

No. 734,716.

PATENTED JULY 28, 1903.

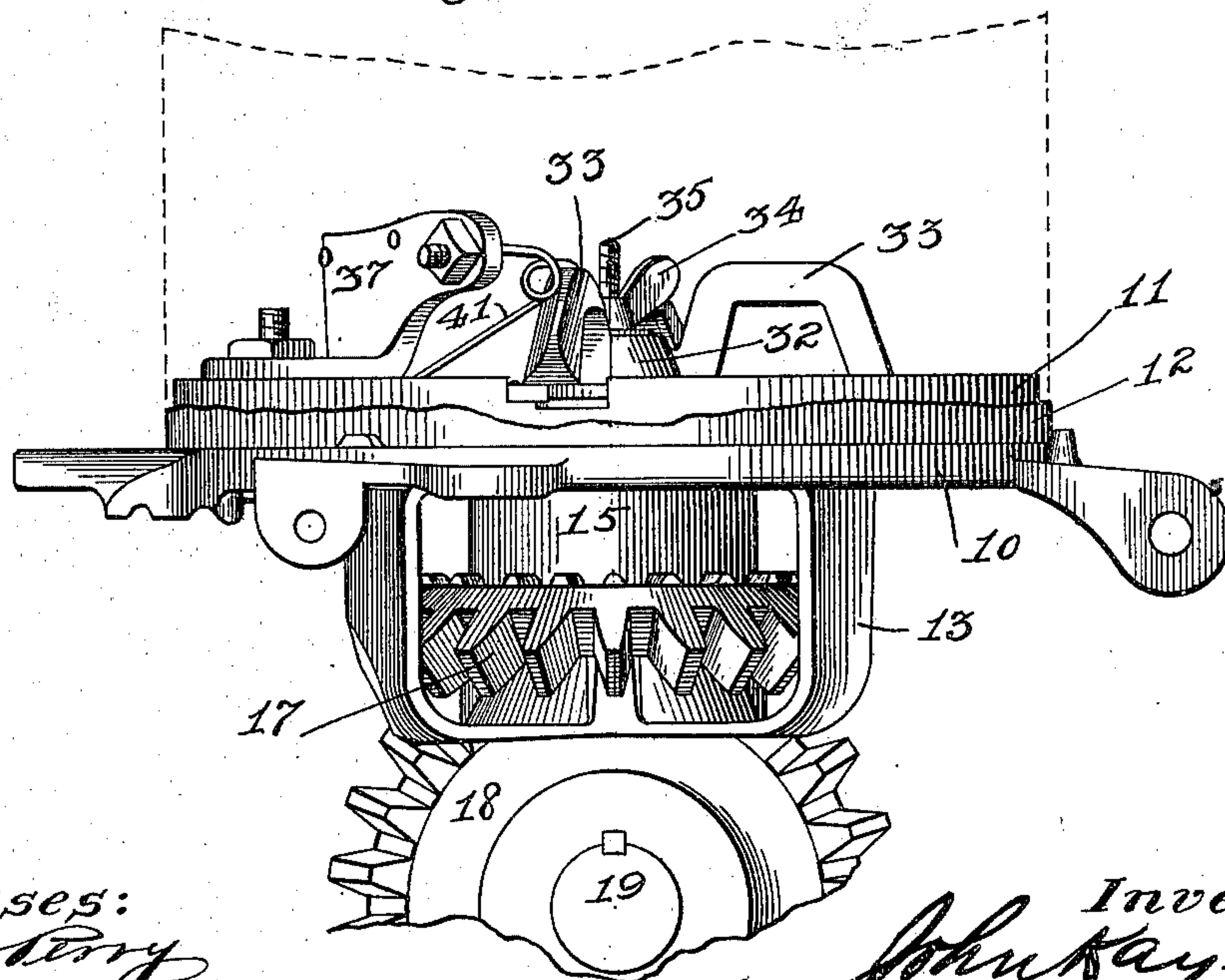
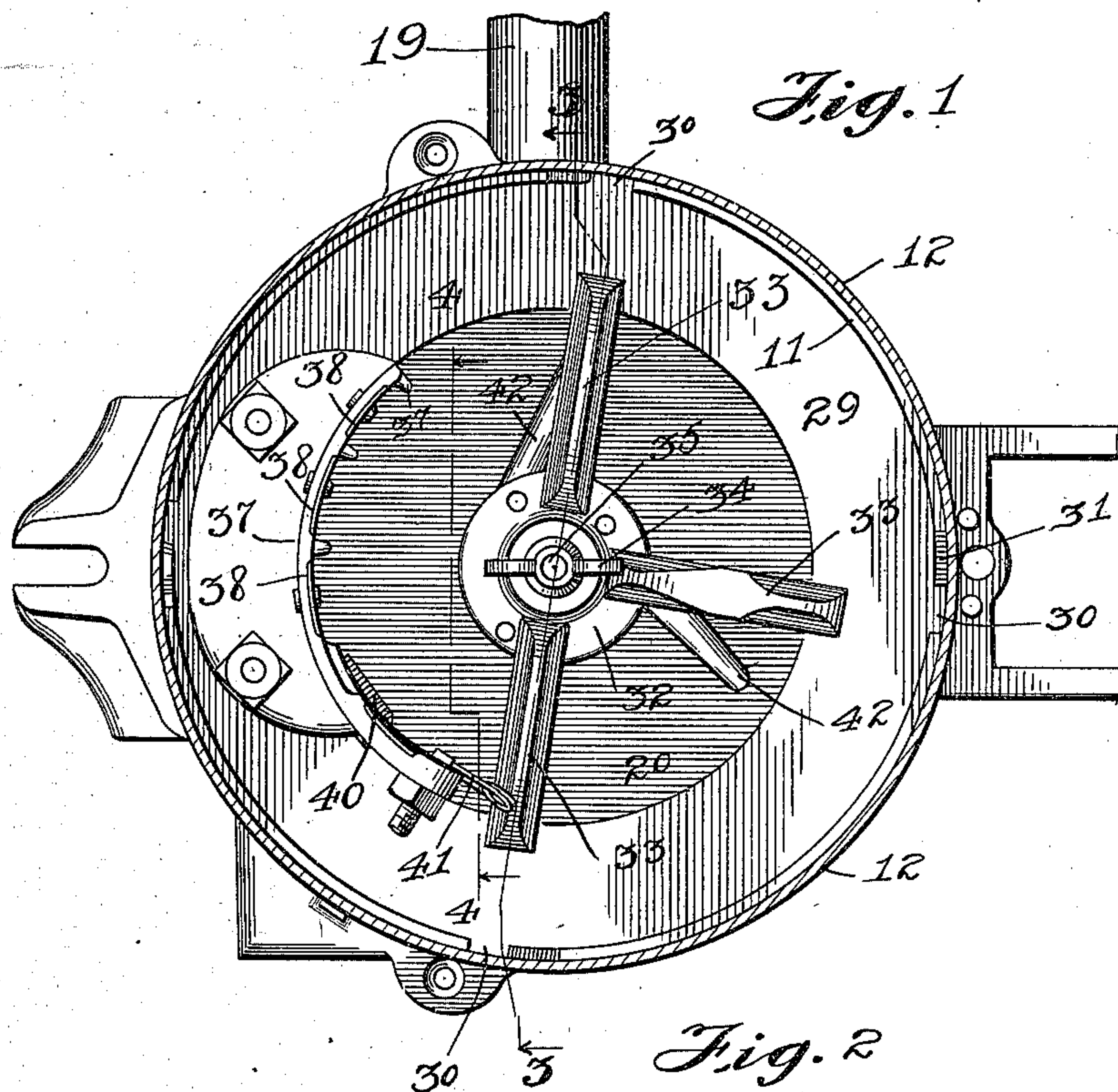
J. KAYLOR.

## SEEDING DEVICE FOR CORN PLANTERS. .

APPLICATION FILED DEC. 3, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



*Witnesses:*

*Chas. D. Terry*

Harman M. Krueger

*Inventor:*

Inventor:  
John Kaylor  
by Bond, Tuttle, & Co., Attorneys

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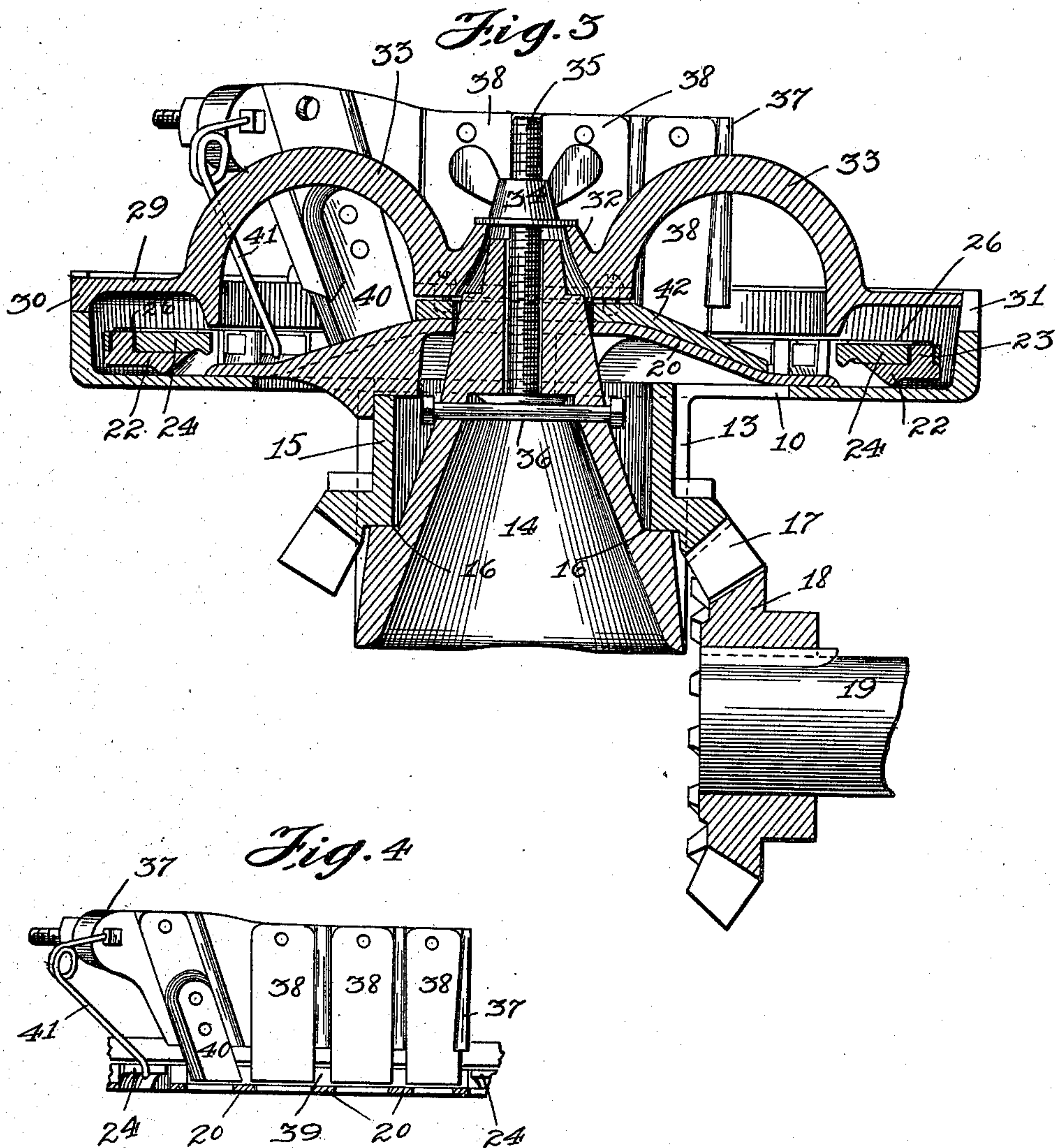
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3 SHEETS—SHEET 2.



Witnesses

*Charles H. Perry*  
*Herman M. Knepper*

Inventor:

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*by Fred W. Williams, Patent Attorney*



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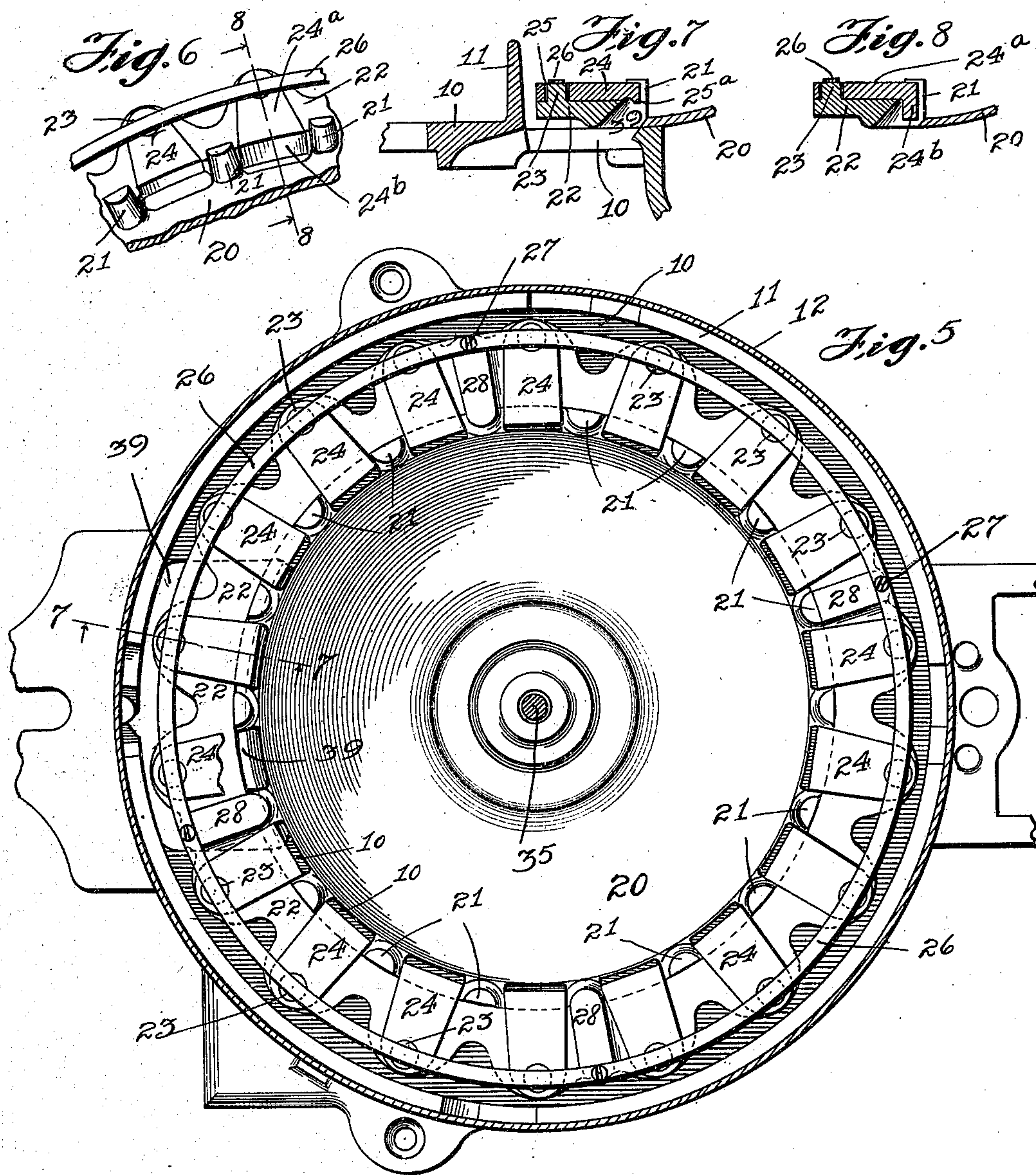
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3 SHEETS—SHEET 3.



Witnesses:

*Chas. D. Perry*

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# UNITED STATES PATENT OFFICE.

JOHN KAYLOR, OF DECATUR, ILLINOIS.

## SEEDING DEVICE FOR CORN-PLANTERS.

SPECIFICATION forming part of Letters Patent No. 734,716, dated July 28, 1903.

Application filed December 3, 1902. Serial No. 133,697. (No model.)

*To all whom it may concern.*

Be it known that I, JOHN KAYLOR, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have  
5 invented certain new and useful Improvements in Seeding Devices for Corn-Planters, of which the following is a specification, reference being had to the accompanying drawings.

It is a well-recognized fact that grains of corn are in general more uniform with respect to thickness than in any other dimension, and taking advantage of this numerous devices have been constructed in connection with  
15 corn-planters whereby the grains would be fed into cells or pockets in a rotating seed-plate, each of which cells or pockets was especially designed to receive and hold but a single grain and that in an edgewise position,  
20 so that the number of grains deposited at one time in the ordinary seed-tube and from thence dropped to the ground could be more accurately gaged or determined than where the cells or pockets in the seed-plate were so  
25 constructed as to receive the grains in some other position and also liable to receive more than a single grain. In all of such edgewise-feeding constructions, however, with which I am familiar the grains are fed vertically to  
30 the seed cells or pockets and the grains in such cells or pockets are pressed upon by the weight of the mass of corn in the seedbox, with the result that as such plate is rotated the grains in some instances become dislodged  
35 from the cells or pockets in which they are deposited and accurate depositing of the corn with respect to the desired number of kernels is not always had.

One of the objects of my invention is to  
40 provide means for more certainly insuring each cell or pocket receiving a single grain of corn edgewise, and only a single grain, and retaining the corn so inserted in the cells or pockets during the rotation of the plate.

Another object of my invention is to make  
45 provision for the insertion and retention in the cells or pockets of grains that are thicker or more rounding than the ordinary grains.

Still another object of my invention is to  
50 provide means for feeding the various grains edgewise into their pockets in such manner

that each grain when in a pocket will lie on one of its broad or flat faces, and consequently have one of its edges toward the side or edge of the seed-plate and which in the  
55 construction shown is also of course toward the side or wall of the seedbox, and to retain the grain in that position during the rotation of the plate instead of having them stand on edge substantially vertically, as in the former constructions, and also to provide means  
60 for covering the various grains after being deposited in their respective cells or pockets, so that as they are carried around by the seed-plate they will not bear the weight of  
65 the mass of corn in the box.

These various objects I accomplish as illustrated in the drawings and as hereinafter fully described.

That which I regard as new will be set forth  
70 in the claims.

In the accompanying drawings, Figure 1 is a top or plan view. Fig. 2 is a side elevation showing the seedbox broken away and also partly shown by dotted lines. Fig. 3 is a  
75 vertical section at line 3 3 of Fig. 1. Fig. 4 is a detail, being a section at line 4 4 of Fig. 1 and showing the inner face of the cut-off mechanism and the guards opposite the delivery-opening in the bottom plate through  
80 which the corn passes to the ordinary seed-tube. Fig. 5 is a top or plan view with the cut-off plate removed. Fig. 6 is a detail, being a perspective view of a small portion of the outer edge of the seed-plate and attached  
85 devices. Fig. 7 is a section at line 7 7 of Fig. 5; and Fig. 8 is a detail, being a sectional view at line 8 8 of Fig. 6 through a portion of the seed-plate and showing a device for closing one of the cells or pockets to prevent the  
90 admission of a grain of corn thereto.

Referring to said figures of the drawings, 10 indicates an ordinary annular bottom plate having the usual vertical ledge 11, around which is placed the lower end of an ordinary  
95 seedbox 12, the lower end of such seedbox being shown in Fig. 2 and also partially indicated by the dotted lines in such figure.

13 indicates a downwardly-projecting bracket, preferably formed with the bottom  
100 plate 10, from which rises a central hub portion 14, also preferably cast with the parts 10



and 13, which hub portion, as shown in Fig. 3, projects up through a large central opening in the bottom plate 10.

15 indicates a ring surrounding the hub portion 14 and resting on a shoulder or series of shoulders 16, formed on such hub portion, said ring being provided with a beveled gear 17, adapted to mesh with another beveled gear 18, that is fast on a driving-shaft 19.

20 indicates my novel seed-plate, which is provided with a central opening through which the upper end of the hub portion 14 projects, said plate 20 being suitably connected to the ring 15, so as to be driven therewith. The connection between the plate 20 and the ring 15 should be such as to enable the plate 20 to be easily disconnected therefrom, and in the form of construction shown the connection between these two parts is by means of complementary projections and notches. As shown, the seed-plate 20 gradually slopes downward from its center, so that the corn thereon will more readily be moved toward its edge to enter the cells or pockets about to be described.

At the edge of the plate 20, and preferably formed therewith, is a series of short vertical projections 21, located at regular intervals, with their inner or forward faces substantially in line with the edge of the plate 20, such forward or inner faces being preferably rounded, so as to present no obstructive corners to the grains of corn that may be moved toward them. From the rear sides of these projections extend an annular horizontal piece 22, the upper face of which is lower than the tops of the projections 21 and higher than the outer portion of the plate 20, which annular horizontal piece is provided at regular intervals with a series of vertical studs 23, each of said studs being located near the outer edge of the horizontal piece 22, one of said studs being located directly opposite the center of the space between adjoining projections 21. The plate proper, 20, the vertical projections 21, the horizontal piece 22, and the studs 23 I prefer to form integrally. The forward or inner edge of the horizontal piece 22 lies about opposite the rear faces of the vertical projections 21, and, as shown best in Fig. 7, the under portion of the horizontal piece 22 between the vertical projections 21 is beveled or inclined backward from its forward edge, thus forming recesses that are each adapted to receive a single grain of corn edgewise.

24 indicates a series of plates, each provided near its outer end with an opening 25, adapted to fit over one of the studs 23, such opening 25 of each plate being slightly larger than the stud over which it fits, whereby each plate 24 is adapted to have, by reason of its loose fit on the stud, a slight vertical rocking at its forward end. Each of these plates 24 projects forward between two of the projections 21 and is of a width at its forward end to substantially fill the space between two

projections 21, but not wide enough to bind against such projections. The plates rest upon the upper surface of the horizontal extension 22, and their upper surfaces are substantially flush with the upper ends of the vertical projections 21. These plates 24 are to be so held in place that they will not easily drop from their studs 23 when the seed-plate as a whole is removed from the seedbox, and yet the means for so holding them in place should be of a character that will readily permit any one or more of the plates being removed if it is desired to replace it with a plate of the character shown in Fig. 8 and hereinafter referred to or for any other purpose. I have therefore employed for retaining the plates in position a narrow annular spring-band 26, which may be secured at intervals by screws 27 to vertical projections on the piece 22, such projections being in the form of construction shown formed with and constituting a part of certain of the vertical projections 21, these few enlarged projections 21 being indicated by 28. The narrow annular band 26 can be easily sprung up to enable any one of the plates 24 to be lifted off from its stud 23, but at other times will serve to hold such plates in place when the seed-plate as a whole is removed from the machine.

29 indicates a cut-off plate, consisting, as shown, of a ring portion fitting within the up-turned vertical portion 11 of the bottom plate 10, to which it is preferably removably attached in the ordinary way by means of projections 30, that enter recesses 31, cut in the upper edge of the part 11, as indicated in Figs. 1 and 3. The cut-off plate or ring 29 also has a hub portion 32, which is joined to the ring portion 29 by suitable arms 33. The hub portion 32 rests upon a suitable shoulder formed on the upper portion of the other hub portion 14 and is locked in place by a screw-nut 34, that is screwed down upon a bolt 35, the head of which is held in the interior of the hub portion 14 by a cross-bolt 36.

37 indicates an angular bracket carried by the ring-plate 29, to the vertical portion of which bracket are secured suitable guard-plates 38, the lower ends of which project down below the ring-plate 29 close to the surface of the seed-plate 20 and are to prevent grains of corn from passing out through the large discharge-opening 39 in the bottom plate 10.

40 indicates a spring-plate also secured to the inner face of the vertical portion of the angular bracket 37, near one end thereof and near one end of the large discharge-opening 39 referred to, and acting, as do all cut-offs for seed-plates, to prevent grains of corn from passing to such opening, except such as are suitably carried in the seed cells or pockets provided.

41 indicates a spring-arm, one end being attached to the vertical portion of the angular bracket 37 and the other or free end lying close to the inner edge of the cut-off ring-



plate 29 and also close to the upper surface of the seed-plate 20, such arm being arranged and adapted to contact with any grains of corn that may be projecting from beneath any of the plates 24 and acting to settle a grain of corn properly in place under its plate 24 or in case two grains of corn should be partially wedged beneath one plate 24 to force one of such grains away and permit the other to properly settle in place beneath the plate.

42 indicates arms which in the construction shown are secured to the under face of the hub portion 32 and project over and in contact with the plate 20, or nearly so, so that as such plate 20 is rotated the arms will act to direct the corn toward the edge of such plate.

It will be understood that through the gearing shown the plate 20 can be driven intermittently through the action of a check-row wire on the forks of a check-rower head or can be driven continuously by other means, the first method of driving being of course when the machine is used for hill-planting and the second method when it is desired to use the machine as a drill-planter. In hill-planting it is highly desirable that the same number of grains of corn be dropped in each hill, and with the grains of corn carried under the plates 24, the plates being spaced a uniform distance apart, it is evident that with each full operation of the check-rower forks the plate will be turned a certain distance and a certain number of grains necessarily dropped through the large opening 39 in the bottom plate 10. Now in case it is deemed advisable that a less number of grains for each operation be dropped this can be attained by removing a certain number of the plates 24 in the manner heretofore described and substituting in lieu thereof certain other plates, like that shown in Fig. 8, the plate there shown being indicated by 24<sup>a</sup>, such plate 24<sup>a</sup> having, as shown, at its forward end a downwardly-projecting lip 24<sup>b</sup>, the lower end of which comes nearly to the surface of the seed-plate 20 and of course effectually prevents the entrance of a grain beneath such plate. If, therefore, the machine had previously been adapted for delivering three grains of corn, for example, through the opening 39 in the bottom-plate 10 at each operation of the check-rower forks and it was desired to reduce the number dropped at each such operation to two grains of corn, every third plate 24 would be lifted from its stud 23 and be replaced by a plate 24<sup>a</sup>.

By the construction shown it will be evident that between every two vertical projections 21 there is a space which is adapted to receive a grain of corn, and owing to the overlying plate 24 such grain of corn can enter only edgewise, and by the inclined forward edge of the horizontal piece 22 a cell or pocket of sufficient size is formed to receive a single grain, and only a single grain, which when in the pocket will lie upon the upper

face of the bottom plate 10 and will be swept along on such plate as the seed-plate 20 rotates. In case a grain of corn somewhat thicker than the ordinary grain or somewhat more rounded is delivered to the mouth of the cell or pocket just referred to the plate 24 will give and rise at its forward end by reason of its loose fit on the stud 23, as before explained, thus adapting the device to the varying widths encountered in a large quantity of corn, which is a feature of much value in machines constructed to receive grains of corn edgewise in the cells or pockets of the seed-plate.

As shown, each plate 24 is slightly notched on its underside at its forward edge, producing a slight downwardly-extending lip 25<sup>a</sup>, which construction aids in holding a grain of corn properly in its recess.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A seed-plate provided with cells adapted to receive grains of corn, in combination with covering means for said cells.

2. A seed-plate provided with cells adapted to receive grains of corn, in combination with a series of covers for said cells.

3. A seed-plate having cells at its edge adapted to receive grains of corn edgewise and hold them with their edges toward the side of said plate, substantially as specified.

4. A seed-plate having cells at its edge adapted to receive grains of corn edgewise and hold them with their edges toward the side of said plate, in combination with means for covering said cells, substantially as specified.

5. A seed-plate having cells at its edge adapted to receive grains of corn edgewise and hold them with their edges toward the side of said plate, in combination with a cover for each cell, substantially as specified.

6. A seed-plate having cells at its edge adapted to receive grains of corn, in combination with means for covering said cells, substantially as specified.

7. A seed-plate having cells at its edge adapted to receive grains of corn, in combination with a series of covers for said cells, substantially as specified.

8. A seed-plate having cells at its edge adapted to receive grains of corn, in combination with a series of covers for said cells, and means for removably securing said covers in place, substantially as specified.

9. A seed-plate having cells at its edge adapted to receive grains of corn, in combination with a series of movable covers for said cells, substantially as specified.

10. A seed-plate having cells at its edge adapted to receive grains of corn, in combination with a series of covers for said cells, and means for permitting a limited rising-and-falling movement of said covers at their inner ends, substantially as specified.

11. A seed-plate having cells at its edge adapted to receive grains of corn, in combina-



tion with a series of covers for said cells, said covers each being provided with a slight downwardly-extending lip near its inner end, and means for permitting a limited rising-and-falling movement of said covers, substantially as specified.

12. A seed-plate having cells at its edge adapted to receive grains of corn, and vertical projections on said plate, in combination with a series of covers for said cells, said covers extending at their inner ends between said projections, substantially as specified.

13. A seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, in combination with a series of covers over said recesses, and means for removably attaching said covers to said annular extension, substantially as specified.

14. A seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, in combination with a series of covers over said recesses, said covers being secured near their outer ends to said extension and adapted to have a limited rising-and-falling movement at their inner ends, substantially as specified.

15. A seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, in combination with a series of covers over said recesses, and studs near the outer edge of said annular extension to which said covers are secured, substantially as specified.

16. The combination with a seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, and a series of studs arranged on the upper face of said extension, of a series of covers loosely mounted near their rear ends on such studs and projecting over said recesses, substantially as specified.

17. The combination with a seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, and a series of studs arranged on the upper face of said extension, of a series of covers loosely mounted near their rear ends on such studs and projecting over said recesses, and means for holding said covers on said studs, substantially as specified.

18. The combination with a seed-plate having at its edge an annular extension, and having a series of recesses formed in said extension adapted to receive grains of corn, and a

series of studs arranged on the upper face of said extension, of a series of covers loosely mounted near their rear ends on such studs and projecting over said recesses, and a spring-strip arranged over said covers for holding them in place on said studs, substantially as specified.

19. The combination with a seed-plate having an annular extension carried by said plate, said extension being raised above the surface of the outer portion of said plate and provided with recesses adapted to receive grains of corn from the surface of said plate, of a series of movable covers secured to said annular extension and projecting over said recesses, substantially as specified.

20. The combination with the bottom plate of a seedbox, of a seed-plate rotatably secured thereover, an annular extension carried by said seed-plate and located over the said bottom plate near the outer edge thereof, said extension being provided with recesses adapted to receive grains of corn edgewise from said seed-plate so that such grains in said recesses will lie flat on the said bottom plate with their edges toward the side wall of the seedbox, and means for rotating said seed-plate and its said extension, substantially as specified.

21. The combination with the bottom plate of a seedbox, of a seed-plate rotatably secured thereover, an annular extension carried by said seed-plate and located over the said bottom plate near the outer edge thereof, said extension being provided with recesses adapted to receive grains of corn edgewise from said seed-plate so that such grains in said recesses will lie flat on the said bottom plate with their edges toward the side wall of the seedbox, covers over said recesses, and means for rotating said seed-plate and its said extension, substantially as specified.

22. The combination with the bottom plate of a seedbox, of a seed-plate rotatably secured thereover, an annular extension carried by said seed-plate and located over the said bottom plate near the outer edge thereof, said extension being provided with recesses adapted to receive grains of corn edgewise from said seed-plate so that such grains in said recesses will lie flat on the said bottom plate with their edges toward the side wall of the seedbox, covers over said recesses, and means for loosely connecting said covers to said annular extension, substantially as specified.

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Witnesses:

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