

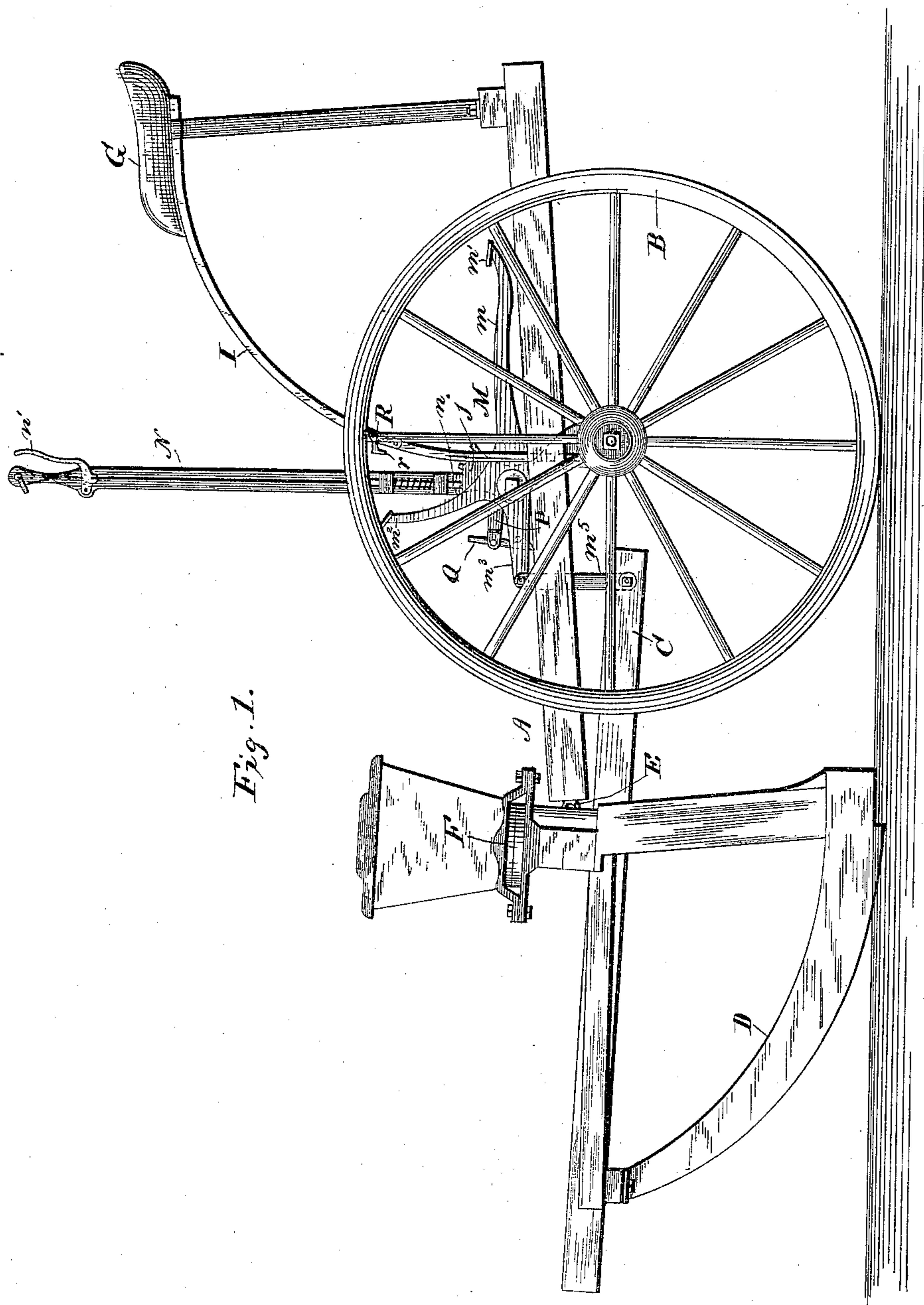
(No Model.)

L. SCOFIELD.
CORN PLANTER.

3 Sheets—Sheet 1.

No. 319,331.

Patented June 2, 1885.



WITNESSES

Chas. R. Burr
Fred H. Church.

INVENTOR

INVENTOR
 Levi Scofield
 by
 Church & Church
 his Attorney

(No Model.)

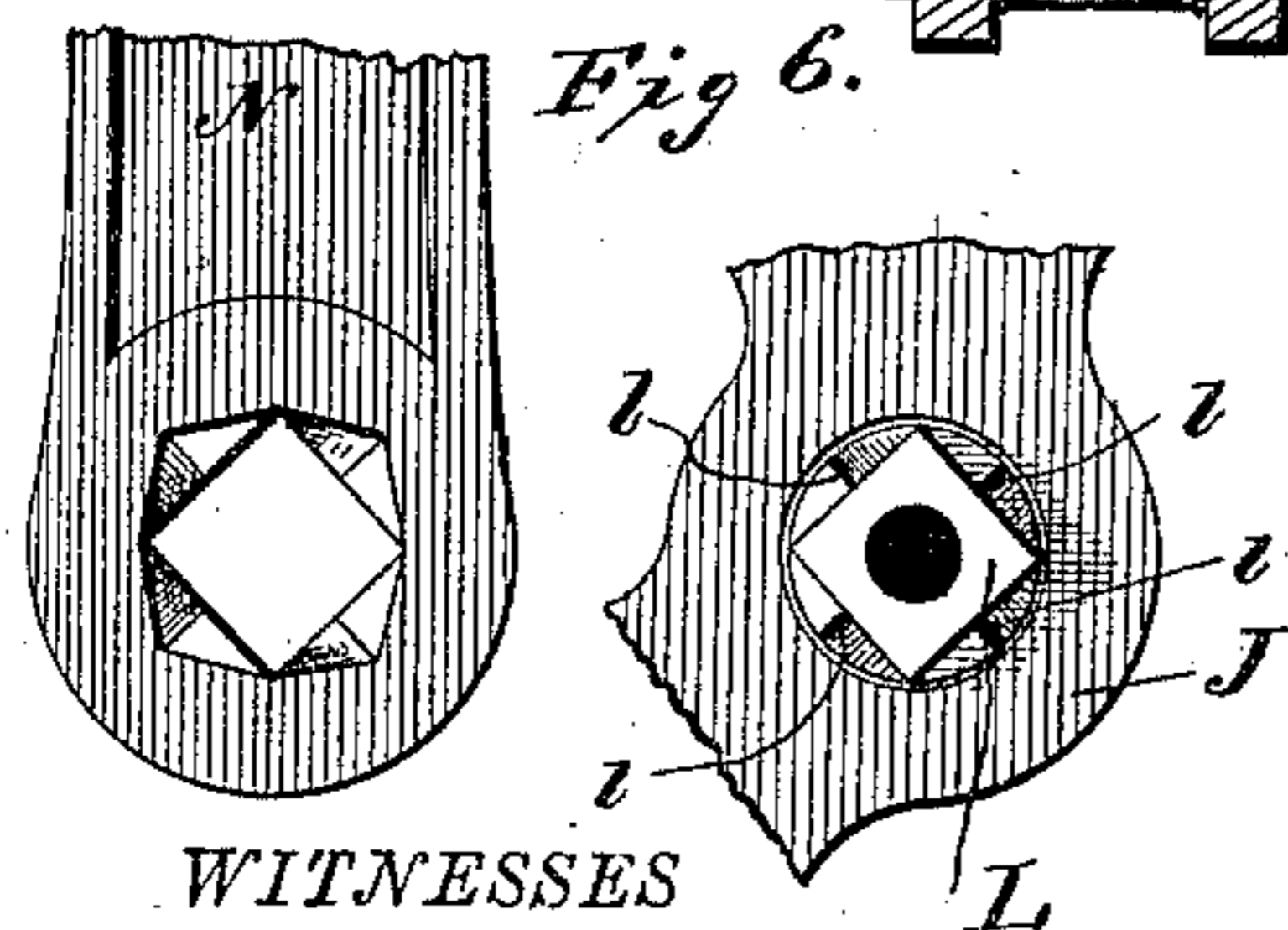
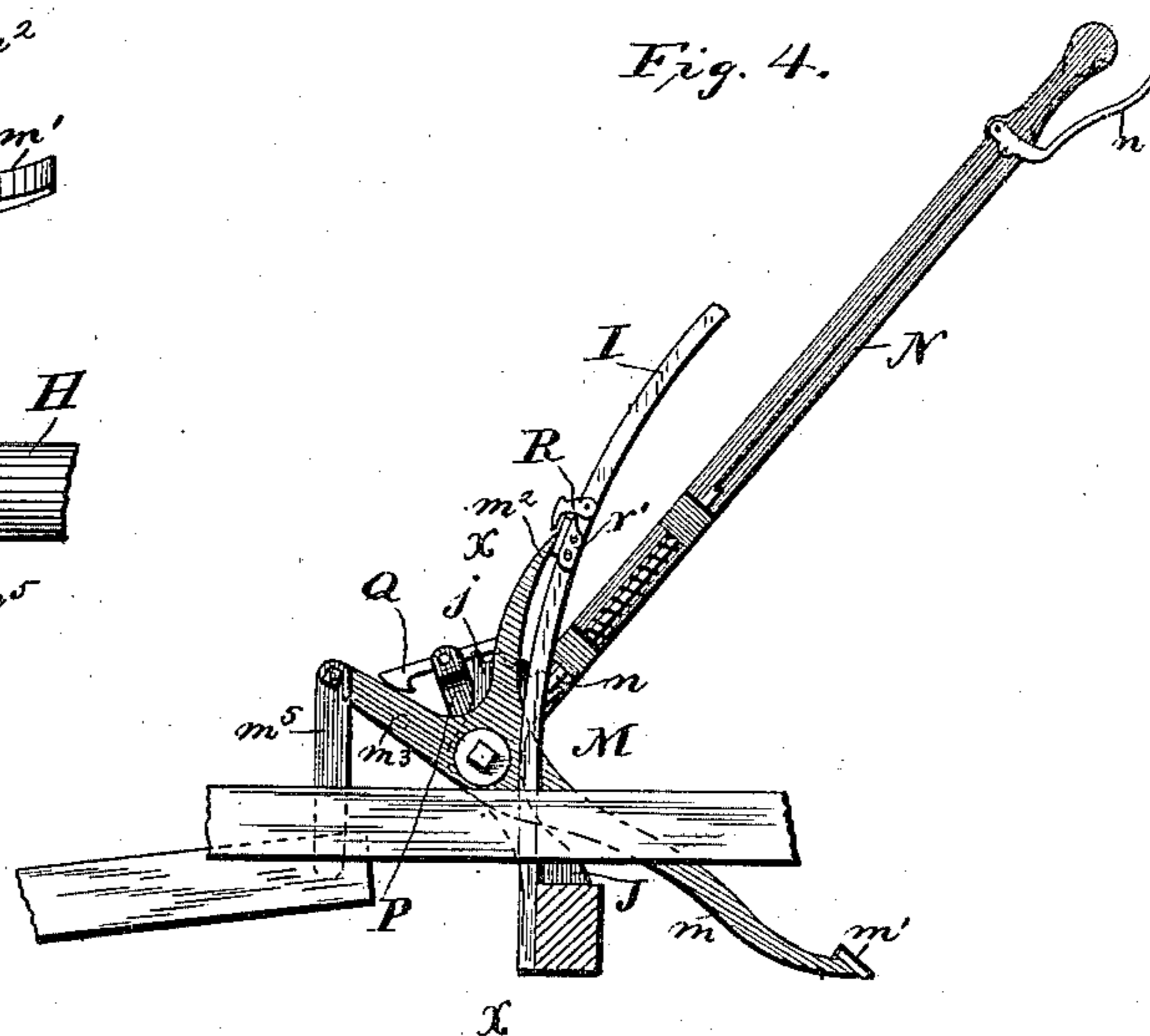
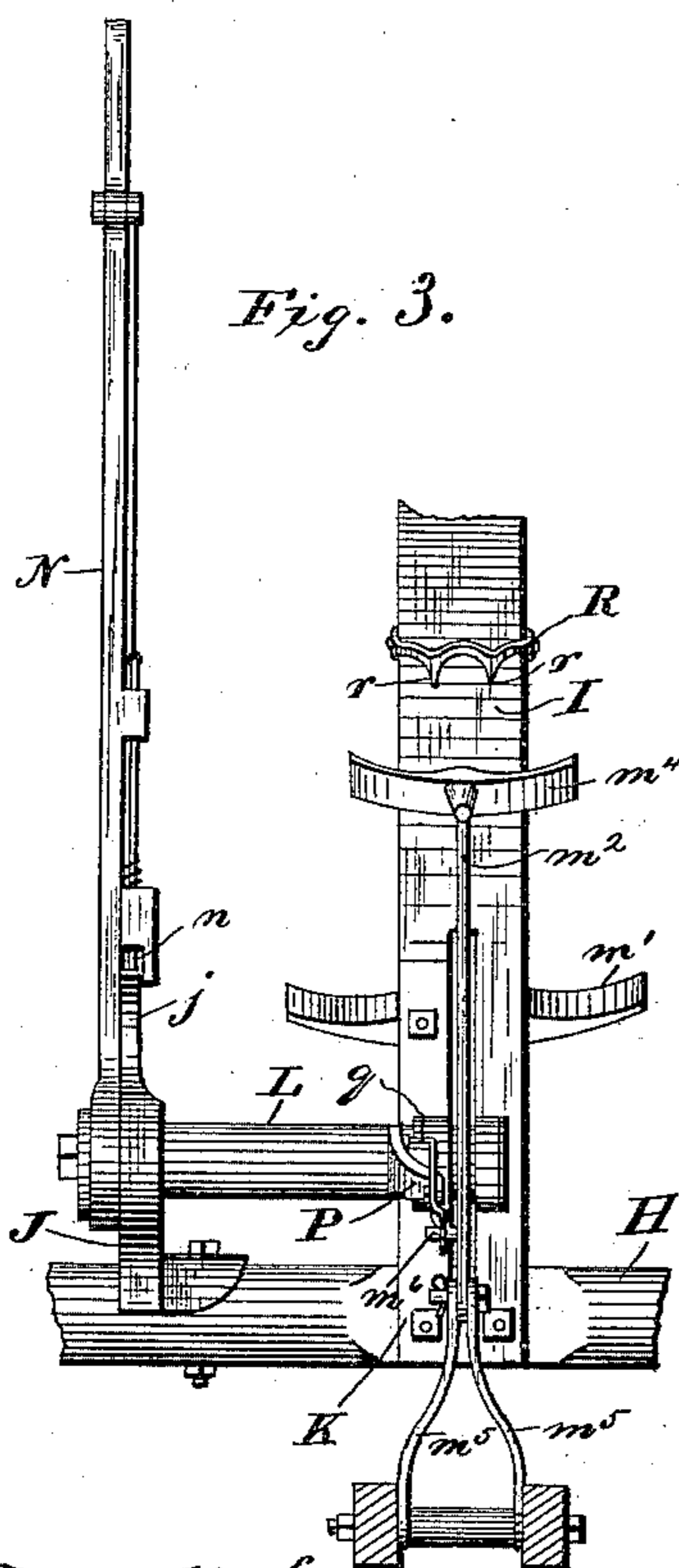
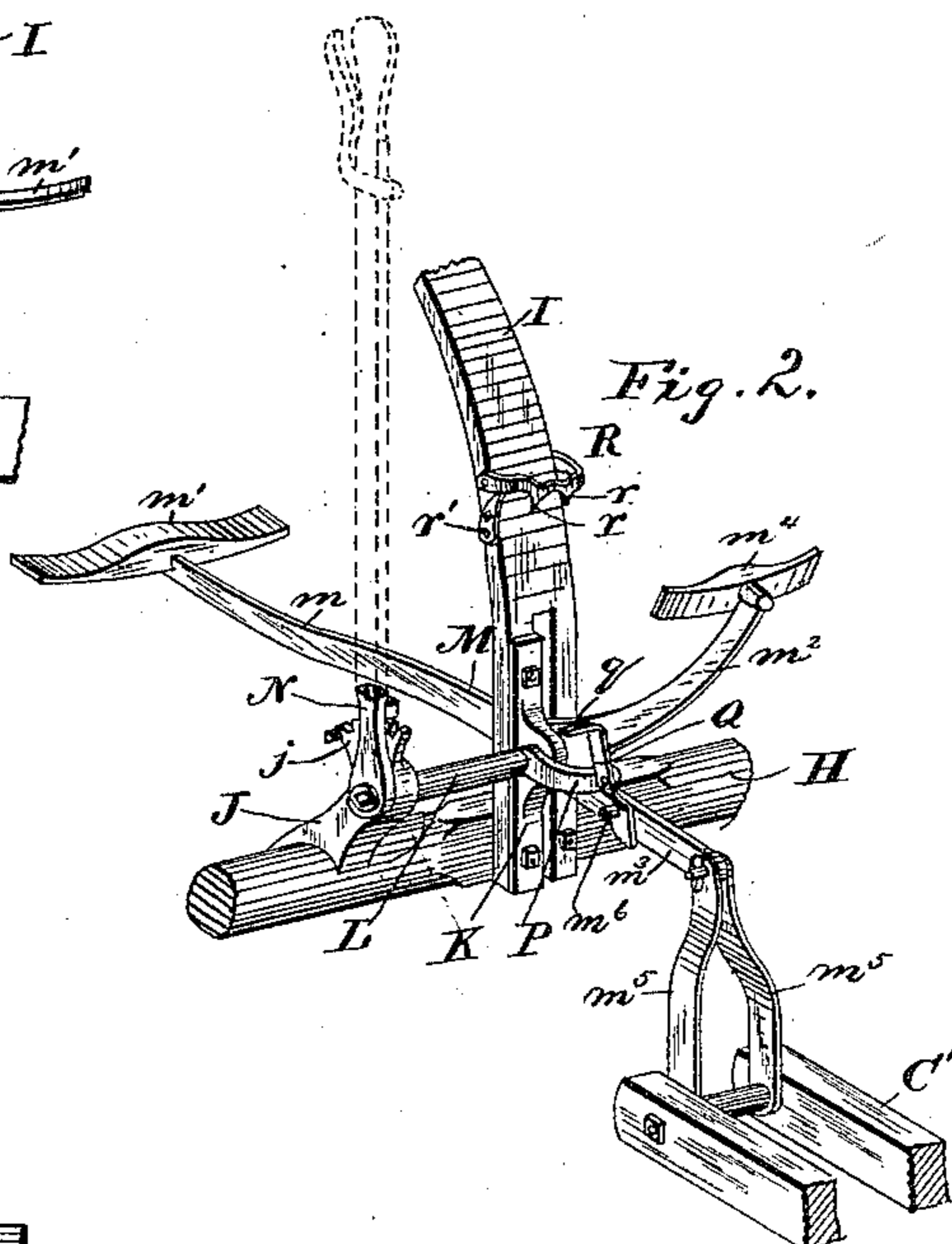
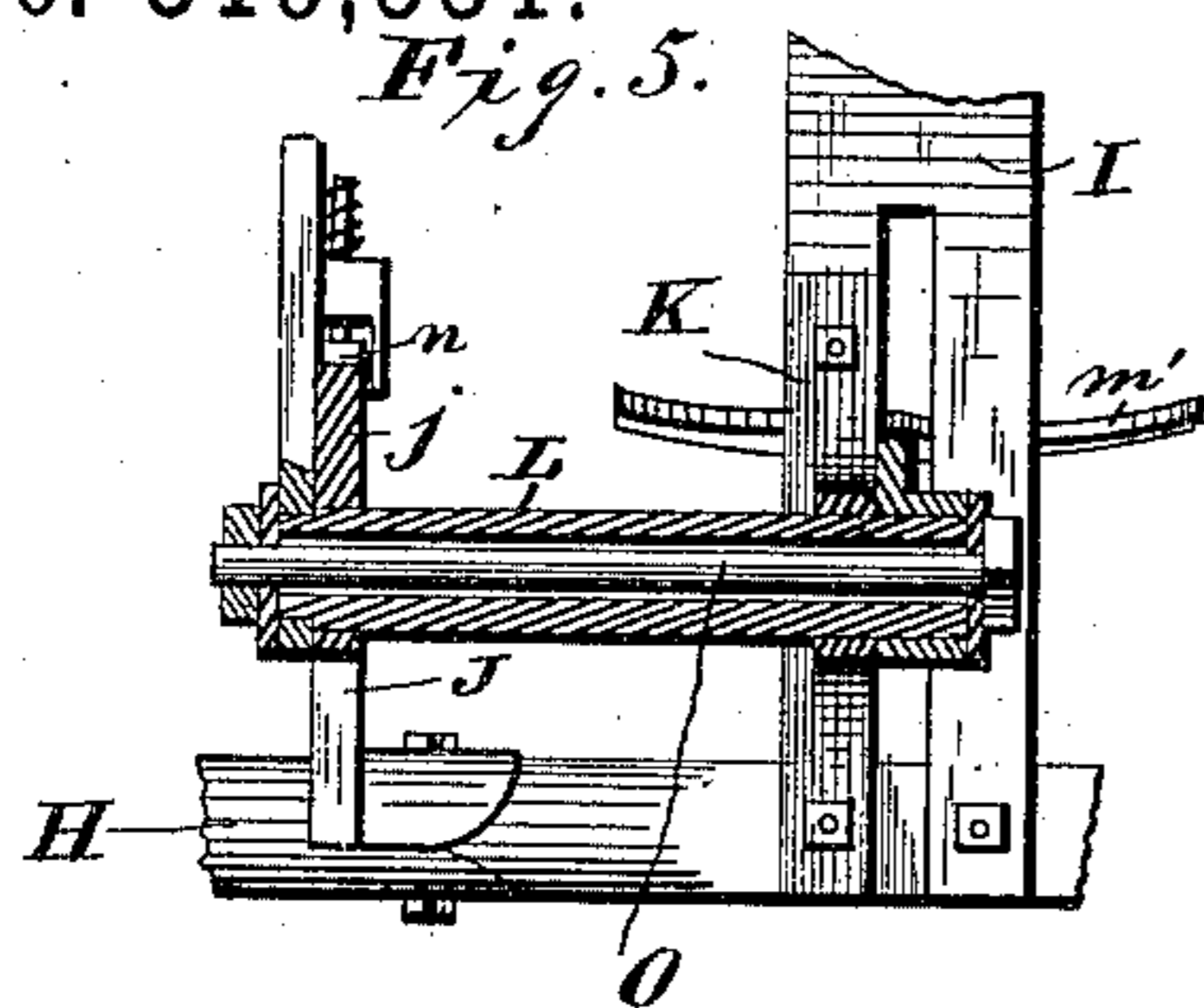
3 Sheets—Sheet 2.

L. SCOFIELD.

CORN PLANTER.

No. 319,331.

Patented June 2, 1885.



Chas. R. Burr
Fred H. Church.

INVENTOR
Leri Scofield
by
Church & Church
his Attorney &

(No Model.)

3 Sheets—Sheet 3.

L. SCOFIELD.
CORN PLANTER.

No. 319,331.

Patented June 2, 1885.

Fig. 7

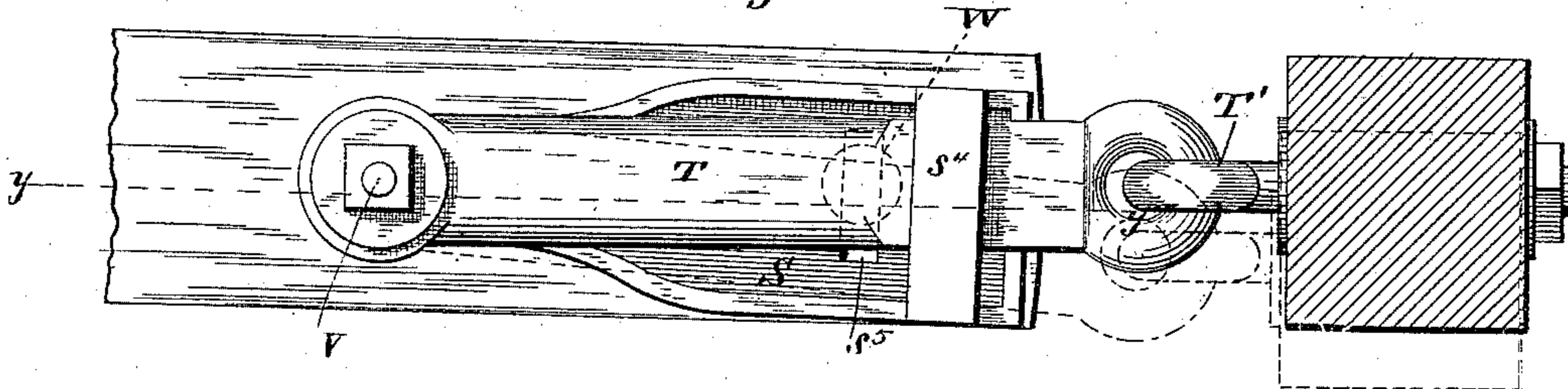


Fig. 8.

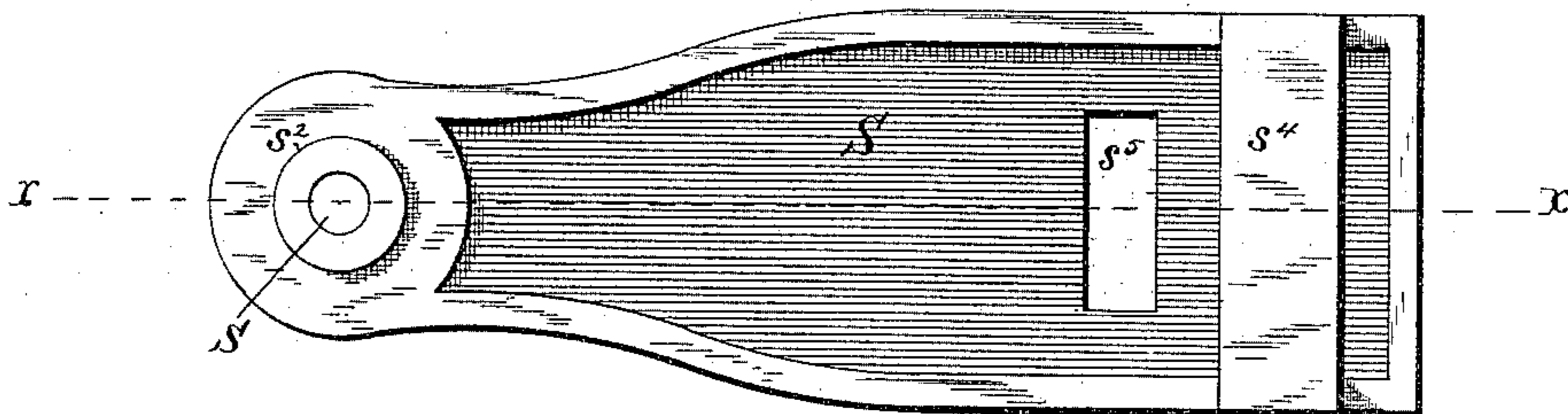


Fig. 9.

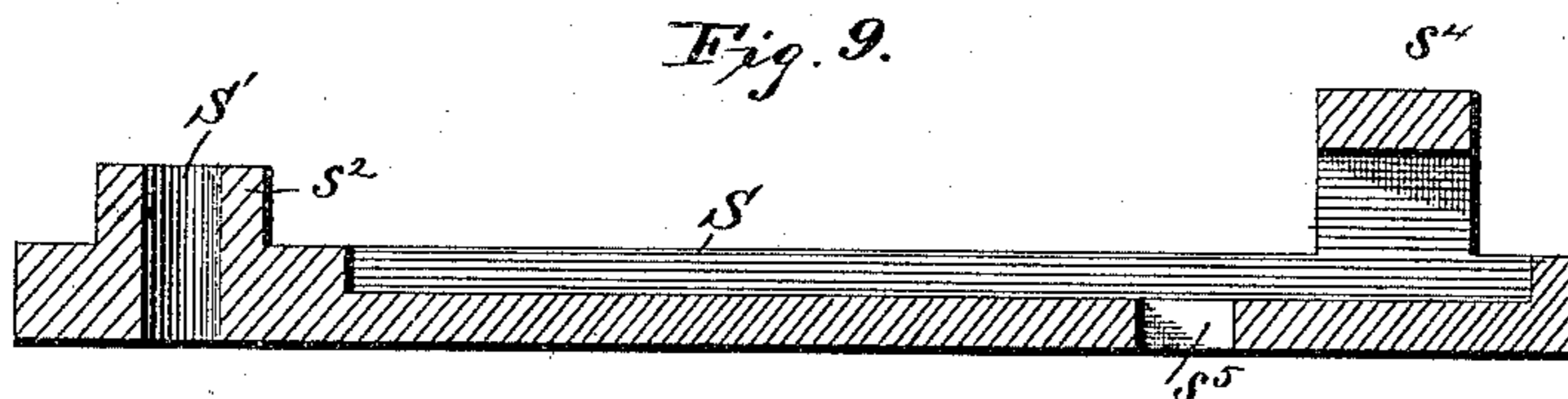


Fig. 10.

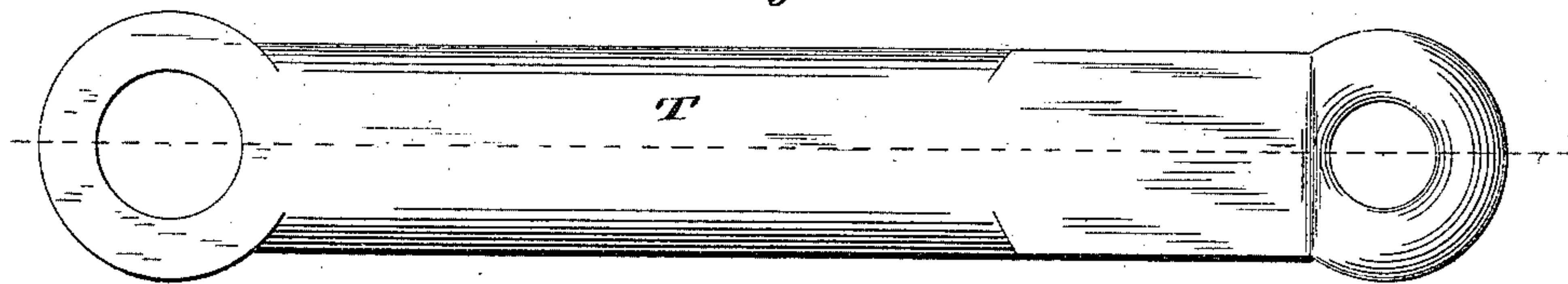
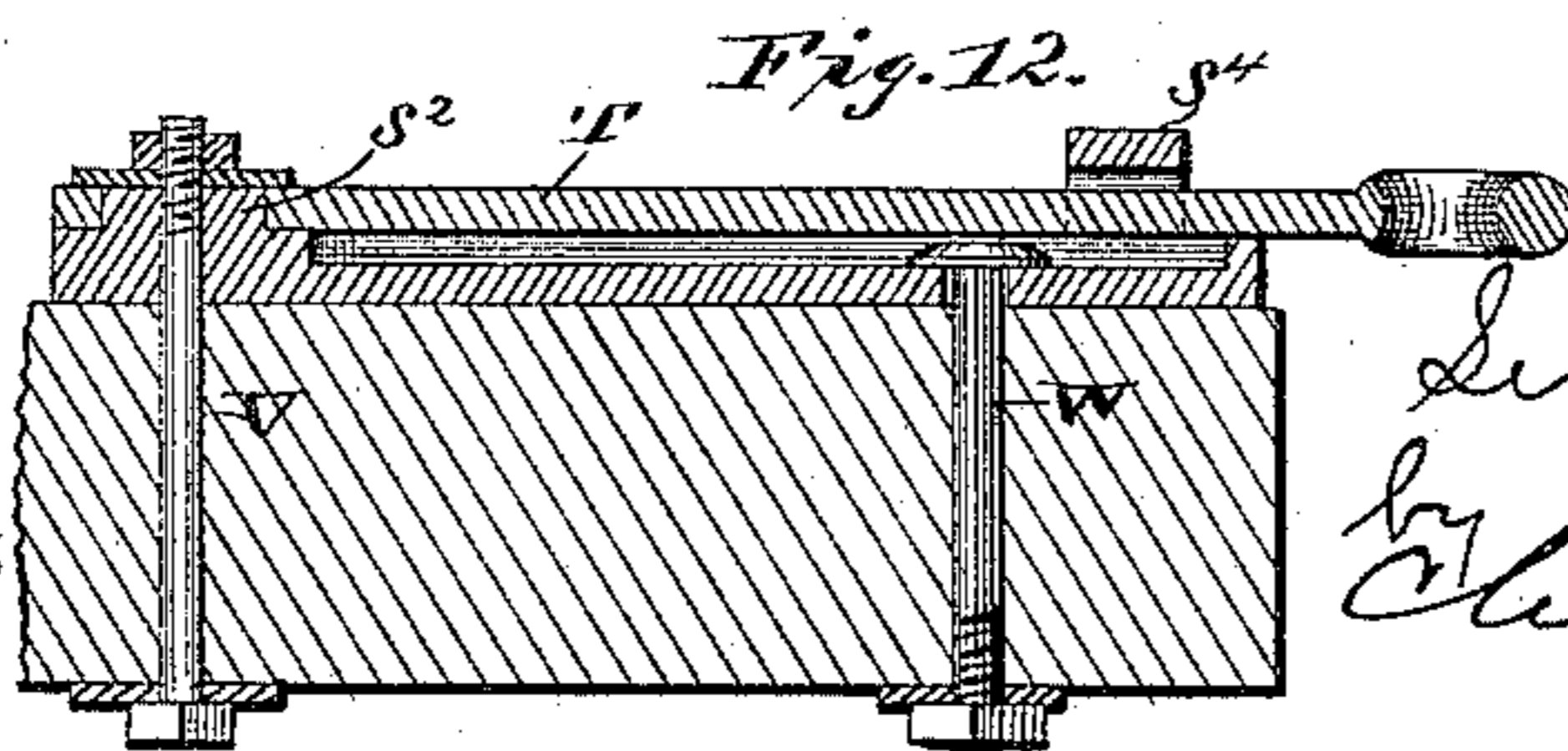


Fig. 11.



Fig. 12.



WITNESSES

Chas. R. Burr
Fred J. Church

INVENTOR

L. Scofield
by Church & Church
his Attorneys

UNITED STATES PATENT OFFICE.

LEVI SCOFIELD, OF GRAND HAVEN, MICHIGAN, ASSIGNOR TO THE CHALLENGE CORN PLANTER COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 319,331, dated June 2, 1885.

Application filed December 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEVI SCOFIELD, 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.

My invention relates particularly to that class of corn-planters in which a rear main frame is mounted upon supporting-wheels, and has hinged or pivoted to it a front runner-frame that is adapted to be raised or lowered by means of suitable mechanism under the control of the driver, who rides on the machine.

The novelty of my invention consists in certain improvements in the means for effecting the adjustments of the front runner-frame and for locking it in adjusted position, and also in certain improvements in the couplings which serve to connect the runner-frame with the main frame, all as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of a corn-planter of the class referred to, having my improvements applied thereto. Fig. 2 is a perspective view of the devices for effecting the raising and lowering of the runner-frame and the locking of it in adjusted position, part of the hand-lever being shown broken away. Figs. 3 and 4 are respectively a front view and a side view of the same. Fig. 5 is a sectional view. Fig. 6 is a detail view showing the connection between the hand-lever and rock-shaft. Fig. 7 is a side view of one of the couplings which connect the runner-frame with the main frame. Figs. 8 and 9 are respectively a side view and a sectional view of the bracket-plate of the coupling. Figs. 10 and 11 are similar views of the long eyebolt or link of the coupling; and Fig. 12 is a horizontal section of the coupling, taken on the line *yy* of Fig. 7.

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

Referring to Fig. 1, A is the main frame of the machine, mounted upon the transporting-wheels B, and C is the front runner-frame, car-

rying the runners D, and hinged to the main frame at E, as shown. F represents the seed-dropping mechanism, and G the driver's seat, all these parts being constructed in the usual or any preferred manner.

To one of the cross-timbers, H, of the frame is connected the seat-standard I, as shown in Fig. 2. Also secured rigidly to this cross-timber is a bracket, J, and fastened to the lower portion of the seat-standard is another bracket, K, both said brackets being perforated so as to accommodate and form the supports of a tubular rock-shaft, L, as shown clearly in Fig. 5.

Upon the inner end of the rock-shaft is mounted, so as to turn freely, a foot-lever, M, having a long rearwardly-projecting arm, *m*, bearing at its extremity a cross-piece, *m'*, forming a bearing for the feet of the driver, and having its forward portion bifurcated, as shown in Fig. 2, so as to form two short arms, *m²* *m³*, the former of which extends upwardly and bears another cross-piece or foot-rest, *m⁴*, and the other of which extends forwardly and has connected to it links *m⁵*, that in turn are connected to the rearward extension, C', of the runner-frame, as shown in Figs. 1 and 2.

On the outer end of the tubular rock-shaft L is mounted a hand-lever, N, carrying a spring-bolt, *n*, that is adapted to be engaged with or disengaged from a toothed sector, *j*, formed upon the upper portion of the bracket J, as shown in Figs. 2 and 5. The upper portion of this hand-lever carries the small pivoted lever *n'*, by which the spring-bolt *n* is operated, and projects within convenient reach of the driver when in his seat. The rigid connection between the hand-lever and the rock-shaft is effected by forming upon the rock-shaft a series of splines or projections, *l*, and providing a corresponding series of recesses or grooves in the hand-lever for the accommodation of said splines or projections.

A single screw-bolt, O, passing through the tubular rock-shaft serves, when tightened up against suitable washers under its head and nut, respectively, to maintain the rock-shaft in position in its bearings, as well as to hold the foot-lever M and the hand-lever N upon the rock-shaft—the former loosely and the latter rigidly.

The rock-shaft has formed upon it or secured

to it, adjacent to the inner supporting-bracket, K, a short arm, P, that carries at its outer end a pivoted hook or catch, Q, having an offset, q , on its inner end, forming a bearing for the driver's foot, and the forward lower arm, m^3 , of the foot-lever bears a stout pin or stud, m^6 , that projects in the path of the said arm P, and into such position as to engage with the gravitating hook or latch Q when the said parts are caused to approach sufficiently near each other.

The construction of the parts, it is believed, has now been sufficiently well described to enable their operation to be understood.

When the hand-lever is thrown backward and locked by means of its sliding bolt to the bracket sector, as shown in Fig. 4, the short arm P and its hook or catch Q are elevated sufficiently to not interfere at all with the operation of the foot-lever M, and the driver can therefore, by pressing with his feet upon the cross-bar or foot-rests m' or m^4 , raise or lower the forward runner-frame of the planter, so as to elevate the runners out of the ground or cause them to be pressed into the ground, as will be readily understood. Perfect control of the runner-frame is thus given him independently of the hand-lever, and that flexibility of the planter so necessary in traveling over rough ground is secured. Should he, however, desire to supplement the action of the foot-lever by that of the hand-lever, or to operate the runner-frame entirely by the hand-lever, it is only necessary for him to disengage the hand-lever from the sector and throw it forward until the gravitating hook or catch engages with the pin or stud m^6 on the foot-lever, and thus lock the two levers together. Though the hand-lever may in this manner be made to raise or assist the foot-lever in raising the runners out of the ground, as well as to press said runners into the ground, it will be found more frequently useful as a means for forcing the runners into the ground and locking them in that position.

It will be observed that when the hand-lever is used to depress the runners the power is applied through the arm P of the rock-shaft and the pin or stud m^6 on the foot-lever, with which said arm comes in contact, and that the hook or catch performs no function, but only comes into play when it is desired to raise or assist to raise the runners by means of the hand-lever. Even when the hand-lever has been used to depress the runners and it is desired to disconnect it and leave the runners to be controlled entirely by the foot-lever, the driver can accomplish it, without disturbing the foot-lever, by simply pressing with his toe upon the rear portion, q , of the hook or catch and disengaging the hook from the pin or stud m^6 , thus allowing the hand-lever to be swung back out of the way and locked.

Upon the standard I is mounted an automatically-operating catch for engaging with the forward foot-rest of the foot-lever, and thus locking the runner frame in elevated po-

sition, while the planter is going to and from the field or from place to place. This locking-catch consists of a yoke, R, pivoted to opposite sides of the standard and having depending bevel spurs or lugs $r r$. A stop, r' , secured to the standard, limits its downward swing. When the forward foot-rest of the foot-lever is raised to its full height, it strikes the spurs or lugs $r r$, raises the yoke beyond the lugs, and is confined by the latter upon the dropping down of the yoke.

The couplings which connect the front runner-frame to the main frame are constructed as follows: To each of the side timbers of the main frame is secured a bracket-plate, S, by means of adjustable screw-bolts, V W, the former passing through an aperture, S' , near the rear end of said bracket-plate and the former through a vertical slot near the forward end of the same. A long link or eyebolt, T, is mounted at its rear end upon a hub-like projection, s^2 , of the bracket-plate, so as to turn freely thereon, and is prevented from lateral displacement by the nut or washer of the screw-bolt V. The forward end of said long link or eyebolt passes through a guide-loop, s^4 , formed on the bracket-plate and is jointed to the short eye-loop T', secured to the runner-frame.

The compound coupling joints thus formed enable the runners to automatically conform within certain limits to inequalities in the surface of the ground and insure the planting of the seed at uniform depths.

It sometimes happens that by reason of the springing and twisting of the frame-work the planter runs deeper on one side than on the other. When this occurs, it only becomes necessary to loosen the bolt W of one or both of the couplings, turn the bracket plate or plates till the desired position of adjustment is reached, (the slots s^5 permitting this,) and then tightening the bolt or bolts again. This quality of adjustability in the looped brackets is what mainly distinguishes my present style of coupling from that shown, described, and claimed in my previous patent of April 13, 1875, No. 162,106, though there are, of course, other differences as to details of construction.

Having thus described my invention, I claim as new—

1. In a corn-planter, the combination, with the main frame and the runner-frame, of the pivoted foot-lever having the projecting stop or stud on its forward arm, a rock-shaft turning independently of the foot-lever, and having the rigid arm for engaging with the stop or stud of the foot-lever, and a hand-lever for operating it, the whole arranged substantially as described.

2. In a corn-planter, the combination, with the main frame and the runner-frame, of the pivoted foot-lever having the projecting stop or stud on its forward arm, a rock-shaft turning independently of the foot-lever, and having the rigid arm for engaging with the stop or stud of the foot-lever, a catch or latch for

also engaging said stop or stud, and the hand-lever, the whole arranged substantially as described.

3. In a corn-planter such as described, the combination, with the rock-shaft having the rigid arm and the hand-lever secured to it, of the foot-lever mounted loosely on the rock-shaft so as to move independently of the same, and having the projecting stud with which the arm of the rock-shaft is adapted to engage, substantially as described.

4. In a corn-planter such as described, the combination, with the pivoted foot-lever having the projecting stop or stud on its forward arm, of a rock-shaft turning independently of the foot-lever, and having the rigid arm for engaging with the stop or stud, of the foot-lever and the hand-lever, and means for locking it, substantially as described, and for the purpose specified.

5. In a corn-planter such as described, the combination of the tubular rock-shaft, the hand-lever locked rigidly thereto by means of projections and recesses, the bracket supporting the rock-shaft, the foot-lever mounted loosely on the rock-shaft, and the single screw-bolt operating to hold both the hand-lever and the foot-lever in position upon the rock-shaft, substantially as described.

6. The combination of the foot-lever having

the projecting stud, the hand-lever and means for locking it, the rock-shaft to which the hand-lever is connected, having the arm for engaging with the stud of the foot-lever, and the automatic latch or catch mounted on said arm and also engaging with said stud, substantially as described.

7. The combination, with the forward foot-rest of the foot-lever, of the automatically-operating catch pivoted to the seat-standard and having the inclined lugs, with which the foot-rest engages, substantially as described.

8. The combination of the pivoted and slotted bracket-plate and the coupling having the loop for limiting the swing of the long link or eyebolt, with said long link or eyebolt and the securing-bolts, whereby the bracket-plate is rendered capable of adjustment, substantially as described.

9. The bracket-plate having the slot, the loop, the perforation for the bolt upon which it pivots, and the tubular extension which forms the bearing for the link or eyebolt, in combination with said link or eyebolt, and the bolts by which the plate is secured in adjusted position, substantially as described.

LEVI SCOFIELD.

Witnesses:

GEO. STICKNEY,

W. J. H. SAUNDERS.