

(No Model.)

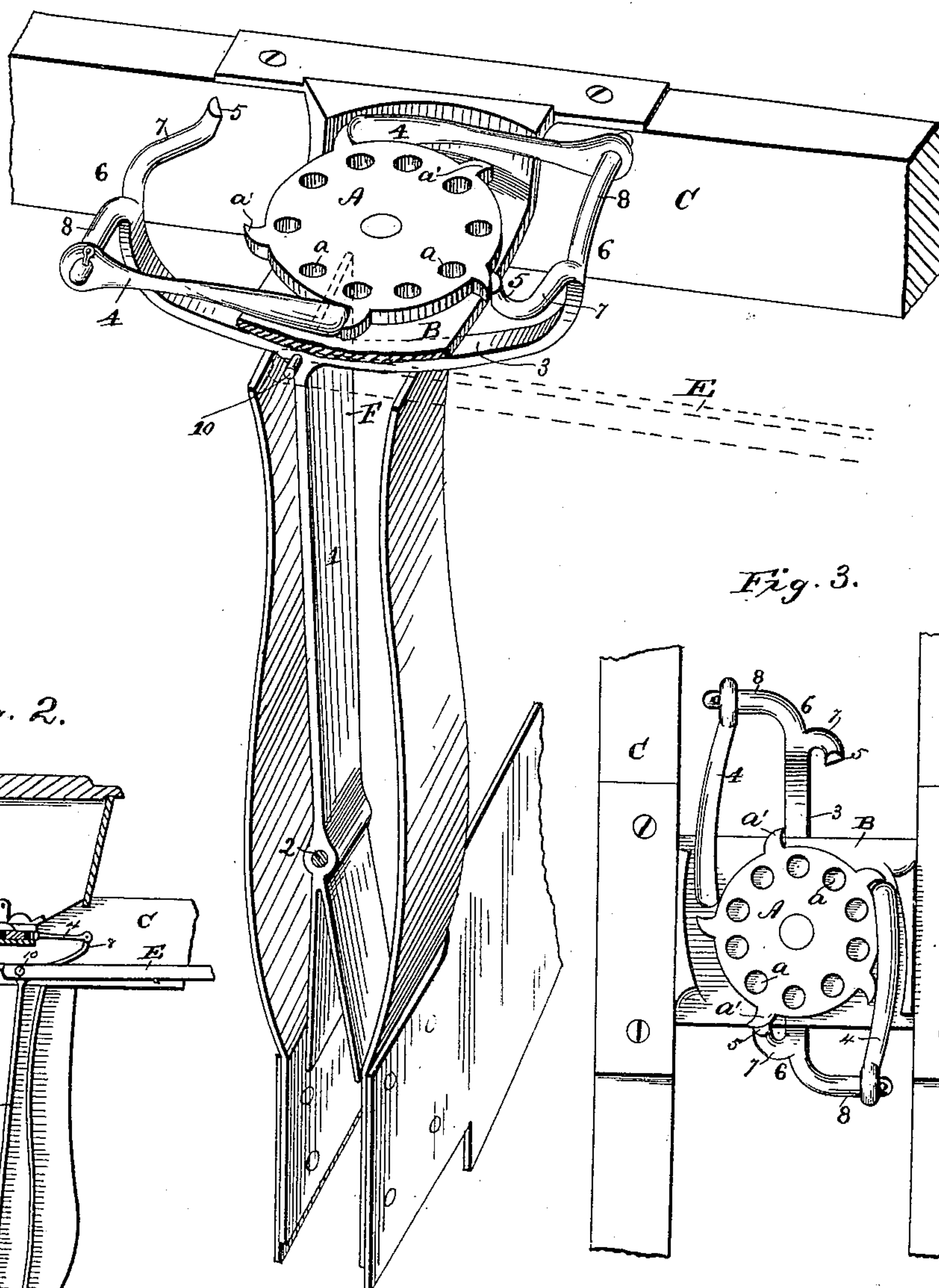
R. C. ROBINSON.

CORN PLANTER.

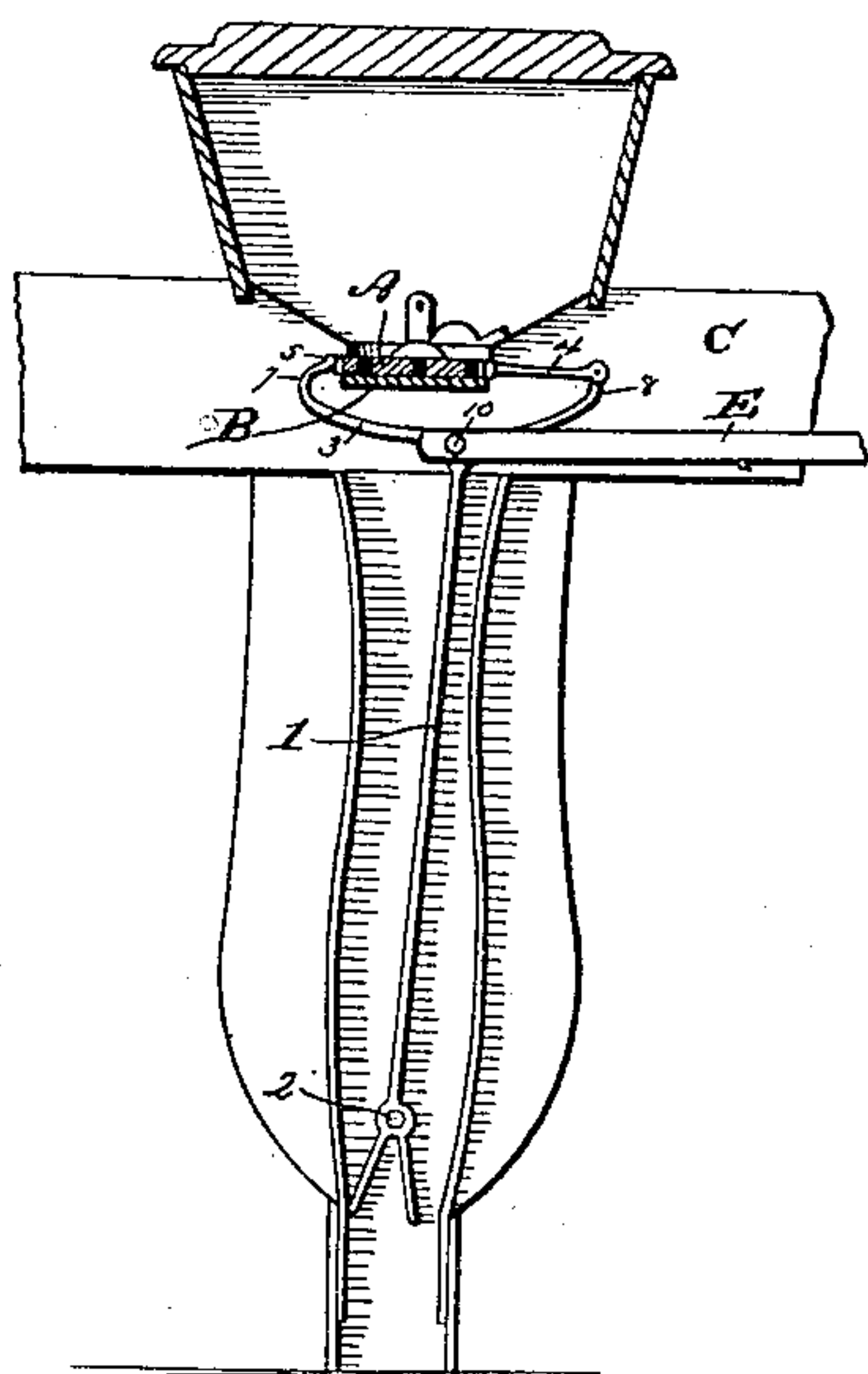
No. 390,708.

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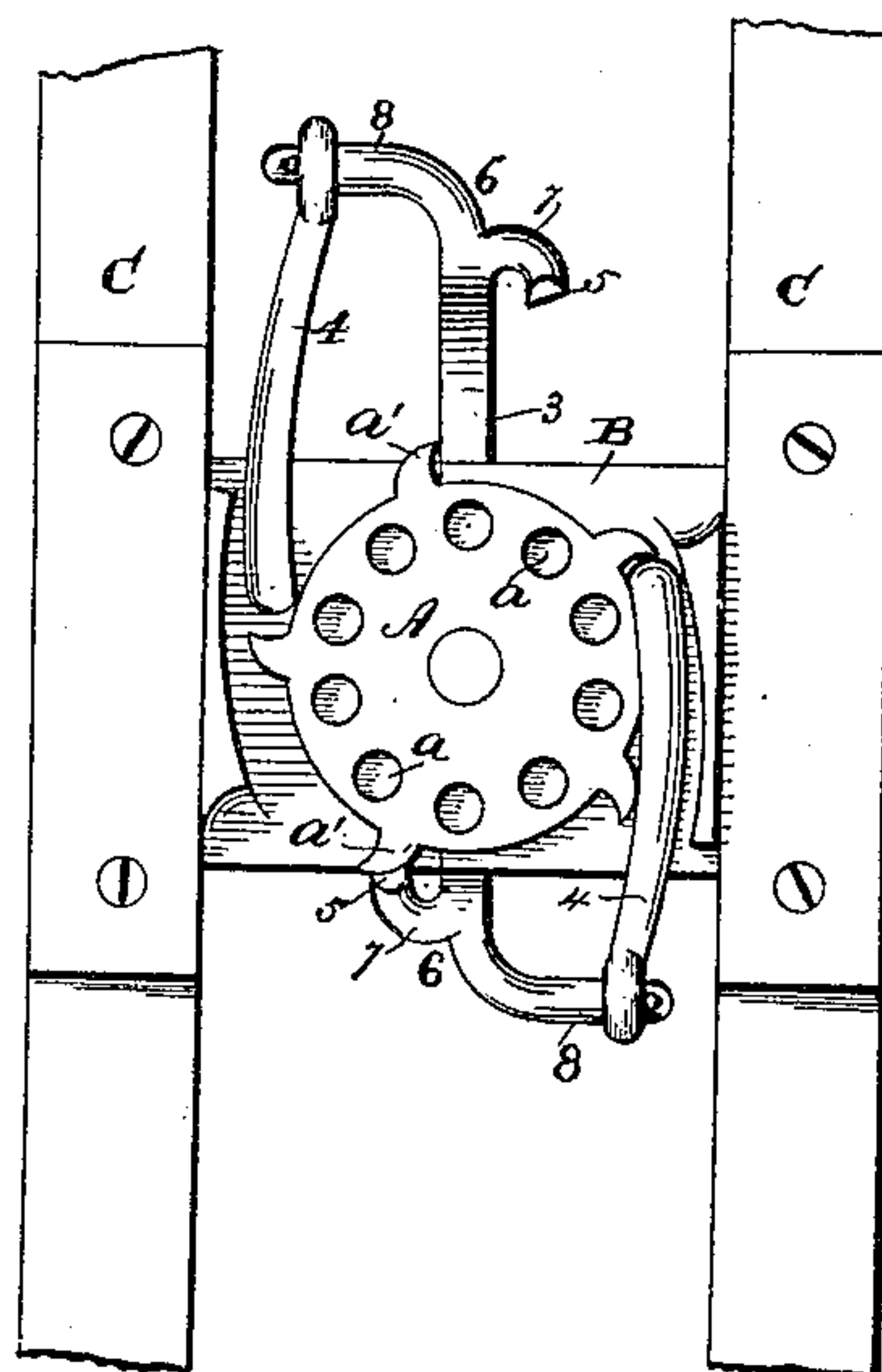
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 390,708, dated October 9, 1888.

Application filed March 7, 1888. Serial No. 266,446. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT C. ROBINSON, of Grand Haven, in the county of Ottawa and State of Michigan, 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 same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates more particularly to improvements in the construction, arrangement, and combination of the actuating devices for effecting and controlling the movements of the seed-plate or other feeding devices, all as hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a rear view, in perspective, of a portion of the feeding mechanism of a planter, illustrating the application of my invention, the seed-box, rear supporting-rail, and cover of the chute or conduit being removed. Fig. 2 is a rear elevation partly in section, and Fig. 3 a top plan view of one of the feeding mechanisms.

Similar letters of reference in the several figures indicate the same parts.

As my present improvements relate principally to the actuating devices for effecting and controlling the movements of the seed-plate or equivalent parts of the feeding mechanism, I have not deemed it necessary to illustrate a complete feeding mechanism, but only so much of the latter as is brought into direct co-operative relation to my improvements.

The seed-plate A is of a well-known type, having a series of openings or pockets, *a*, to receive and deliver the seed into the conduit, and a series of arms or projections, *a'*, against which the actuating devices are arranged to impinge to effect the desired intermitting movements of the seed-plate.

The plate or bar B, upon which the seed-plate is pivotally supported, is secured at opposite ends of the two rails C, the latter extending across the planter and above the runner-frame, and in order that the feeding mechanism may be made lower and brought nearer the runners the middle portion of plate B, or that part on which the seed-plate is mounted, is located between the rails C, the latter be-

ing arranged at such distance apart as to receive and accommodate the plate B and seed-plate A between them. When thus arranged, the seed-boxes are mounted directly upon the rails C.

My improved actuating mechanism comprises a link or lever, 1, pivotally supported at or near its lower end and at a point, 2, below the seed-plate, but in line, or nearly so, with the axis of the seed-plate, a yoke or head, 3, formed upon or secured to said link and extending beneath and beyond the edges of the seed-plate, and two sets of pawls, 4, and stops 5, oppositely disposed and attached to the ends of the yoke 3 on opposite sides of the seed-plates.

The link 1 and yoke 3 are preferably formed in one piece, of substantially Y shape, the seed-plate and its support being located between the two upper branches or opposite extremities of the yoke, so that the link can freely vibrate between the rails C and beneath the plate B. Each end of the yoke 3 is provided with a cross-piece or furcated extremity, 6, one branch, 7, forming or carrying the abutment 5, and the other, 8, forming a pivotal support for the pawl 4.

The operation of the device as thus constructed will be readily understood. As the link 1, carrying yoke 3, reciprocates, the advancing pawl engages one of the teeth on the seed-plate and rotates the latter until the abutment 5 is brought into engagement with one of the teeth, as shown in Figs. 1 and 3, when the further movement of the link is arrested and the seed-plate locked in position until the movement in a reverse direction takes place. It is mainly with a view to preventing the accidental return or rebounding of the link and to hold it at the extremity of its oscillation and in locking engagement with the seed-plate that I support the link on a pivot beneath and substantially in the plane of the axis of the seed-plate, so that when the link is carried up to or past the center of oscillation it will be carried forward and held at the end of its stroke by the preponderating weight on that side of the pivot.

It will be observed that aside from the seed-plate or feeding mechanism upon which it is designed to operate the actuating mechanism described contains but three separate parts or



pieces, of which two, the pawls, are duplicates; hence but two sets of patterns are required for its manufacture, thus diminishing first cost, while the expense of setting up and  
5 adjusting is reduced to the minimum.

The operating-bar E, worked by hand or mechanism for reciprocating the link, is pivotally applied and supported at its end or ends (for it is understood that two feeding and  
10 actuating mechanisms are mounted upon each planter, as usual) at a point, 10, centrally of the yoke or upon the link, so that said pivot will be carried across the center of oscillation, the weight of the attached devices co operating  
15 with that of the link and yoke to hold the latter at the extreme of its motion in either direction.

Another and additional feature of my present invention consists in utilizing the upper  
20 portion of the dividing-plate or valve F (located in the conduit leading to the heel of the runner) as the support for the yoke 3, or, in other words, causing the said valve to perform the double function of a valve and supporting-link for the actuating devices. To  
25 this end I attach or form the yoke 3 upon the upper end of the valve F and utilize its pivot 2 as the pivotal point of support for the oscillating yoke with its pawls and stops.

Although, as is obvious, the several constituent elements of the actuating devices may be made separately and secured together by any known means, I prefer to form the  
30 yoke 3 and valve F in one piece, which is made practicable by reason of the improvements in form, construction, and arrangement described. I do not, however, wish to be understood as limiting myself to the precise form  
35 of mechanism shown, nor in its application to the particular style of feed mechanism herein shown by way of illustration, for, while the embodiment illustrated contains valuable features, the invention is capable of application  
40 and modification, as will readily be understood.

Having thus described my invention, what I claim as new is—

1. In a corn-planter, the combination, with the seed-plate, of the link pivoted beneath the  
50 seed-plate and provided with a yoke or cross-head projecting on opposite sides of the former, and the pawls mounted upon said cross-head and engaging the seed-plate, substantially as described.

2. In combination with the feeding mechanism of a corn-planter, a reciprocating yoke centrally pivoted beneath the seed-plate, the arms or extremities of the yoke projecting on  
60 opposite sides of the pivot and seed-plate, and a pawl and abutment carried by said cross-head in line with the seed-plate for engaging the latter, substantially as described.

3. In a corn-planter, and in combination with the seed-plate of the feeding mechanism,  
65 a link pivotally supported below the level of the seed-plate and provided with a cross-head projecting equally on opposite sides of its piv-

otal point of support, said cross-head carrying pawls, and locking abutment for engaging the seed-plate on opposite sides thereof, substantially as described. 70

4. In a corn-planter, and in combination with the two cross-bars, the seed-plate and its support located between said bars and attached thereto, and a link pivoted below the seed-  
75 plate and provided with a cross-head or furcated upper end carrying the pawls for engaging the seed-plate to rotate the latter, substantially as described.

5. In a corn-planter, and in combination  
80 with the seed-plate of the feeding mechanism, a link pivotally supported below the seed-plate and provided with a balanced cross head or yoke, the opposite ends of the latter standing on opposite sides of the seed-plate and carrying  
85 pawls for engaging the latter, substantially as described.

6. In combination with the seed-plate of the feeding mechanism of a planter, the improved actuating device hereinbefore described, consisting, essentially, of a link furcated  
90 or provided with a cross-head at its upper end and pivotally supported at its lower end below the seed-plate, the furcated end of the link embracing the seed-plate and carrying  
95 pawls and abutments for engaging the latter on opposite sides, substantially as described.

7. In combination with the seed-plate and its support located between the cross-bars, the yoke located beneath said support and centrally pivoted below the seed-plate, the opposite ends of said yoke standing on opposite  
100 sides of the seed-plate and provided with a cross-head, to one end of which a pawl is attached, while the other supports an abutment for engaging the seed-plate, substantially as described. 105

8. The improved actuating mechanism for the rotary seed-plates of corn-planters, substantially as hereinbefore described, consisting, essentially, of a yoke centrally supported  
110 upon a link, the arms of the yoke being provided with a transverse cross-head, one end forming an abutment and the other serving as a pivot to receive a pawl, substantially as described. 115

9. In a feeding attachment for corn-planters, and in combination with the seed-plate, the conduit and pivoted valve, and a yoke mounted upon the upper portion of said valve and provided with pawls for engaging the seed-plate,  
120 substantially as described.

10. In a planter, and in combination with the pivoted valve and conduit, a yoke mounted upon the upper end of said valve and provided with cross-heads standing on opposite sides of the seed-plate, each of said cross-heads carrying a pawl and locking abutment for engaging the seed-plate, substantially as described. 125

11. In a planter, and in combination with the feeding mechanism, the conduit, and the valve, the actuating devices for operating the seed-plate, mounted upon the valve, substantially as described. 130



12. In a planter, and in combination with the feeding mechanism, the conduit, and the pivoted valve therein, actuating devices for engaging the seed-plate, mounted upon said valve and projecting on opposite sides of the pivot, substantially as described.

13. In a planter, and in combination with the feeding mechanism and the conduit leading therefrom, a pivoted valve controlling said conduit, and a yoke formed integral with said valve and provided with devices for engaging the seed-plate to actuate the latter, substantially as described.

14. In combination with the seed-plate and its support located between and attached to the two bars, a yoke reciprocating between said bars and beneath the seed-plate and provided with pawls for engaging the latter, said yoke being mounted upon the pivoted valve controlling the passage in the conduit leading from the feeding mechanism, substantially as described.

15. In a corn-planter, and in combination with the feeding mechanism thereof, the vibrating yoke with its attached pawls pivotally and centrally supported below the seed-plate, and the actuating-bar pivotally attached to said yoke at or near the center thereof, substantially as described.

16. In combination with the balanced yoke carrying the pawls and mounted upon the pivoted valve, an operating-bar attached to and supported upon said yoke between its extremities and above the pivotal point of support, substantially as described.

17. In a planter, and in combination with the two cross-bars and the seed-plate and its support located between and attached to said bars, the actuating mechanism comprising the yoke and its pivoted supporting-link, together with the operating-bar, the whole arranged and operating between said cross-bars, substantially as described.

18. The improved actuating device for the feeding mechanism of corn-planters, consisting, essentially, of the yoke formed with an abutment and provided with a pawl on each end for engaging a seed plate located between the arms of the yoke, the latter being formed integral with the valve for controlling the passage through the conduit, said valve being provided with a transverse pivoted support beneath the yoke and centrally of the length of the latter, the whole being constructed and combined substantially as described.

19. In a feeding attachment for planters, such as described, the combination, with the seed-plate mounted upon a vertical axis, of a link pivotally supported beneath and in line with said vertical axis and carrying a transverse yoke extending horizontally beneath the seed-plate, the ends of said yoke extending up on opposite sides of the seed-plate and each provided with a pawl and abutment for engaging said seed plate as the link is oscillated, as set forth.

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Witnesses:

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