping plate with a central opening 8 adapting the same to the extension 4 of the hopper-base and around which it rotates, the plate lying on the annular extension of the base and provided with a ring-gear 9, lying above the outer flange portion 3 of the base.

10 refers to a bevel-gear intermeshing with the ring-gear 9 of the seed-plate, the same passing up through an opening 11 in the base 1 and is carried on a shaft 12, having a bearing beneath the hopper in the planter-frame, if necessary, and the said shaft, as will be understood, extends across the planter-frame and carries a gear similar to 10 upon its opposite end purposed to engage and rotate the plate in the oppositely-arranged hopper. The shaft 12 has a predetermined movement imparted thereto through suitable driving devices (not shown) whereby the seed-dropping plate may be partially rotated for bringing into position simultaneously two or more cells or cups of the seed-plate, whereby two or more kernels of corn will be dropped by one motion of the dropping-plate, all of which will be more fully described.

No means is herein shown for attaching the dropping devices to a planter-frame; nor is their relation to a planter-shank shown, as

it is designed and purposed that the devices herein are applicable to any style of planter. In the hopper - base is provided discharge-openings 13 13^a, the opening 13^a separated
 5 from the opening 13 by a partition 14 to prevent the closing up of the entire forward part of the opening 13 by a pivoted valve 15, operatively carried within said discharge-opening 13. The valve 15 has a swinging movement
 10 and lies adjacent to the lower face of the base 1 and has the enlarged offset 16, Fig. 4, lying in the opening 13 and movable therein in such a manner as to bring the upper face of the part 16 flush with the upper face of the base
 15 1. The valve is pivoted to the base at 17, and the face of the valve-plate at this point is serrated at 18, matching a serrated part 19 of the base, so that when the valve-plate is adjusted it is locked and prevented from becoming dis-
 20 lodged. This valve facilitates in controlling the egress of corn-kernels from the seed-plate through the discharge 13 of the base, the latter lying above the opening into a planter-shank and is designed to discharge corn - kernels
 25 therein.

Referring to the said plate 7, the same is provided with a series of vertically-extended annular rings 20, 20^a, and 20^b, the rings 20^a and 20^b disposed on the body of the plate within
 30 the circle described by the ring 20, and the ring 20 is removed some distance within the circle bounded by the outer edge of the plate, as shown. There is designed to be three of these rings, spaced a suitable distance from
 35 each other, and the face of each ring is beveled, as shown at 21. Located in the plate proper and in circumferential and transverse lines therein and within the channels formed by the arrangement of the rings is shown seed
 40 cells or cups 22, elongated circumferentially.

23 indicates a cap-plate having an annular-shaped body part 24 and the annular ring 25, the ring 25 bearing around the outer ring 20 of the series of rings on the seed-plate and
 45 lies adjacent thereto, and the same has the rounded or beveled upper part, the outer edge of which engages with or abuts against the wall of the hopper, and the said ring is supported by and is made a part of the body part
 50 24 through the arches 26 and the reaches 27 27^a. The body part 24, together with the ring 25, projects up above the upper edges of the rings 20 of the plate, and suspended from the arches 26 and the reach 27^a and extending
 55 approximately three-quarters the way around the plate are filling plates or rings 28, lying between the walls formed by the rings 20, 20^a, and 20^b and adjacent to the outer walls of the rings 20^a and 20^b. The body of the plates
 60 between their supports is not as high as the rings with which they are coadjacent. In placing the plates in this manner they partially overlie the cells or cups in the seed-plate as the same are rotated beneath the

filling plates or rings and contract the chan- 65
 nel formed by the plates and rings of the seed-plate to facilitate as the corn-kernels descend in the hopper to conduct and deliver the kernels on edge. The channel between the
 70 rings and filling-plates being only wide enough for the kernels to enter between the same on edge, the bevel wall of the rings aids materially in keeping the kernels from wedging
 75 and, further, by being kept in motion through the agency of a series of agitators formed on the upper edges of the rings 20 20^a 20^b by cutting out portions of their edges at 20^c, leaving extended portions of the rings 20^d to engage the corn-kernels as the same are rotated.

The outside wall of the part 24 is of such a 80
 diameter as to serve the purpose of a filling-plate 28, covering a portion of the cells or cups of the seed-plate lying within the ring 20^b that passes thereunder, and at a point where the filling-plates begin and leave off
 85 the outer wall of the body 24 is cut away, as at 29, to leave open the entire width of the channels between the ring 20^b on the seed-plate and the wall described. In the inter-
 90 vening space above the plate left vacant by the filling-plates and outer wall of the cap 23 we design to arrange our combined one-piece cut-off and knocker 34.

30 is a tower-plate and, together with the cap-plate 23, is supported in a fixed position
 95 relative to the seed-plate which revolves. The cap-plate rests upon the extension 4 of the base, and 31 is a bolt which passes up through the opening 5 in the base, an opening 32 in the cap-plate, and through the tower-
 100 plate, and is held in a fixed position on the base by means of a nut 33.

The knocker and cut-off, referred to as of one piece, is designated as 34, having the arch
 105 35, the rear end extension 36, the cut-off shoe 37, and the knocker portion 38. There being three channels on the plate formed by the rings of the plate and wall of the cap-plate 23 and the series of rows of seed cups or cells in the plate, we employ three of these com-
 110 bined one-piece cut-offs and knockers. Before placing on the cap-plate the cut-off and knockers are placed in position, the arches 35 overhanging the reach 27^a, forming a pivot, and the extensions 36 resting on the
 115 reach 27. (See Fig. 4.) This places the lower edge of the reach on the floor of the channels of the seed-plate, the shoes 37 covering the seed-cells and the knocker portions 38 coacting with the cells, as they are coinci-
 120 dent in manner shown in Fig. 4, forcing the kernels through the discharge-openings in the hopper - base. 39 refers to coil-springs, of which there are three bearing between the
 125 upper faces of the knocker and cut-offs and engaging the inner face of the tower-plate. This arrangement of one-piece knocker and cut-off and the springs retains them in nor-

mal position in the channels of the plate, and yet flexible enough to give as the knockers are brought into play and to hold the cut-offs to their work. The cut-offs extend around
 5 part way in the channels, but do not extend quite to the free ends of the filling plates or rings, which leaves the row of cells or seed-cups in the seed-plates as they rotate beneath the filling-plates to pass out into the open be-
 10 tween the ends of said plates and the cut-off, so that the cells will be entirely uncovered, as shown in Fig. 1. This arrangement provides for permitting kernels to drop into the cells flat or edgewise and to take care of round
 15 or long kernels and insures that when a cell passes from the knocker toward the cut-off if perchance no kernel drops into the passing cells they will take the kernels at this point or openway between the ends of the
 20 filling-plates and front ends of the knocker and cut-offs. In this way it is insured that if three cells are open there will be dropped three kernels or if the valve has been adjusted to cut off one row of cells there will be
 25 dropped only two kernels or one, as may be desired.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

30 1. In a corn-planter, the combination of a seed-plate having a series of annular rings, seed-cups spaced between the rings, and plates supported between the rings and carried adjacent to the face thereof to form a contracted channel between the same, substan-
 35 tially as described.

2. In a corn-planter, the combination of a seed-plate, having a series of annular rings, a series of rows of seed-cups in said plates, and
 40 a cap-plate having an annular ring carried adjacent to the outer wall of the outer ring and a series of spacing-plates supported between the rings of the seed-plate, substantially as described.

45 3. A seed-plate for corn-planters, having a series of annular rings extended from its upper face, the outer ring removed within the circle bounded by the edge of the plate, and each ring having cut-out portions in their up-
 50 per edges, substantially as described.

4. A seed-plate for corn-planters, having a series of annular rings, their upper edges having cut-out portions forming agitators, and the inner faces of said rings beveled, substan-
 55 tially as described.

5. A seed-plate for corn-planters, having a series of annular rings, their upper edges having cut-out portions, leaving intermediate extended portions of said rings as shown, and their inner faces beveled, in combination with
 60 seed-cups arranged in the body of the plate and between the rings, substantially as described.

6. In a seed-planter, the combination of a

seed-plate having a series of annular rings, 65 seed-cups spaced between the rings, and plates supported between the rings, substantially as described.

7. In a corn-planter, the combination of a seed-plate having annular feedways, formed
 70 by a series of rings, and a portion of said channels contracted by the interposed spacing-plates suitably supported in said channelways and between the rings, substantially as described.

8. In a corn-planter, the combination of a seed-plate having a series of annular rings separating a series of seed-cups, spacing-plates supported between the rings and over-
 80 lying the seed-cups and forming contracted openings thereof, the rings of the plate revolvable therewith and the spacing-plates station-ary, substantially as described.

9. In a corn-planter, and in combination substantially as described, a seed-plate hav-
 85 ing a series of annular rings projecting upwardly, separating a series of rows of circumferentially-arranged seed-cups, a series of filling-plates supported between the aforesaid rings and extending only a part way around
 90 the channel formed by said rings, said filling-plates adapted to contract the seed-cup openings in said plate and serve as a feeder to conduct and deliver grain or seed on edge from the supply to the seed-cup.

10. In a corn-planter, and in combination substantially as described, a seed-plate hav-
 95 ing a series of annular rings projecting upwardly and forming circumferential seedways between the same, seed-cups arranged in series oppositely to each other and in the channel formed by the rings, and a series of fill-
 100 ing-plates supported by a cap-plate and supported between the rings to contract the channelways formed by the rings which will only
 105 admit grain edgewise between the walls formed by the rings and filling-plates and feed said grains edgewise to the seed-cups in the plate.

11. In a corn-planter, the combination of a seed-plate, having its seed-cups elongated cir-
 110 cumferentially and in a series, annular rings of the plates lying between said seed-cups, and suitable cut-offs supported between the rings and coacting with the seed-cups of each series, substantially as described.

12. In a corn-planter, the combination of a seed-plate, having its seed-cups elongated cir-
 115 cumferentially and in a series of rows, annular rings of the plate forming seedways, supplemental rings extended down into the chan-
 120 nels formed by said rings, adapted to contract the seedways where the rings and plates are coadjacent and three cut-offs lying between the rings and coacting with the seed-
 125 cups of the plate as they are brought coincident, substantially as described.

13. In a corn-planter, a seed-plate having seed-cups elongated circumferentially, a series

of channels formed on the plate by a series of upwardly - extended annular rings, filling-plates interposed between the walls of the channels formed by the said rings, and suitable cut-offs and knockers disposed over the seed-cups and between the ends of the filling-plates, substantially as described.

14. In a corn-planter, a seed-plate revoluble on a hopper-base, having seed-cups elongated circumferentially in the plate and arranged in series of three rows, a valve operatively carried within a discharge-opening in the base, channel-ways formed on the plate by a series of annular rings, and means for contracting said channels and thereby direct the seed to the cups in said plate on edge, substantially as specified.

15. In a corn-planter, a seed-plate revoluble on a stationary base, having seed-cups elongated circumferentially and arranged in sets of three lying parallel with each other, and a valve operatively carried within a discharge-opening in the base to facilitate in dropping kernels of corn singly, or two or three, substantially as specified.

16. In a corn-planter, a seed-plate revoluble on a stationary base, having seed-cups elongated circumferentially and arranged in sets of three lying parallel, a series of annular rings extending up from the plate spaced between the seed-cups in the plate forming annular channel-ways, a cap-plate overlying the central body part of the seed-plate and having a series of filling-plates suspended therefrom and coacting with the rings for direct-

ing grains edgewise into the seed-cups in the seed-plate, substantially as described.

17. In a corn-planter, the combination with a dropping-plate, a cap-plate having an annular ring supported away therefrom, and a series of plates suspended between the body and annular ring, substantially as described.

18. In a seed-planter, the combination of a seed-plate having a series of annular rings, seed-cups spaced between the rings, and filling-plates supported between the rings which partially overlie the seed-cups, in said plate, substantially as specified.

19. A seed-plate provided with seed-cells, annular channel-ways formed by a series of rings, and a portion of said channels contracted by the interposition of spacing-plates supported therein, substantially as specified.

20. A seed-plate for planters, having a series of annular rings, their upper edges having cut-out portions leaving intermediate extended portions of said rings as shown, and their inner faces beveled, in combination with seed-cups arranged in the body of the plate and between the rings, and filling-in plates partially overlying the seed-cups of said plate, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM H. WERTZ.
ALBERT C. WARNER.

Witnesses:

CHAS. F. BAILEY,
ROBERT N. McCORMICK.