

No. 637,954.

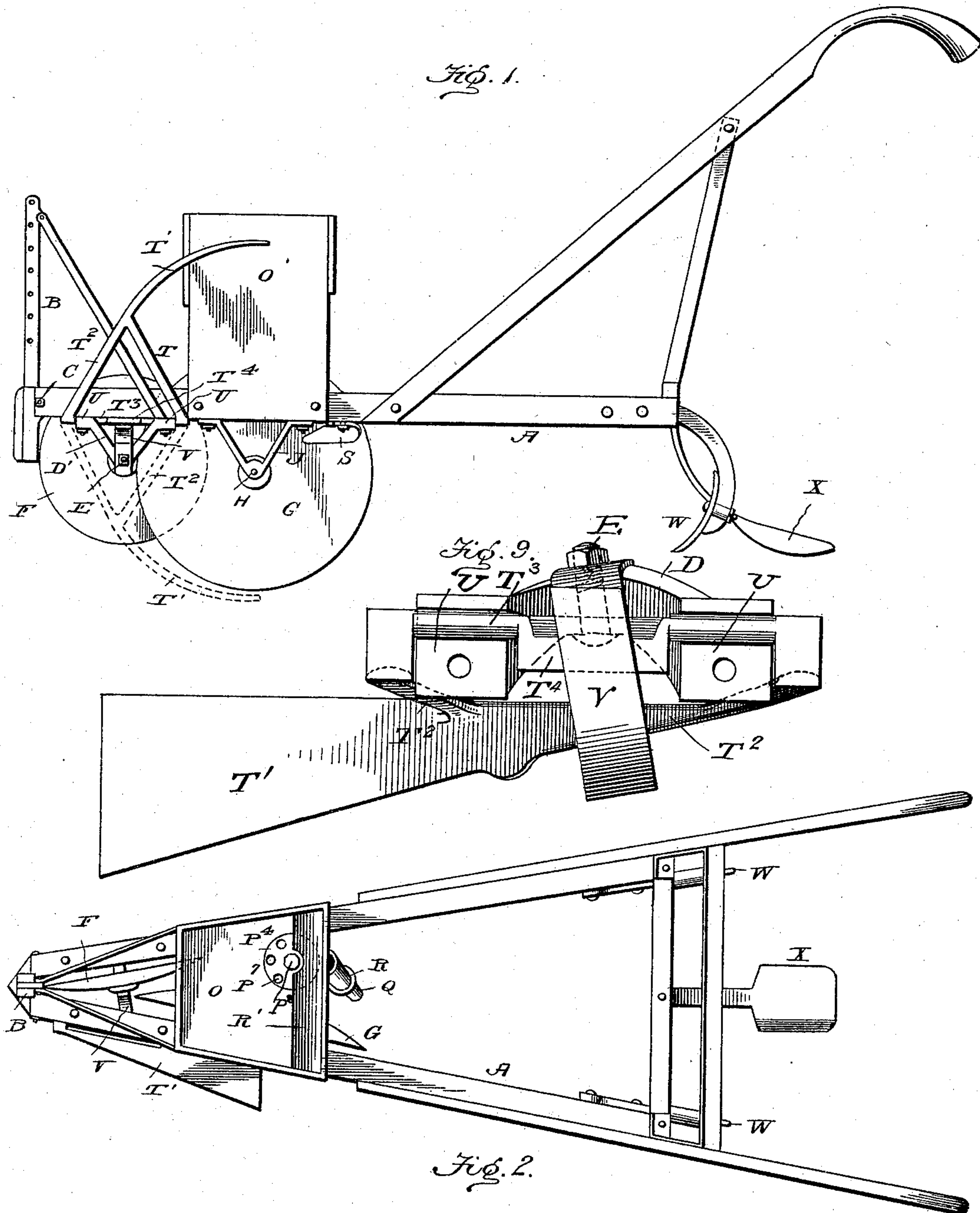
Patented Nov. 28, 1899.

J. R. AYERS.
CORN PLANTER.

(Application filed July 29, 1899.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses:

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3 Sheets—Sheet 2.

Fig. 3.

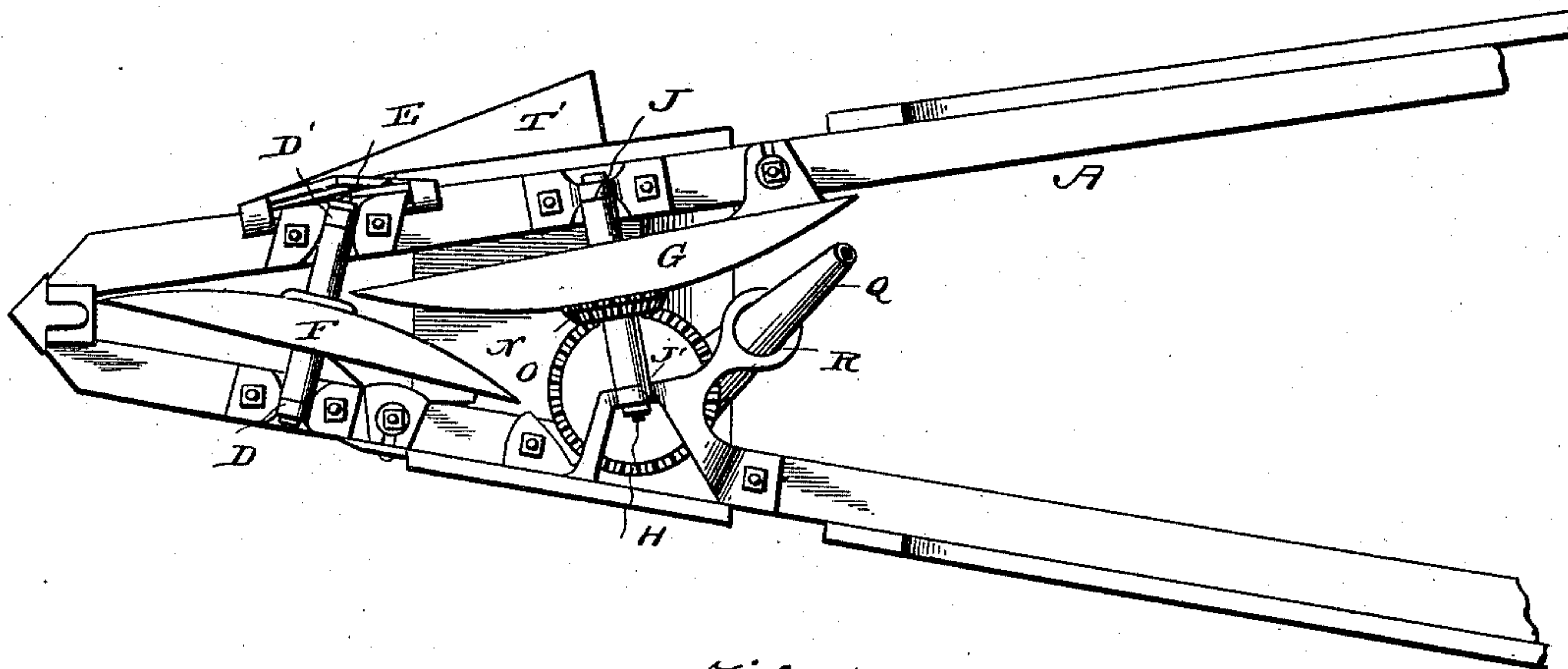


Fig. 4.

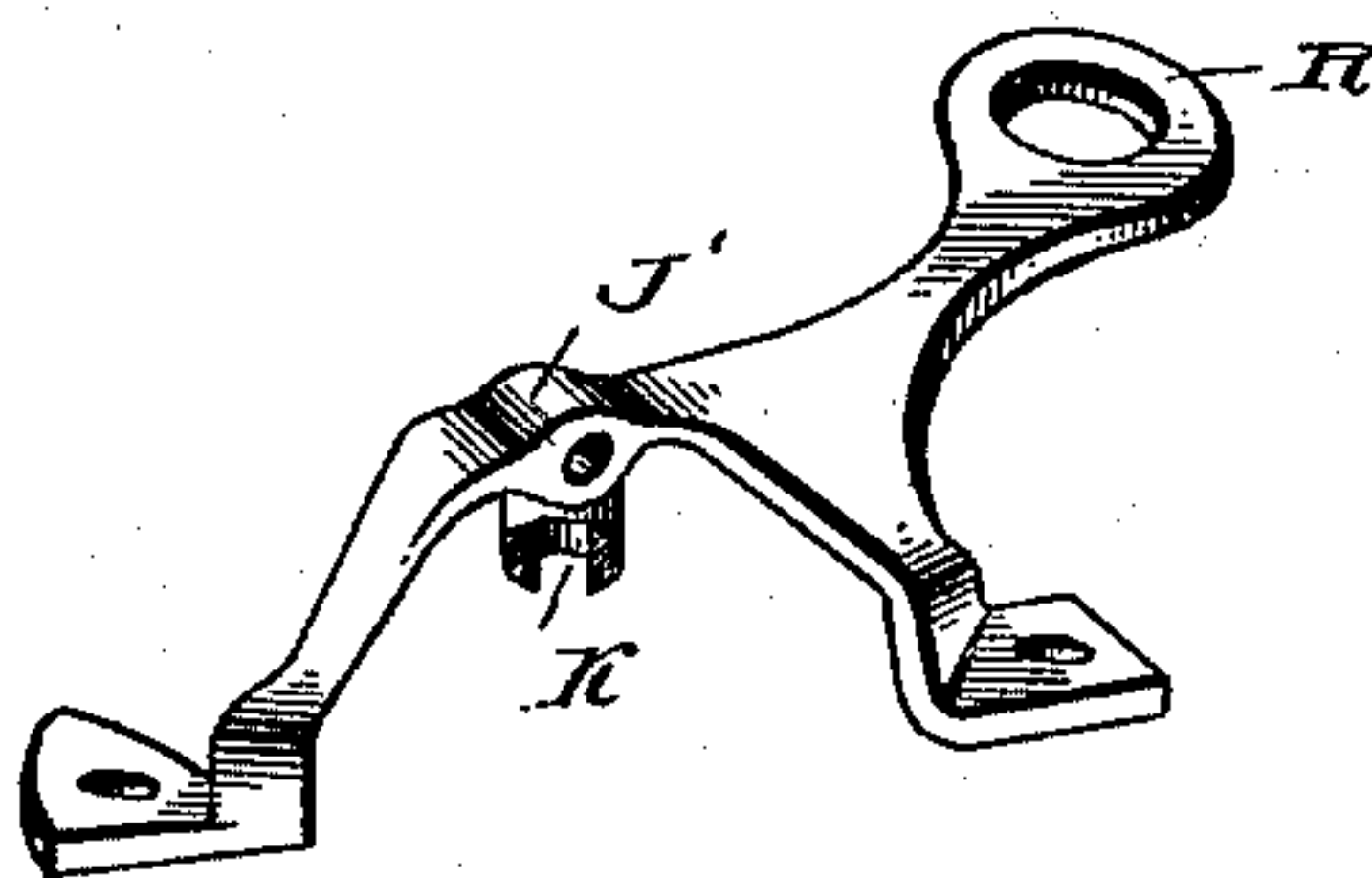
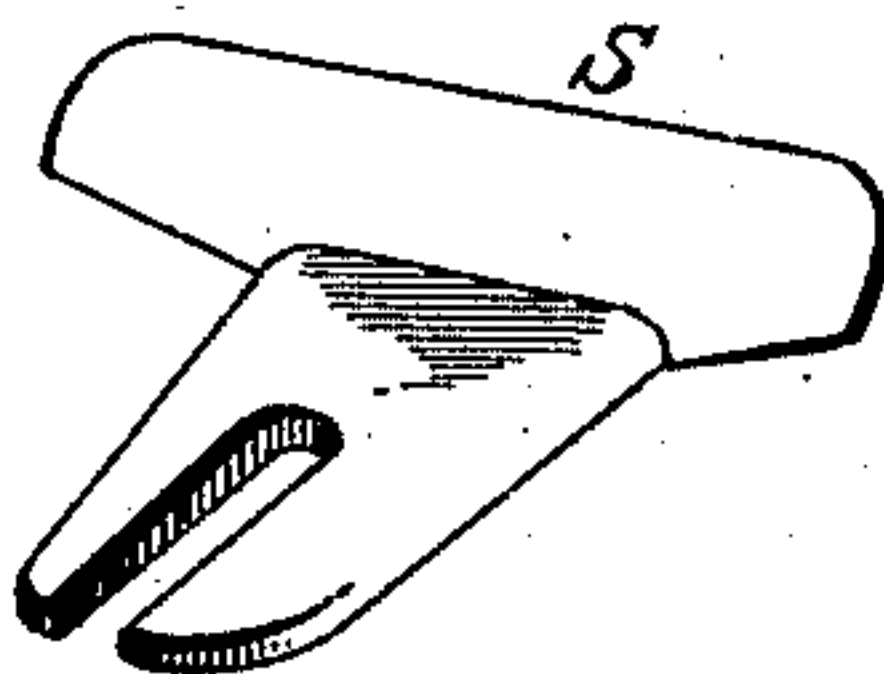


Fig. 5.



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Fig. 6.

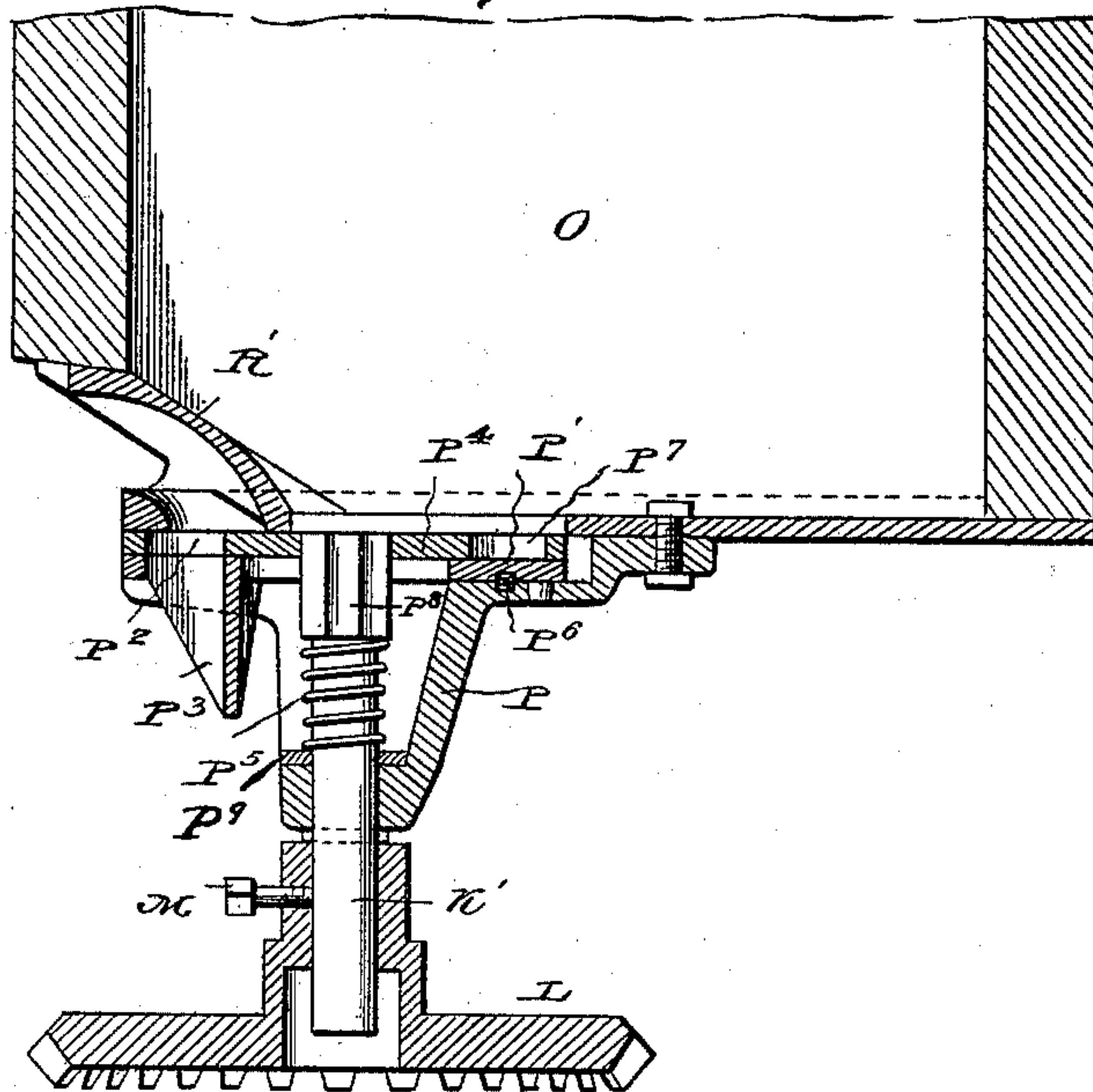


Fig. 7.

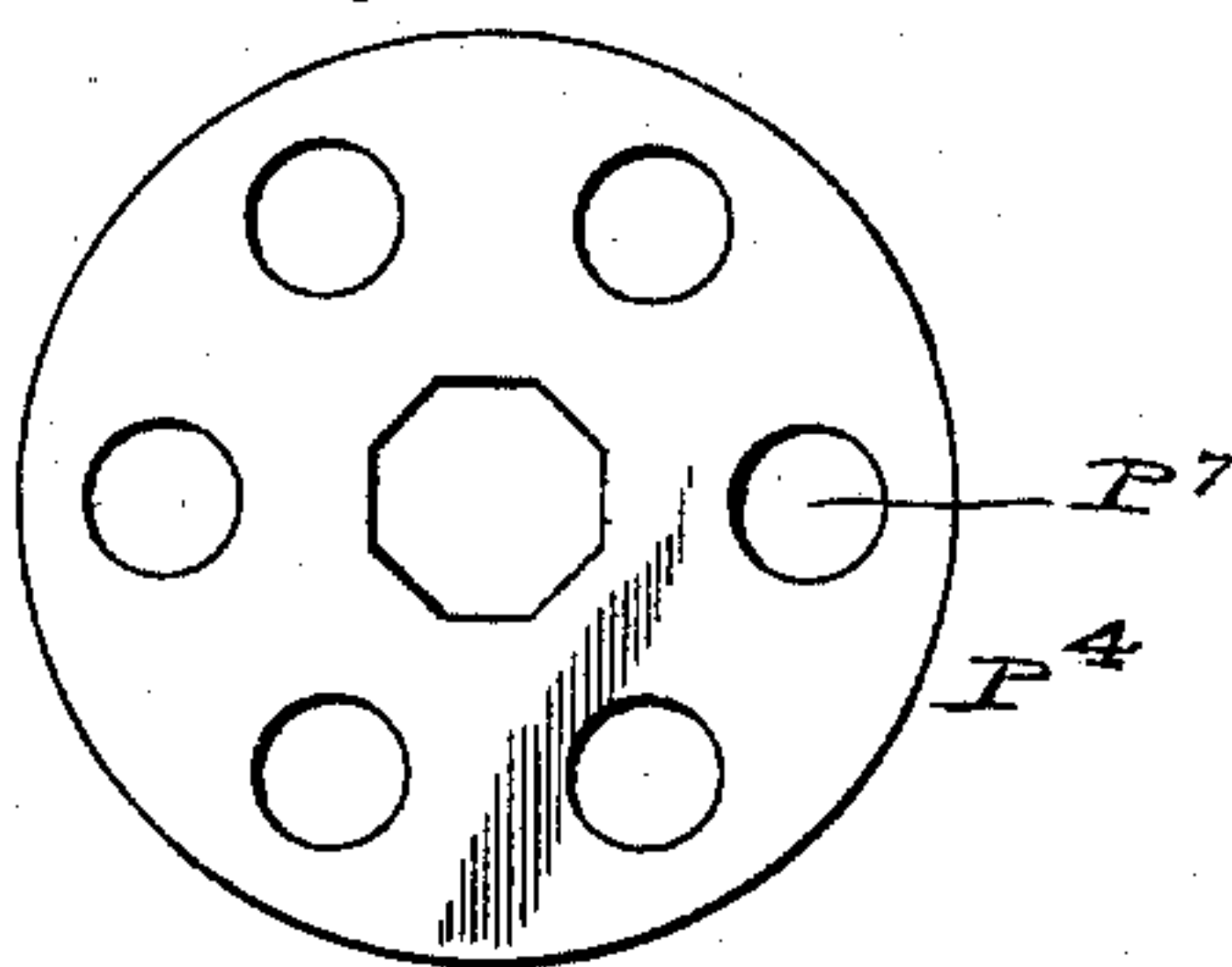
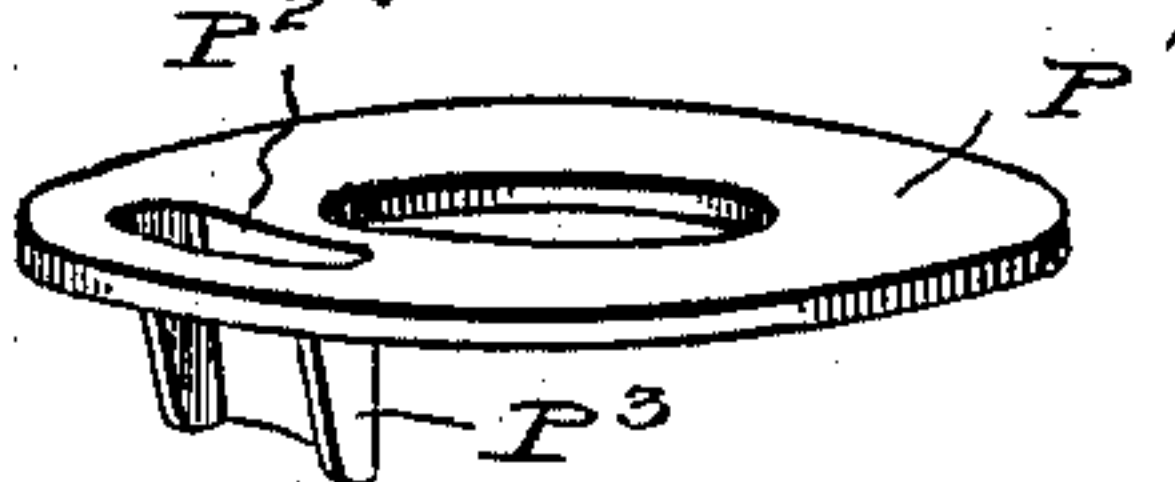


Fig. 8.



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JAMES R. AYERS, OF PETERSBURG, VIRGINIA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 637,954, dated November 28, 1899.

Application filed July 29, 1899. Serial No. 726,553. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. AYERS, a citizen of the United States, residing at Petersburg, in the county of Dinwiddie and State of Virginia, have invented certain new and useful Improvements in Corn-Planters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an efficient and very simple planter by means of new and useful combinations and arrangements of revolving disks and seed-dropping mechanism, as will appear from the following description and accompanying drawings, in which like symbols refer to like parts wherever they occur.

Figure 1 is a side elevation of my planter. Fig. 2 is a top plan view thereof. Fig. 3 is a bottom plan view thereof. Fig. 4 is a bottom view of the rear bearing of the rear disk. Fig. 5 is a perspective view of one of the disk-scrapers. Fig. 6 is a detail section of the hopper and seed-dropping mechanism. Fig. 7 is a plan view of the seed-plate. Fig. 8 is a perspective view of the seed-guiding plate, and Fig. 9 is a plan of the shoe enlarged.

The frame of my planter may be made in different ways; but that which I prefer as most simply accommodating the essential features of my invention is the triangular form, as shown in the drawings and designated by the letter A, having the front ends held together by the bolt C, traversing the same, and the intervening hitch-iron B. Journaled within the forward angle of the frame and overlapping each other are two revolving disks F and G, so mounted that the lower or cutting edges travel substantially in the same line, the rear one deepening the trench made by the forward one and throwing the dirt to the opposite side, so that the side pressure of one disk is balanced by that of the other. This is accomplished by having the bearing on the concave side of each disk, or on the side to which each respective disk throws the dirt, set nearer the ground or farther down from the frame and farther forward on the frame than the opposite bearing of the same disk. The journals of the disks are formed by tubes

or ferrules intervening between the opposite bearings and held in place by bolts traversing the same and said bearings, thus forming a long and very durable journal and at same time serving as braces to the planter, holding the parts rigidly in position.

The seed-dropping mechanism is in the bottom of and underneath the hopper O and receives its motion from the disk G.

The bearing J', which is the bearing farthest to the rear, has formed integral therewith the lug K, which has journaled therein the upright revolving stem K', carrying the beveled gear-wheel L, removably attached thereto by the set-screw M, said gear-wheel being adapted to mesh with the small gear-wheel N, formed on the hub of the disk G, which revolves by contact with the ground. Secured to and depending from the hopper O is the spider-casting P. This is secured to the bottom of the hopper by lugs outside the circle of the seed and guiding plates, sufficient space being allowed between the upper surface of the spider-casting and the bottom of the hopper to receive the thickest seed-plate that may be needed and the seed-guiding plate, the upper surface of the seed-plate being held in actual contact with the hopper and its lower surface in actual contact with the seed-guiding plate by the springs P⁶, pressing upon the bottom of the seed-guiding plate. The lower part P⁹ of the spider-casting forms the upper bearing of the stem K'.

Slidably but not revolubly mounted on the upper end of the stem K' and revolving therewith is the angular collar P⁸, the upper end of which collar enters the central angular opening of the seed-plate, revolving the same when the mechanism is in motion. The collar P⁸ is held in engagement with the seed-plate by the spiral spring P⁵ and can be pressed down from the interior of the hopper, so as to be disengaged from the seed-plate and so allow the seed-plate to be easily taken out and changed as needed to vary the distance and quantity of the dropping.

Various seed-plates may be had of different thicknesses as needed to handle different kinds of seed, the seed-guiding plate P' readily adjusting itself to the thickness of the seed-plate by the action of the springs P⁶,

when they are used, or being easily adjusted by set-screws, if these are used in place of the springs.

On the underside of the seed-guiding plate 5 is the lip P³, which enters the mouth of the tube Q, serving to guide the seed into said tube and to hold the upper end of the tube in place, the lower end of the tube being held by the loop or ring R, formed as a part of 10 the casting J'.

In order that the disk G may not contact the ground and so operate the mechanism when not wanted, as in carrying the planter to and from the field, I employ a reversible 15 shoe to contact the ground underneath the rear disk. The different parts of this shoe are designated in the drawings by the letters T, T', T², T³, and T⁴. This shoe is composed of the arm T', attached to the triangle whose 20 sides are represented by the letters T, T², and T³. The side T³ is journaled in bearings U, formed in the top of the casting D. On the side T³ is a projection T⁴, which projection is acted upon by a flat spring V, held in position 25 by the bolt E. By the pressure of the spring V upon the projection T⁴ the arm T' is held out of use when turned upward, as in the drawings, or in use when turned down, as shown in drawings by dotted lines.

30 The covering may be done by the covering-plows W and presser X at the rear of the machine or by a covering-wheel or any other covering device in common use.

Having thus described my invention, that 35 which is new, and which I wish to secure by Letters Patent, is as follows:

1. In a planter the disk openers arranged one in front of the other to form the same trench, throwing the dirt to opposite sides 40 and cutting at different depths, the rear one the deepest, so that the side pressure of the one is substantially balanced by that of the other.

2. In a planter the disk openers arranged 45 one in front of the other to form the same trench, throwing the dirt to opposite sides and cutting at different depths, the rear one the deeper so the side pressure of the one is balanced by that of the other, and having the 50 end of each axle on the concave side of each respective disk set farther forward and nearer

to the ground than the other end of same axle, so that the disks may lap and still allow the lower or cutting edges to work substantially in the same line.

3. In a planter the combination of two disks 55 mounted on a frame, working one in front of the other to form the same trench, and a seed-dropping mechanism operated by one of said disks. 60

4. In a planter consisting of the frame having two disks mounted thereon one in front of the other and both operating to form the same trench, the bracial disk-journals consisting of tubes intervening between the opposite bearings the whole traversed by the 65 same bolt holding all in rigid position.

5. In a seed-planting mechanism the upright rod K' having the collar P⁸ slidably 70 mounted on its upper end and adapted to engage with the seed-plate and operate the same.

6. In a planter the adjustable seed-guiding plate P' enabling the same guiding-plate 75 to accommodate seed-plates of different thicknesses.

7. In a seed-dropping mechanism operated by a revolving disk, the combination of the bearing J' having the lug-bearing K integral therewith, the upright rod K', the spiral spring 80 P⁵, the collar P⁸ engaging the seed-plate P⁴, the seed-guiding plate P' provided with lip P³, tube Q and ring or support R, preferably formed integrally with the bearing J', all substantially as shown and described. 85

8. In a planter having the dropping mechanism driven by a revolving disk, the reversible shoe or carrier allowing the disk to contact the ground when the shoe is turned up but preventing such contact when turned 90 down.

9. In a planter in which the dropping mechanism is driven by a revolving disk, the combination of the reversible shoe or carrier with the disk-bearing D and spring V substantially 95 as shown and for the purpose described.

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

JAMES R. AYERS.

Witnesses:

G. J. SEAY,
JAS. D. MASON.