

(No Model.)

2 Sheets—Sheet 1.

J. L. LANUM.
CORN PLANTER.

No. 328,792.

Patented Oct. 20, 1885.

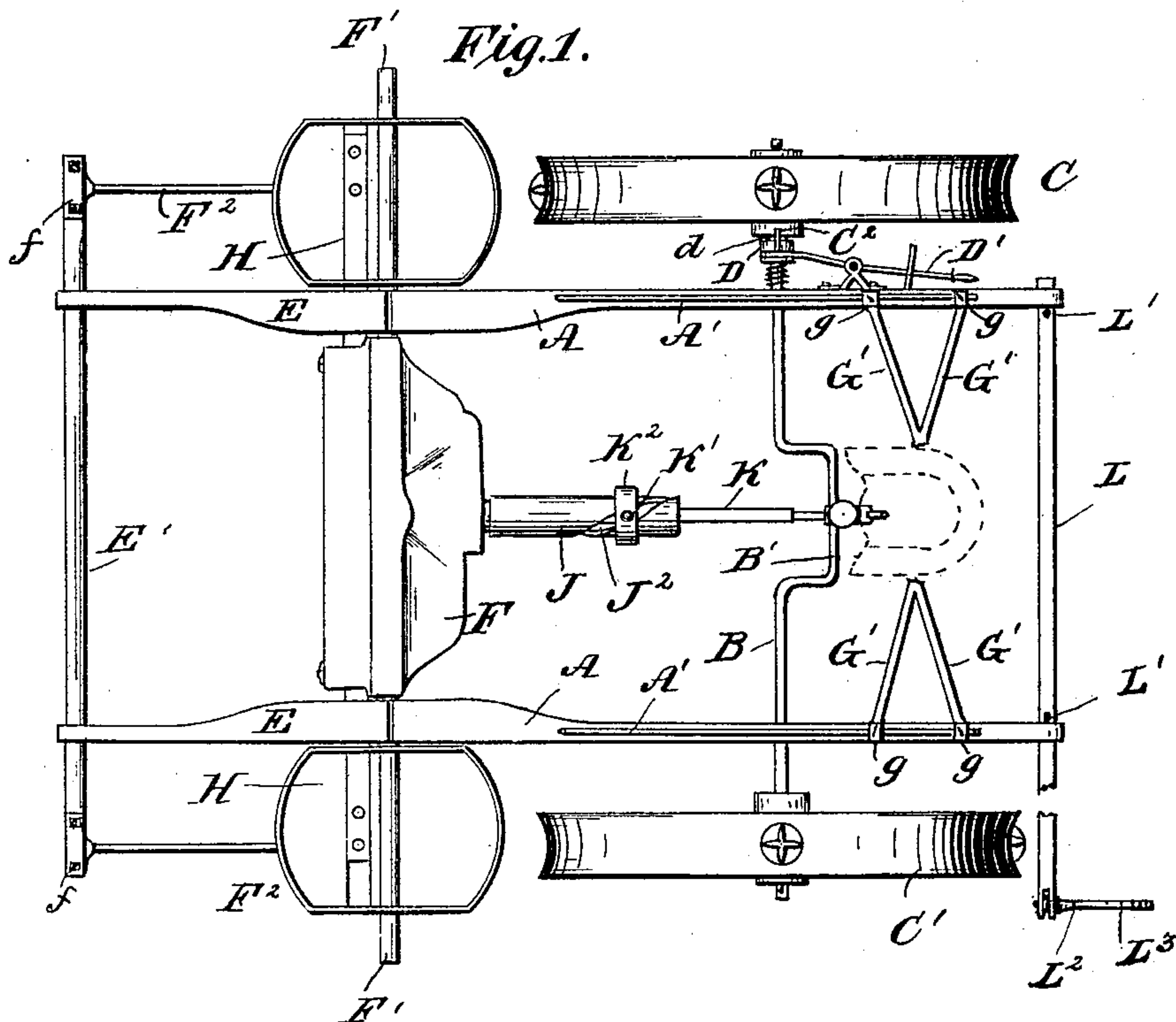
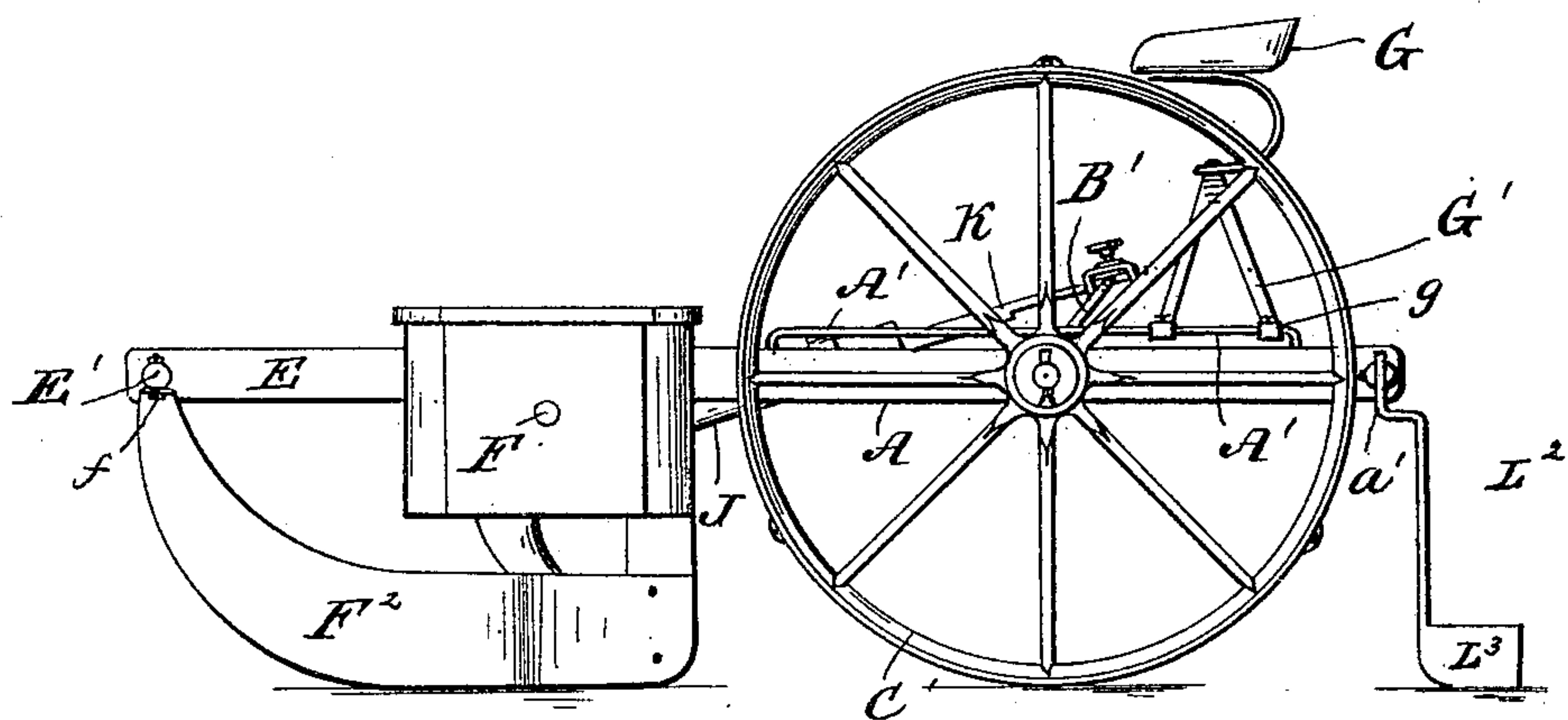


Fig. 2.



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Inventor:
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Attys

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2 Sheets—Sheet 2.

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Fig. 3.

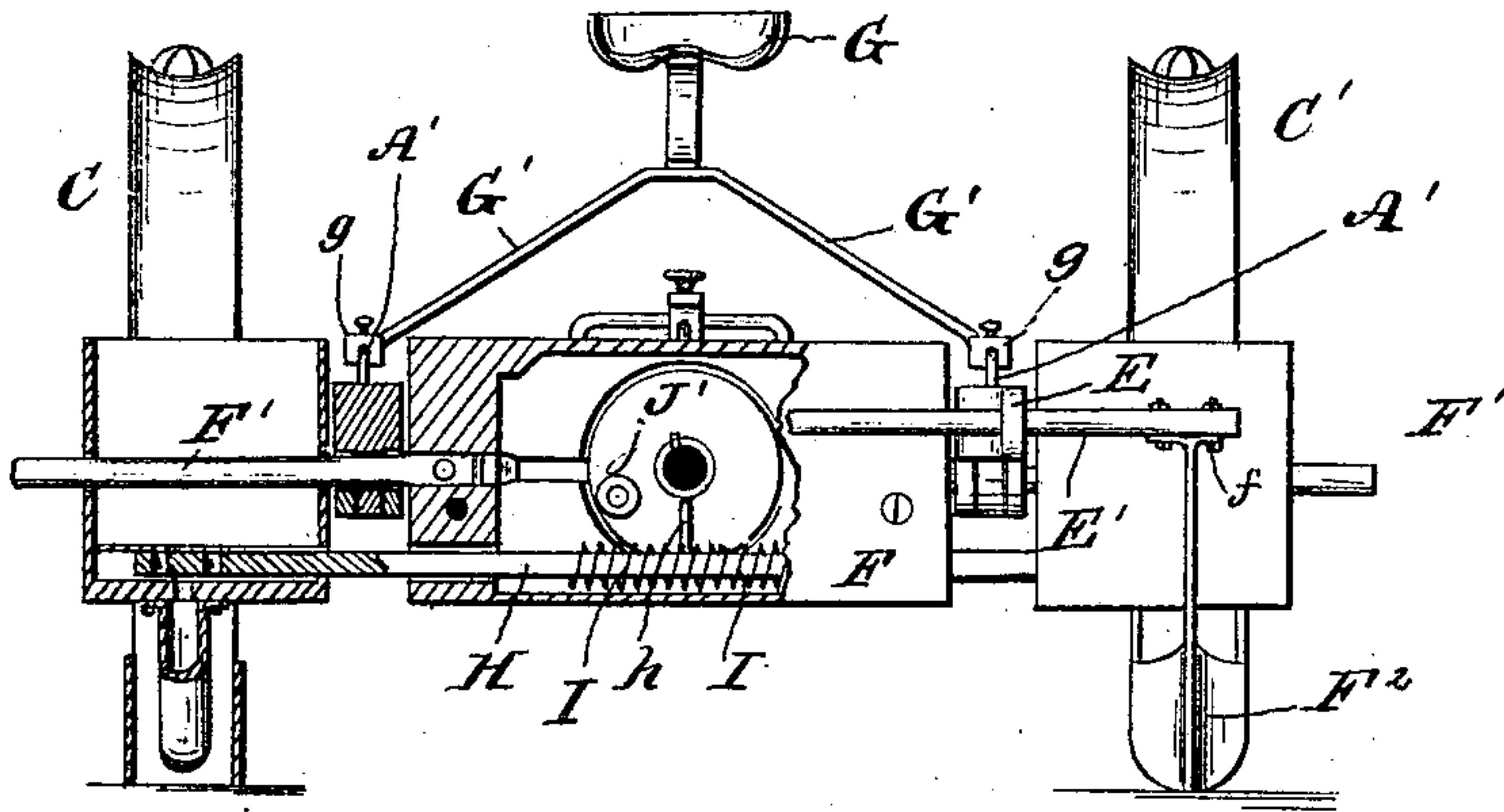


Fig. 4.

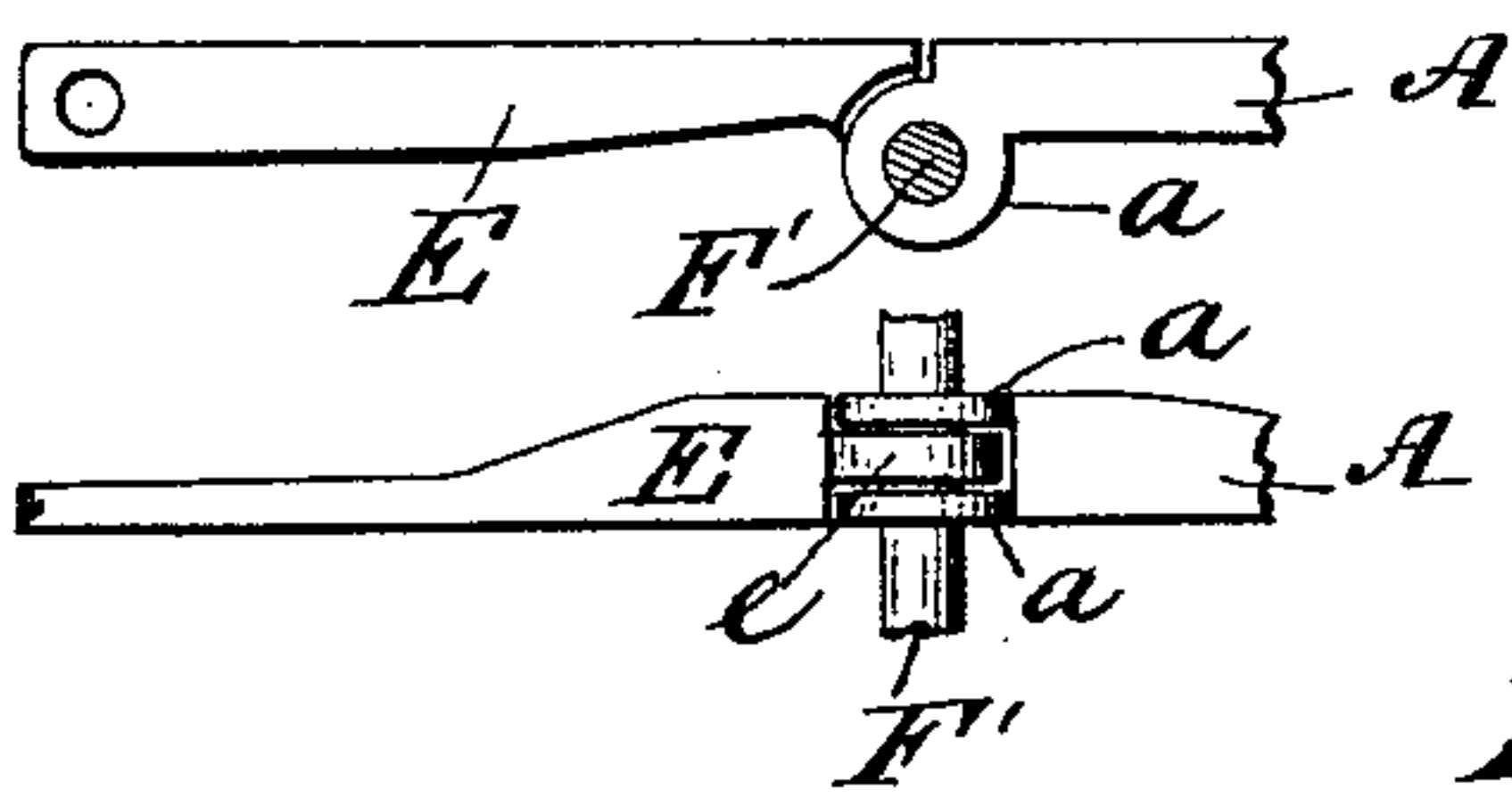


Fig. 5.

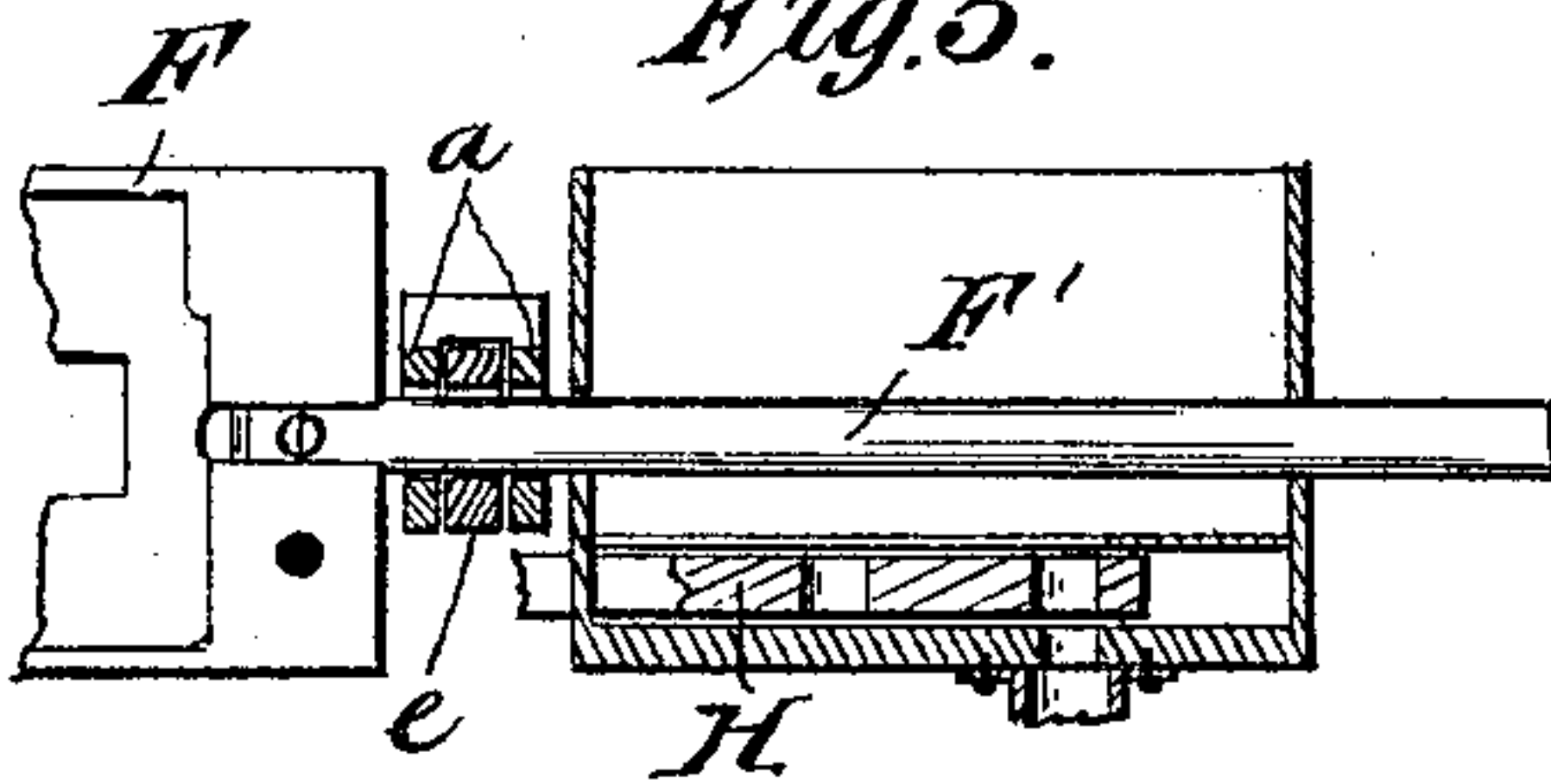


Fig. 6.

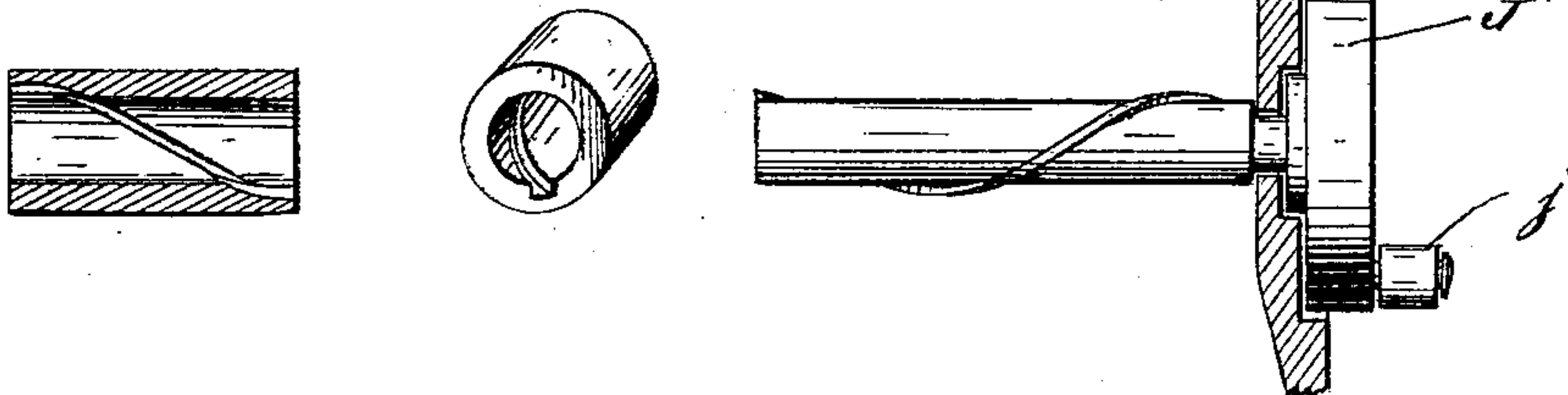
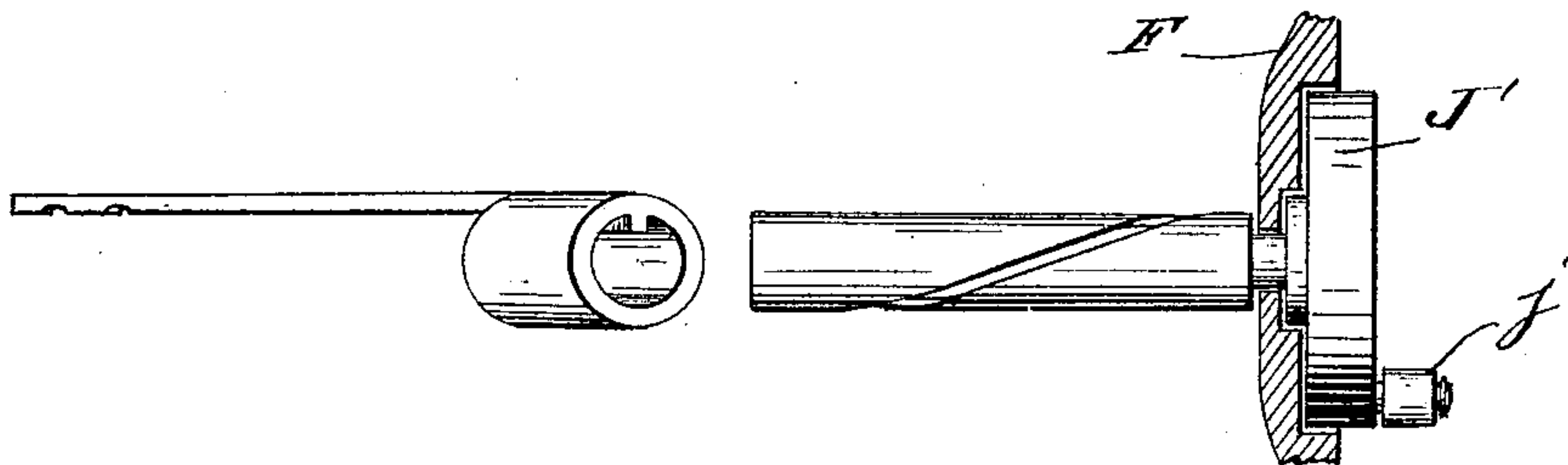


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES L. LANUM, OF DE GRAFF, OHIO.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 328,792, dated October 20, 1885.

Application filed December 31, 1884. Serial No. 151,634. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. LANUM, a citizen of the United States, residing at De Graff, in the county of Logan and State of Ohio, have invented certain new and useful Improvements in Corn-Planters; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to corn-planters, and has for its object to provide various improvements in the devices for operating the seed-slide, and in the general construction of the machine, which improvements I will first fully describe, and then specifically point out in the claims.

Referring to the drawings, Figure 1 represents a plan view of the machine; Fig. 2, a side and Fig. 3 a front view thereof, the latter being part in section. Fig. 4 is a detail view representing the hinge between the fluke-frame and main frame. Fig. 5 is a detached view of the fluke-frame, representing the manner of supporting the seed-boxes. Figs. 6 and 7 represent modifications of the seed-slide-operating mechanism.

The main frame is formed with the side beams, A, the forward ends of which may be constructed with knuckles *a*. The axle-shaft B is journaled in the bars A, and is provided midway between its ends with a crank, B'.

The wheels C C' are supported on the ends of shaft B. The wheel C has its hub formed on its inner side with notches or slots C², which may be engaged by a projection, *d*, on a spring-actuated clutch-sleeve, D, which latter is keyed and movable along the axle, and may be moved into and out of engagement with wheel C by the lever D'.

The fluke-frame is formed with the side bars, E, having knuckles *e*, fellows to *a*, and the front bar, E'.

The hinge between the section is completed by pintle-rods F', which extend laterally from a case or support, F. These lateral rods F' are extended outward beyond the frames and serve to support the seed-boxes, which are

provided with suitable openings, and moved laterally onto the said rods. These seed-boxes have their flukes F² detachably connected at *f* to the fluke-frame. By detaching the forward end of the flukes from the frame the seed-boxes may be removed by sliding them laterally off the rods F. By this construction the boxes are firmly supported when in use, and may be quickly removed for the purpose of cleansing or removing clogs, &c., and as quickly replaced in operative position.

It is manifest that the pintle of the hinge may be formed independently of the lateral arms of the case F; also, that the lateral rods, which support the seed-box may be simply rods or bolts projected from the fluke-frame, and that the supporting-case might be rigidly secured instead of being free to oscillate, as shown; but I prefer the construction as shown, because of its simplicity, ease of operation, and the few parts which it involves.

The seat G is supported on the main frame and movable to and from the forward end thereof in advance of and back of the axle. When the seat is over or back of the axle, the seed-flukes will be relieved of the driver's weight and will run shallow. When the seat is moved forward and the weight thrown onto the flukes, the latter are caused to run deeper. By this setting of the seat back and forth the flukes may also be caused to run properly in soft or hard ground.

I prefer to secure this adjustment of the seat by supporting same on seat-rods G', which have their lower ends extended over the bars A of the main frame, and provided with eyes *g*, fitted on rods A', mounted on said bars A, so the seat may be conveniently moved back and forth.

The seed-slide H is supported and movable longitudinally within the support or casing F, and has its ends extended into the opposite seed-boxes, and suitably formed to drop the seed in its movements, as is usual, except that I prefer to form the slide with two openings in each end, so that the slide will drop when moved in one or the other direction.

The slide is provided at about its central point with an upwardly-projected lug or arm, *h*.

Springs I I are arranged to bear on opposite

sides of the central lug, so as to return the slide to its normal position when it has been actuated thereout by the operating mechanism.

5 The dropping pockets or openings in the seed-slide rest normally on opposite sides of the discharge-opening in the seed-box, so that when the slide is moved in one or the other direction the slide will drop seed in both the
10 boxes.

A hollow bar, J, is journaled near its forward end in the support F, midway the side thereof, and provided at said forward end with a crank-pin, *j*, preferably projected from a
15 face-plate, J'. This bar J extends rearwardly from the support F, and is provided with a spiral bearing-groove, J². A second bar, K, is secured at one end to crank B', and moves at its other end in the bar J, and is provided
20 at or near such end with a pin, K', entering the spiral groove of said part K, and with a sleeve, K², connected with said pin and encircling the bar J. As the crank revolves, the bar K is moved once forward and back in the
25 bar J, and its part K', engaging the spiral bearing, will rotate bar J first in one and then in the other direction, causing crank *j* to engage first on one and next on the other side of the lug on the seed-slide. The spiral bearing
30 is preferably formed of proper length and pitch so that the forward movement of the bar K will partially rotate the bar J, so that crank *j* will engage on one side of the slide-lug and move the slide in one direction, effecting one
35 drop, and the rearward movement of the bar K will effect a reverse movement of the seed-slide, so that it will drop twice for each revolution of the crank B'.

The crank and bars J K are arranged midway the sides of the machine, so that the operations of dropping are carried on centrally between the rows, and an evener operation is secured, and the draft of the machine is rendered easier and truer.

45 It is manifest, however, except for the reasons stated, that the said parts might be arranged nearer to either side of the machine. It will also be understood that instead of forming the crank on the axle-shaft it might be
50 formed on a secondary shaft geared with the drive-wheel, and that said crank might be substituted for by eccentrics, cams, or other mechanical expedients.

When the support F is held rigidly, as before referred to, it will be desirable to form
55 the bar F with a universal joint, so said bar may, with bar K, change its line as the crank revolves.

It is obvious that the spiral bearing could
60 be properly pitched to drop two, four, or more times with each reciprocation of bar K.

While I prefer to use the spiral-groove bearing and the pin, it will be understood that the bearing might be formed a spiral thread or rib, as shown in Fig. 6, and the bar K be formed with an internal groove fitted to said rib; also, that instead of forming the spiral

groove through a hollow bar, it might be formed, as shown in Fig. 7, on a solid bar, and the bar K be provided with a sleeve sliding
70 on said solid bar, and having a pin fitted to engage such groove.

It will also be understood that it would involve no departure from my improvement to reverse the positions of parts J K—that is, connect the part having the spiral bearing to the
75 crank B' and journal the other bar in support F.

While I prefer to use the springs and the central lug on the seed-slide, it is manifest they
80 might be dispensed with, and the crank be connected by pitman-link otherwise with the seed-slide, so as to positively actuate the same.

Openings *a'* are formed through the bars A near their rear ends for the marker-shaft L.
85 This shaft is inserted in said openings *a'*, and held from movement by removable keys L'. The marker-arm L² is hinged at one end to one end of the shaft L and bears the shoe L³ on its lower end. When the end of the field is
90 reached, the keys L' may be removed, shaft L drawn out of the frame-bars A, and inserted from the other side and held as before. This construction will be fully understood from
Figs. 1 and 2.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a seed-planter, the combination, with the dropping-slide and the driving mechanism, of a rod or bar having a spiral bearing
100 and a second rod or bar suitably constructed to engage the said spiral bearing, substantially as set forth.

2. In a seed-planter, the combination of the
105 hollow bar provided with a spiral groove and a rod sliding at one end in the hollow bar, and provided with a pin sliding in the said groove, substantially as set forth.

3. The combination, with a dropping-slide
110 and an operating-shaft having a crank, of a rod or bar having a spiral bearing and a second rod or bar provided with a projection entering the groove of the former, one of said parts being connected with the crank of the operating-shaft, and the other suitably adapted to
115 operate the dropping-slide, substantially as set forth.

4. The combination, with the slide and the axle or shaft having a crank arranged midway
120 the sides of the machine, of a rod or bar provided with a spiral bearing and a second bar movable along the former and suitably formed to engage said bearing, one of said parts being connected with the crank of the
125 shaft, substantially as set forth.

5. The combination, with the seed-slide having a central lug or projection and the springs arranged and bearing on opposite sides of such central projection, of the rod or bar having a
130 crank arranged to engage the projection on the slide, and a second bar, one of said bars being provided with a spiral groove, and the other with a pin or projection entering such

groove, all substantially as and for the purposes specified.

6. In a seeding-machine, the combination, with the framing, of a seed-slide and a supporting-case therefor journaled at its opposite ends in the framing, substantially as set forth.

7. In a seeding-machine, the combination of the framing, the seed-slide, the case for said seed-slide, provided at its opposite ends with trunnions journaled in and extended laterally beyond the framing, and the flukes detachably connected at their forward end to the framing, and having their rear ends supported on and movable laterally off the extensions of the trunnions aforesaid, substantially as set forth.

8. The combination of the main frame having at its forward end hinge-knuckles, the fluke-frame, also provided with hinge-knuckles, the seed-slide, the slide-support provided with lateral rods passed through the knuckles of the two frames forming the pintle of the hinge and extended laterally beyond the same, and the seed-boxes having their rear ends supported on such lateral arms and their flukes detachably connected at their forward ends to the framing, substantially as and for the purposes set forth.

9. The combination of the seed-slide, the support F, pivotally supported, the bars J and K, and the operating mechanism, substantially as set forth.

10. In a seed-planter, the combination of the axle having a crank, *j*, and the spring-actuated clutch-sleeve keyed to said axle, the drive-wheel having its hub suitably formed for engagement with the clutch-sleeve, the pitman-bar J, having sleeve K² and pin K', the hollow bar having groove J², and the drop-ping-slide, substantially as set forth.

11. The combination, with the main and fluke frames provided at their adjacent ends with interlapping hinge-knuckles, of a case or support, as F, extended from side to side of the machine, and provided at its ends with trunnions projected through the knuckles of the main and fluke frames, and forming the pintles of the hinges, substantially as set forth.

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

JAMES L. LANUM.

Witnesses:

W. H. LLOYD,

THOS. H. WRIGHT.