

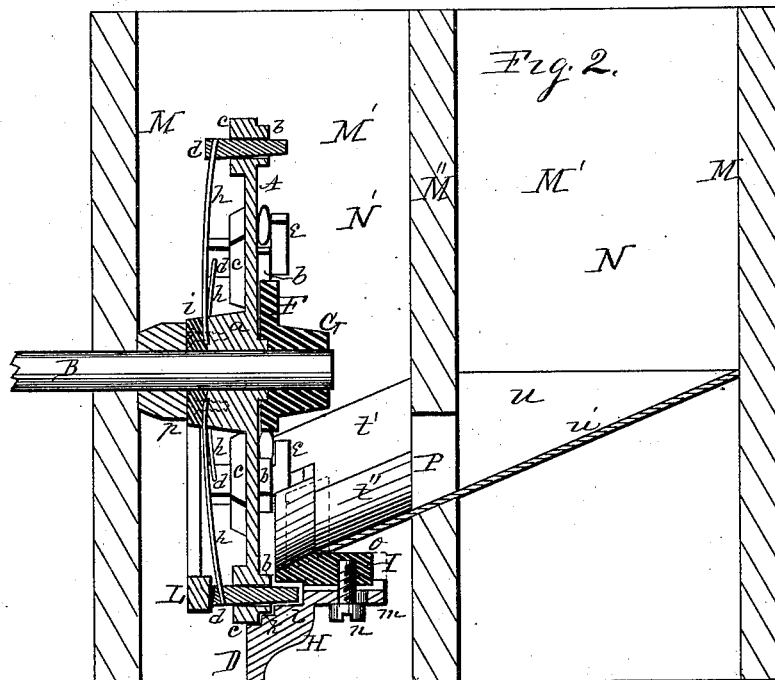
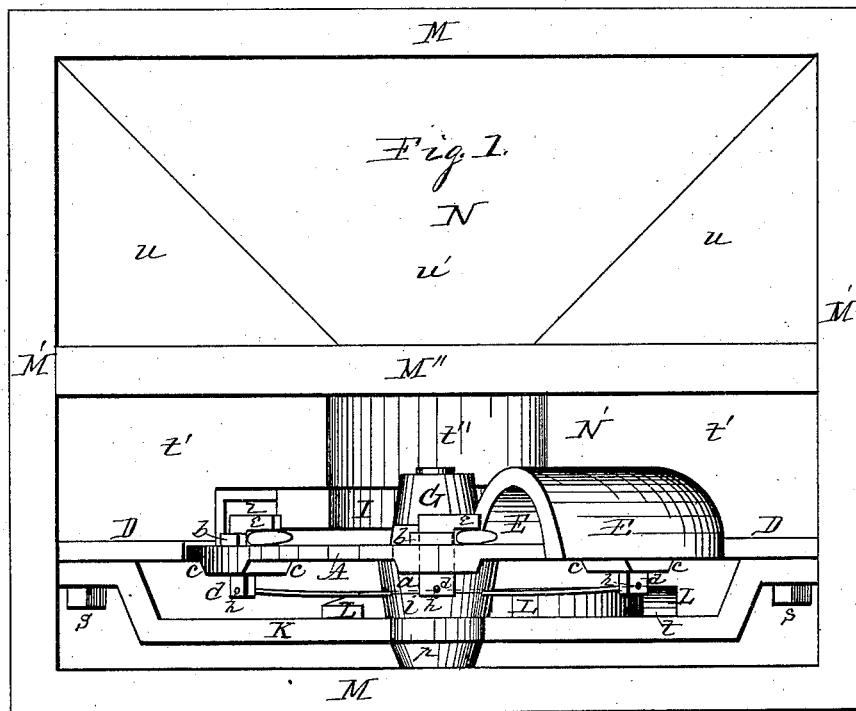
(No Model.)

2 Sheets—Sheet 1.

E. H. PUTNAM.
SEED PLANTER.

No. 304,665.

Patented Sept. 2, 1884.



Witnesses.
A. B. Schel
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Inventor
Edward H. Putnam
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(No Model.)

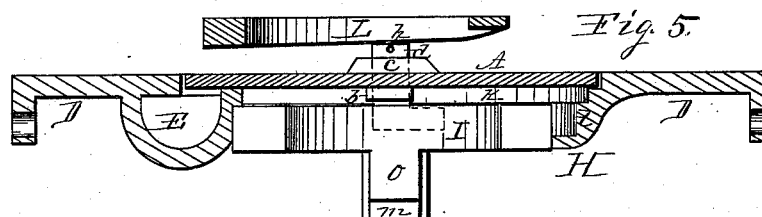
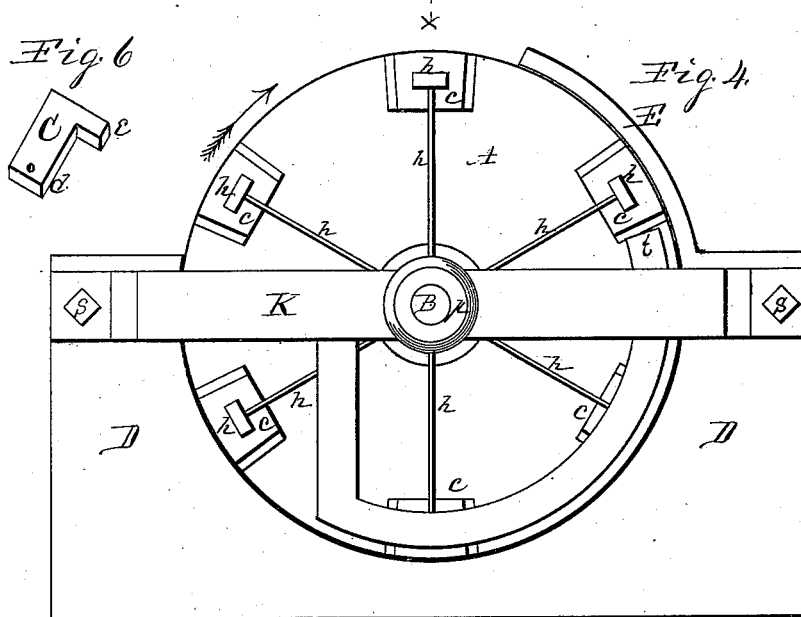
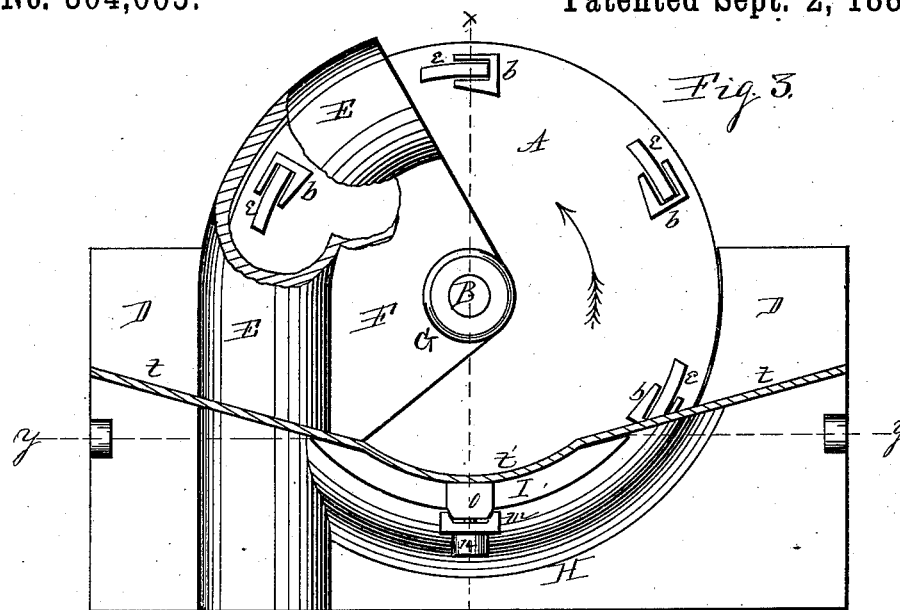
2 Sheets—Sheet 2.

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Witnesses.
A. O. Behl.
J. G. Loring

Inventor
Edward H. Putnam
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UNITED STATES PATENT OFFICE.

EDWARD H. PUTNAM, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-HALF
TO GEORGE L. FARMER, OF SAME PLACE.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 304,665, dated September 2, 1884.

Application filed May 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. PUTNAM, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Seed-Planters, of which the following is a specification.

This invention relates to that portion of a seed-planting machine employed to distribute the seed, and of that class of seed-distributing devices designed to pick up and deposit at proper intervals a single grain of seed.

The object of this invention is to produce a reliable single-grain seed-distributing device at a small cost, and of a construction capable of use, perhaps, in all machines designed for depositing a single seed at proper intervals in drills, or a given number of seeds at proper intervals in hills, in rows, or in check-rows.

To this end I have designed and constructed the seed-distributing device represented in the accompanying drawings, in which—

Figure 1 is a plan view of my improved seed-distributing machine. Fig. 2 is a transverse vertical central section on dotted line *x* on Fig. 3. Fig. 3 is a front side elevation of the seed-distributing device, in which a portion of the seed-conducting spout is broken away. Fig. 4 is a rear side elevation of the seed-distributing device. Fig. 5 is a horizontal section on dotted line *y* on Fig. 3, and Fig. 6 is an isometrical representation of one of the seed-pickers.

In the figures, A represents a disk provided centrally with a hub, *a*, bored to receive a shaft, B, on which it is mounted to revolve with the shaft. This disk A, near its periphery, is provided with fixed jaws *b*, projecting from its face side. The opening between the fixed jaws *b* extends through the disk in the direction of its axis and parallel thereto, and through a boss, *c*, formed on the rear side thereof. The boss *c* is employed to give greater length to the side walls of the opening between the jaws to increase the bearing-surface.

At C is represented a seed-picking jaw composed of a shank, *d*, and a grasping-jaw, *e*. The shank *d* of the seed-picking jaw is fitted to slide freely endwise in the opening between the fixed jaws, and to move therein in the axial

direction of the disk. The seed-grasping jaws *e* project from one end and forward side edge of the shank, and at a right angle thereto, in such a manner as to grasp and hold a grain of seed between the jaw and the side of the disk.

At *h* are represented radial springs—one to each seed-picking jaw—having their outer ends fixed in the end portion of the shank projecting from the rear face of the disk, and their inner ends fixed in the hub of the disk, which in this instance is produced in two parts—a main portion, *a*, and an outer portion, *i*. The end of the main portion *a* of the hub is produced in conic form, and the inner face of the outer portion, *i*, is produced in convex conic form to engage the main hub. The meeting faces of these portions of the hub are provided with radial grooves at proper intervals to receive the inner ends of the radial springs. These portions *a* and *i* of the hub are securely fixed to each other by means of sufficient screws to clamp the parts and fix the springs in such a manner that their spring action will operate to hold the grasping-jaws closed.

At D is represented a seed-disk supporting-plate, provided on its rear face with an opening to receive the seed-disk in the plane of the plate. The front side of the supporting-plate is provided with a seed-conducting spout, E, rising vertically on the plate at the front edge of the seed-disk, and having its upper end portion curving over the disk.

At F is represented a web projecting from the inner edge of the seed-conducting spout extending over the axial center of the disk. This web F is provided with a hub, G, bored to receive the shaft B of the seed-disk. The under portion of the supporting-plate D is provided with a curved flange, H, of rim form, connected at one end with the seed-spout E, from which point it extends on the curved line of the opening which receives the seed-disk. This flange H, on its inner upper surface, is provided with a groove, *k*, to receive the outer portion of the fixed jaw *b* in a free manner. It is also provided with a groove, *l*, to receive the seed-grasping jaw *e*. This flange H is also provided with a supporting-arm, *m*, projecting centrally from its outer face, and its upper face is grooved lengthwise, having

beveled or inclined side walls. It is also slotted lengthwise centrally to receive a screw, *n*, which is made adjustable therein.

At I is represented an adjustable seed-gage, 5 consisting, mainly, of a curved bar of proper form to enter within the inner curved surface of the flange H, and its inner under surface is grooved to overlap the grasping-jaw, forming a seed-groove through which the grasping-jaw travels. This seed-gage is provided 10 with a supporting-arm, *o*, projecting from its outer face, and its under edges are beveled to engage the beveled or inclined walls of the grooved supporting-arm *m*, which serves 15 to give it position, and in which it is made adjustable lengthwise of the supporting-arm, to vary the opening between its inner face and the inner face of the seed-disk, as shown in the dotted lines, to adapt the machine to different varieties or kinds of seeds in which 20 the grains vary in size. The screw *n* has a screw-thread connection with the arm *o*, and serves to clamp the parts to hold the gage in its adjusted position.

At K is represented a bracket-support having its center provided with a hub-bearing, *p*, bored to receive the shaft B of the seed-disk in such a manner that the shaft will revolve 25 therein. This bracket-support K is fixed in place to the supporting-plate D by means of screws *s*, passed through the feet of the bracket and screw-threaded into the supporting-plate. 30

At L is represented a segment-cam joined to the bracket-support, from which it depends 35 concentric to the axis of the seed-disk, and in the forward portion of the circle in which the shank ends of the seed-picking jaws revolve. The upper end, *t*, of the segment-cam is beveled in such a manner as to receive the shank 40 ends of the seed-picking jaws in their revolutions and open the grasping-jaws to drop the seed at or near the point of contact, and the relative position of the segment-cam with the seed-disk is such as to hold the grasping-jaws 45 open in their descent and passage through the seed, that the seed may be received within the jaws, and on leaving the cam the spring action upon the jaws will grasp and hold the seed, to be deposited on again engaging the cam.

At M are represented side walls, *M'* end walls, and *M''* a partition-wall, of a two-chambered seed-box rectangular in outline form. In this seed-box N represents the chamber 50 into which the seed is placed, and *N'* the chamber from which the seed is distributed. The seed-distributing mechanism hereinbefore described is securely fixed centrally in a vertical position within the distributing-chamber 55 *N'* in the seed-box. The distributing-chamber *N'* is provided with a bottom having its end portions, *t*, inclined toward the center of the box, and its center portion, *t'*, curved to overlap the adjustable gage, and is inclined toward the seed-disk to conduct the seed over 60 the gage into the groove, through which the jaws are carried in the rotation of the disk.

The seed-receptacle or receiving-chamber N is also provided with a bottom having its ends 70 *u* inclined toward the center of the chamber and its center *u'* inclined toward the seed-disk, and connects with or is a part of the center portion, *t''*, of the bottom in the distributing-chamber *N'*.

At P is represented an opening formed in the partition *M''*, centrally over the inclined 75 central portion, *t''* and *u'*, of the bottoms of the chambers, to permit the seed to flow from the receiving-chamber N into the distributing-chamber *N'*.

My improved seeding mechanism is capable 80 of use in connection with power-planters of perhaps all or nearly all the varieties now in use, and in such use the seeding mechanism is mounted upon the machine in the usual manner, and the seeding device is connected 85 with the rotary parts of the machine in any suitable manner to cause the seeding-disk to revolve in the forward movement of the machine. The seed to be distributed is then put into the receiving-chamber N, from 90 which it will descend the inclined bottom through the opening P in the partition and enter the groove in which the grasping-jaws travel in their rotation; and in the rotations of the seed-disk the grains will be received with- 95 in the jaws, and will be grasped and held by the action of the radial springs and carried upward until the shanks of the jaws engage the cam, at which point the grains will be liberated, and will descend the outlet-spout to 100 the furrow when used as a drill.

When the machine is employed as a check-row or hill planting machine, a flipper or check-valve is employed to retain the seed, and the accumulated seeds are deposited at 105 proper intervals in hills by any of the known methods employed for the purpose.

I claim as my invention—

1. The combination, with a seed-distributing disk, of a seed-picker, substantially as 110 herein described, said seed-picker fitted to reciprocate in the axial direction of the disk, in a guide within the disk, substantially as and for the purpose set forth.

2. The combination of a rotary seed-disk, 115 a seed-picker fitted to reciprocate in the axial direction of the disk, and a spring to actuate the picker, their several parts combined for joint action, substantially as and for the purpose set forth. 120

3. In a seed-disk, a two-part hub grooved to receive the radial springs, substantially as and for the purpose set forth.

4. The combination of the rotary seed-disk having pickers fitted to reciprocate in its axial 125 direction, and a supporting-plate grooved to receive the pickers in the rotations of the disk, and provided with a discharge or outlet spout, substantially as and for the purpose set forth.

5. The combination, with the rotating seed-disk and the spring-actuated seed-pickers, reciprocating in the axial direction of the disk, 130

of a segment-cam to operate the pickers, as and for the purpose set forth.

6. The combination, with the rotary seed-disk having pickers fitted to reciprocate in the axial direction of the disk, of an adjustable seed-gage, substantially as and for the purpose set forth.

7. The combination, with the seed-distributing disk, and with its support mounted in a two-chambered seed-box, of inclined bottoms to conduct the seed to the seed-distributing

disk, substantially as and for the purpose set forth.

8. The combination, with the rotating seed-pickers, of a supporting-plate having grooved ways, through which the pickers travel in their rotations, substantially as and for the purpose set forth.

EDWARD H. PUTNAM.

Witnesses:

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