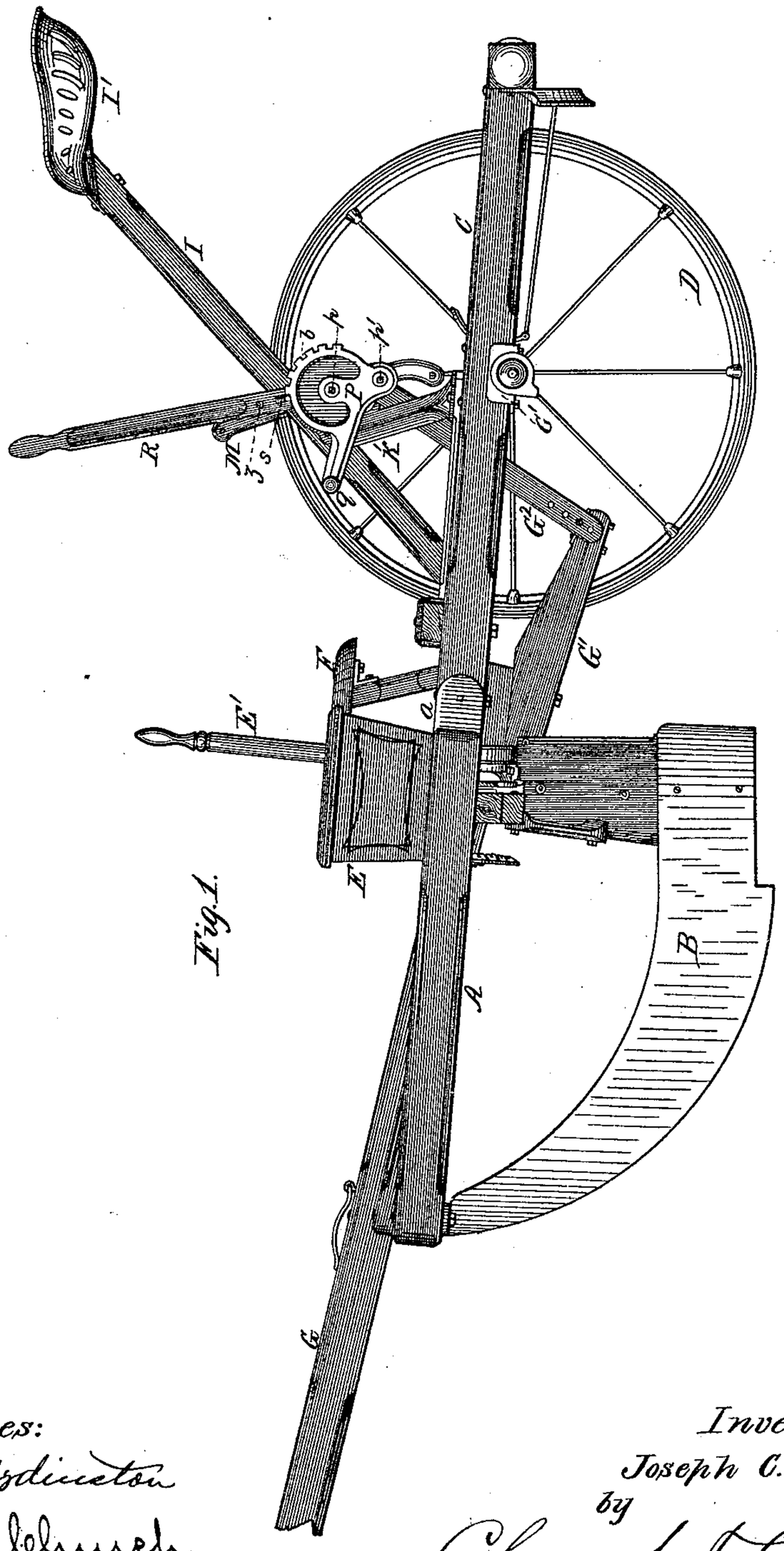
(No Model.)

6 Sheets—Sheet 1.

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.



Witnesses:
W. C. Fisdickson
Fred. H. Schmuck.

Inventor:
Joseph C. Barlow
by
Church & Church
his Attorneys.

(No Model.)

6 Sheets—Sheet 2.

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.

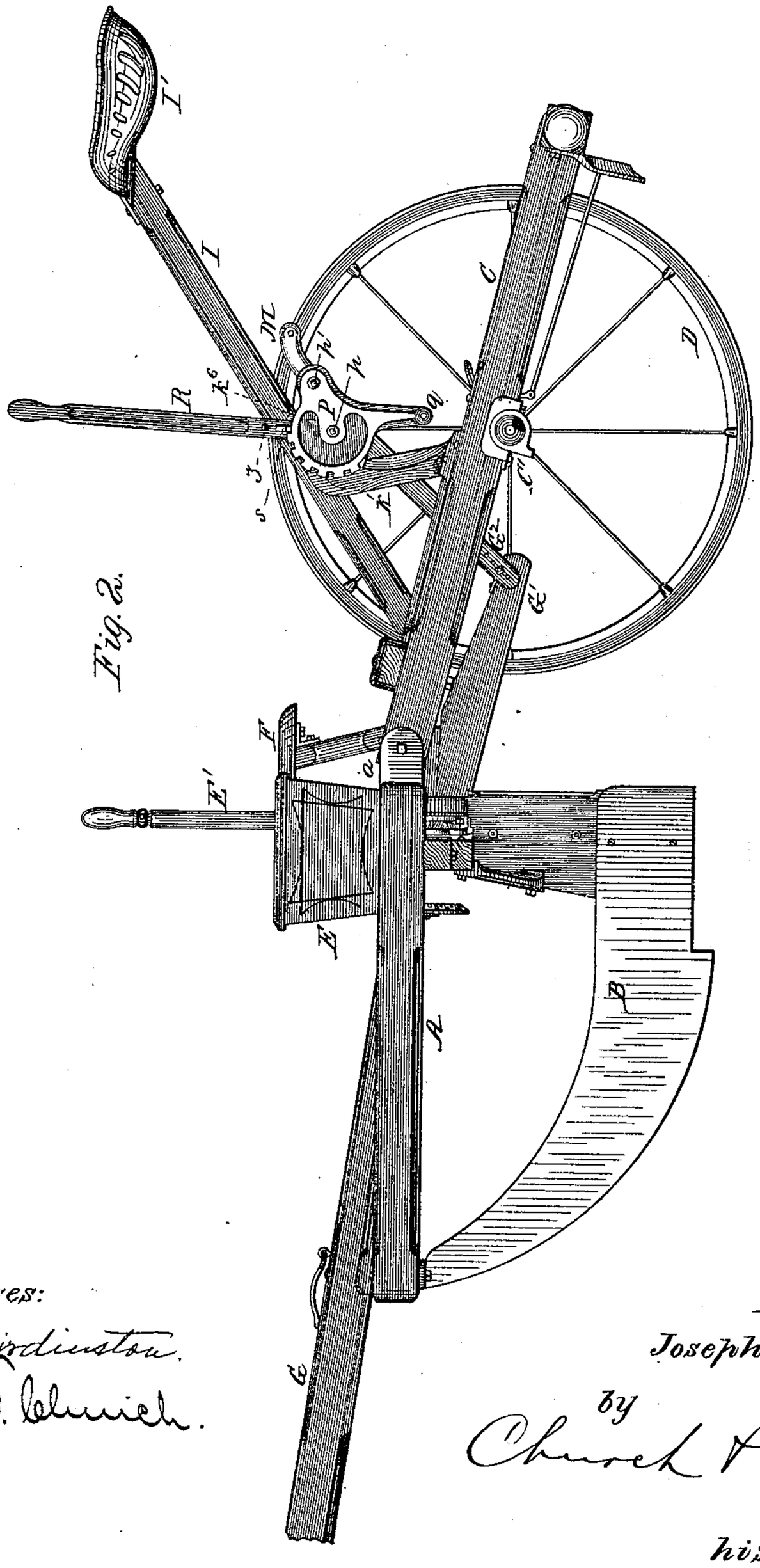


Fig. 2.

Witnesses:
W. C. Jordinston.
Fred. F. Church.

Inventor:
Joseph C. Barlow
by
Church & Church,
his Attorneys.

(No Model.)

6 Sheets—Sheet 3

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.

Fig. 3.

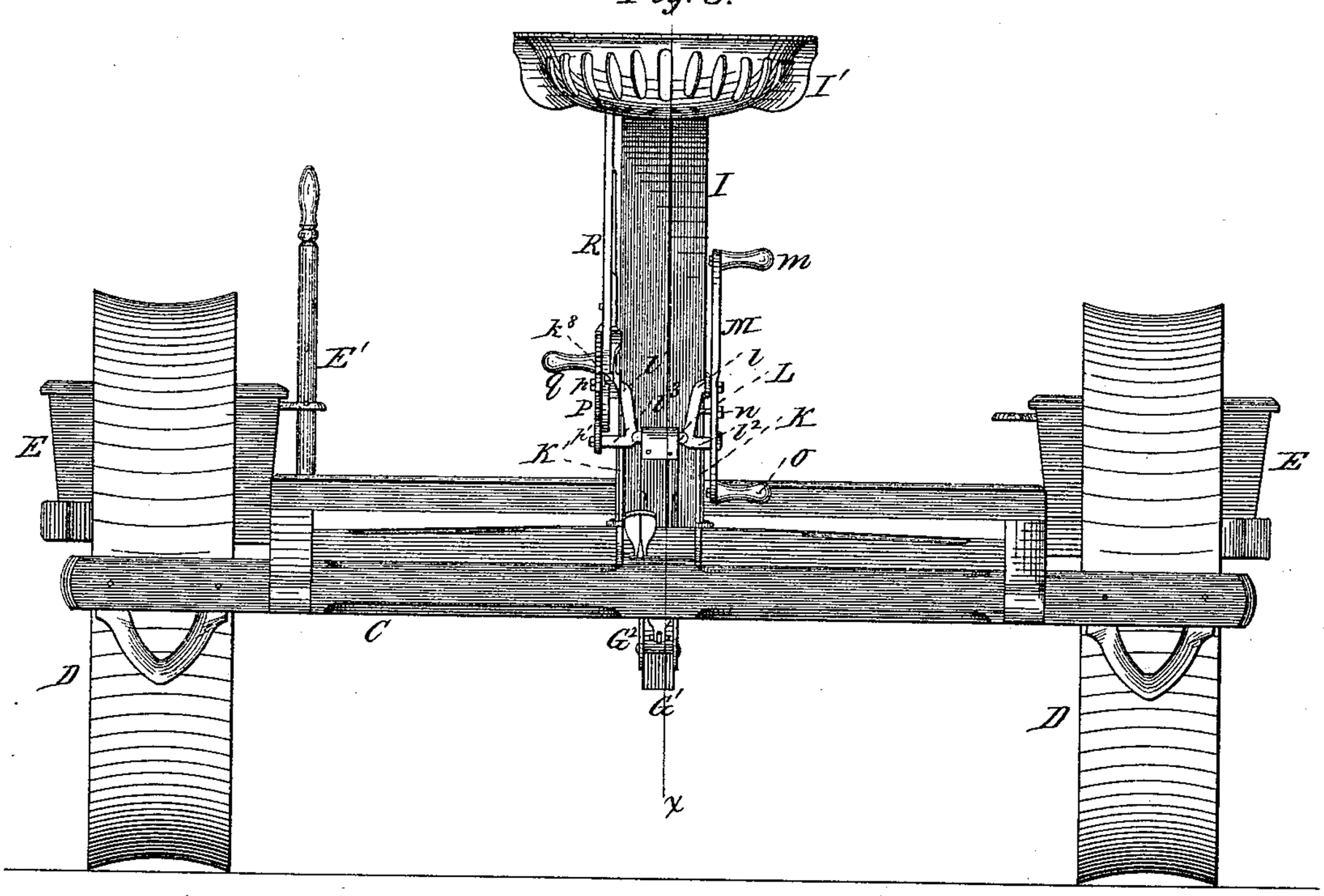
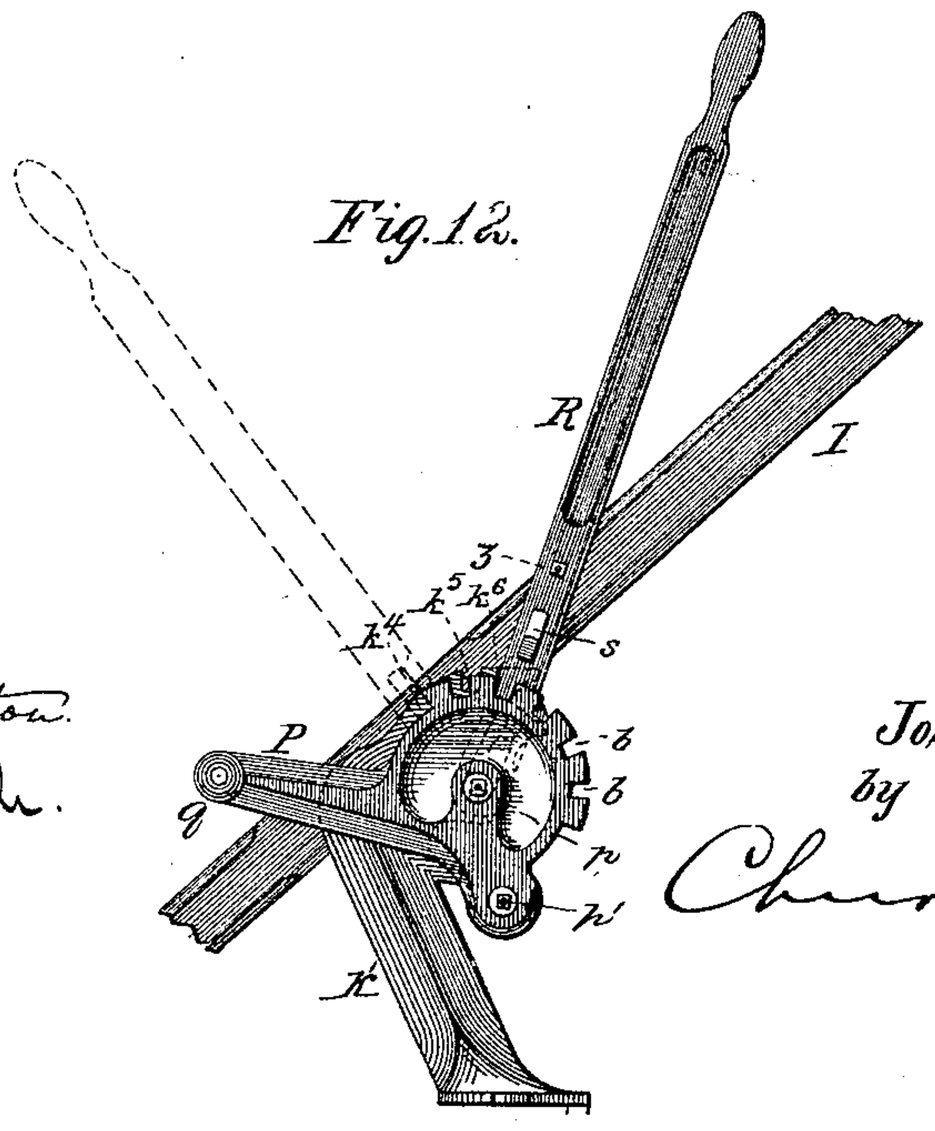


Fig. 12.



Witnesses:
W. C. Dirdinston.
Fred F. Church.

Inventor:
Joseph C. Barlow
by
Church & Church
his Attorneys.

(No Model.)

6 Sheets—Sheet 4.

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.

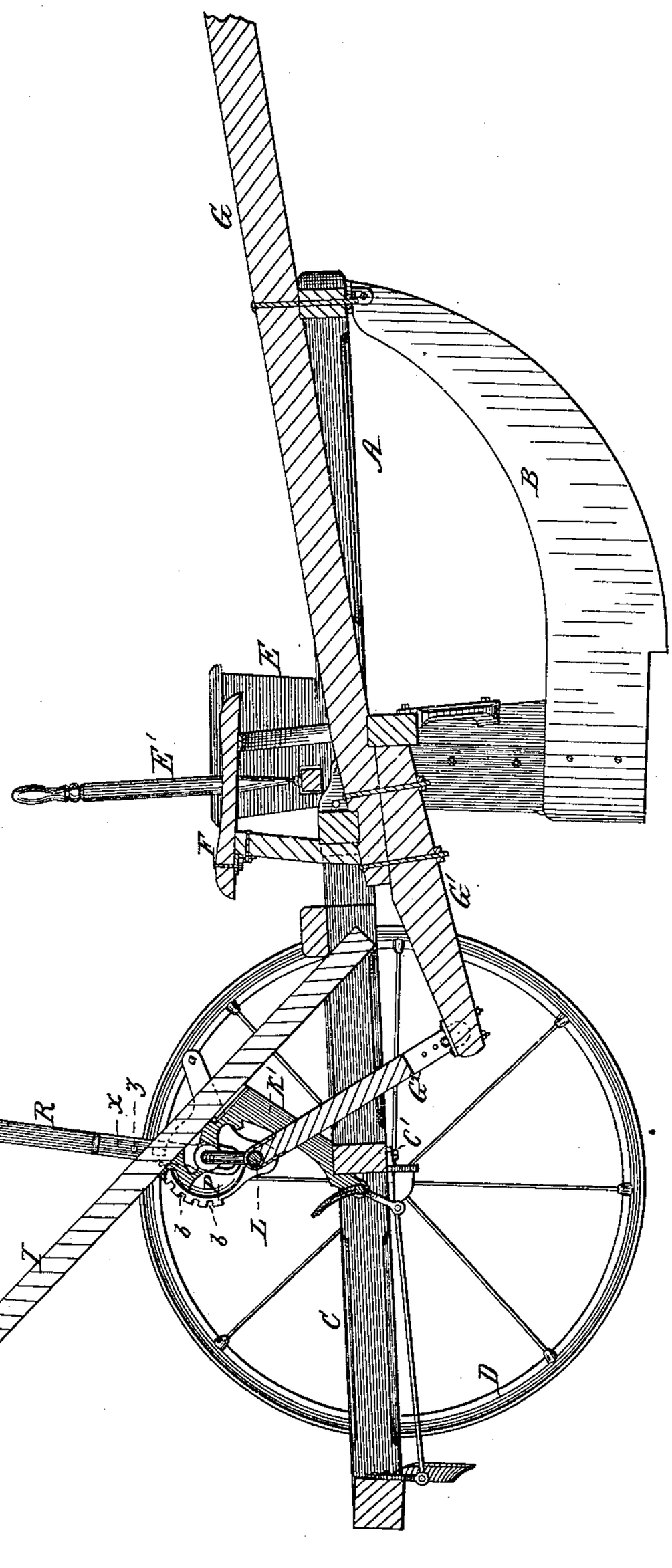


Fig. 4.

Witnesses:
W. C. Dodington.
Fred F. Lehmach.

Inventor:
Joseph C. Barlow
by Church & Church
his Attorneys

(No Model.)

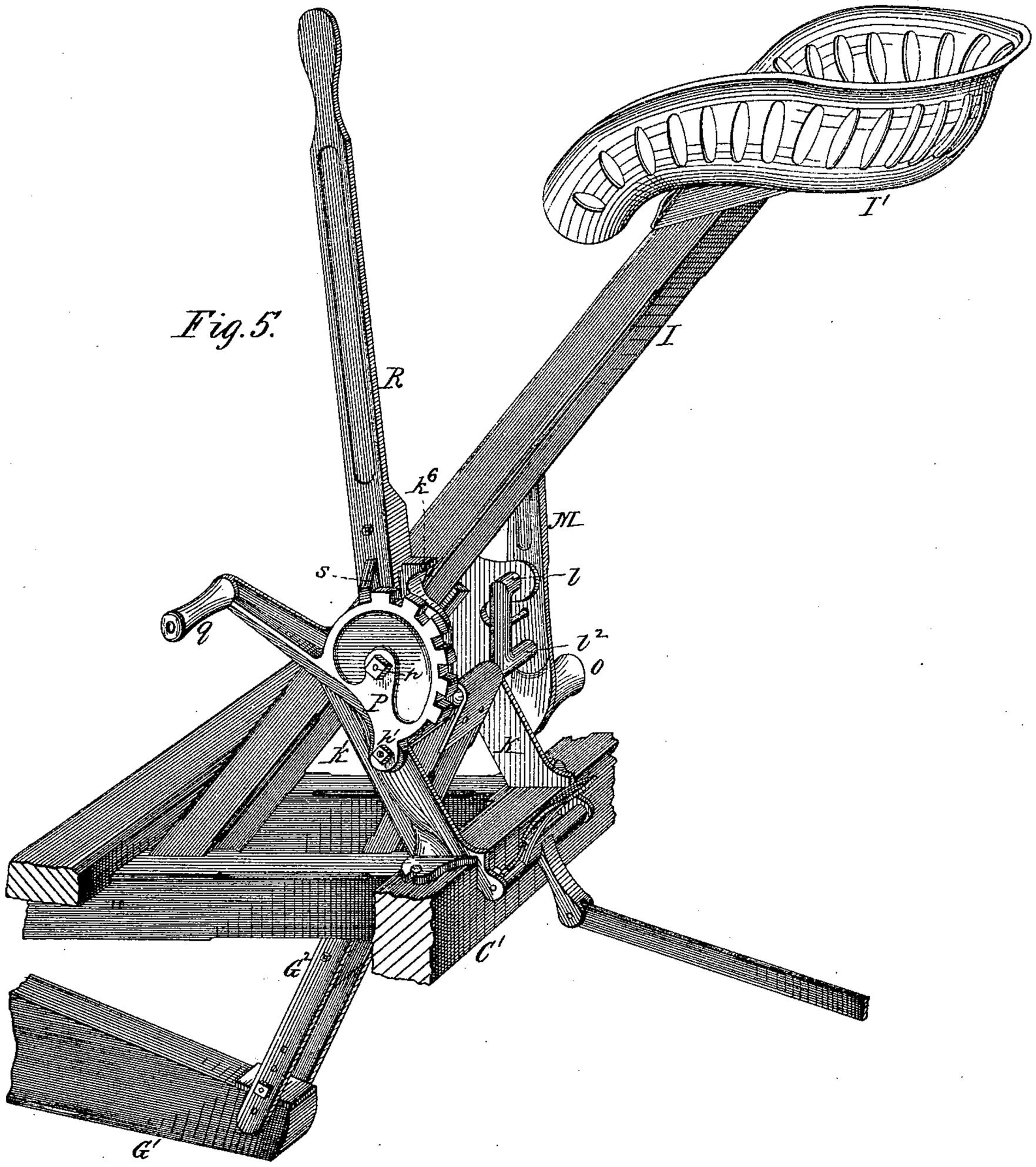
6 Sheets—Sheet 5.

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.

Fig. 5.



Witnesses:

W. C. Fordinston.

Fred F. Lehmuch.

Inventor:

Joseph C. Barlow

by

Church & Church

his Attorneys.

(No Model.)

6 Sheets—Sheet 6.

J. C. BARLOW.

CORN PLANTER.

No. 329,994. Patented Nov. 10, 1885.

Fig. 6.

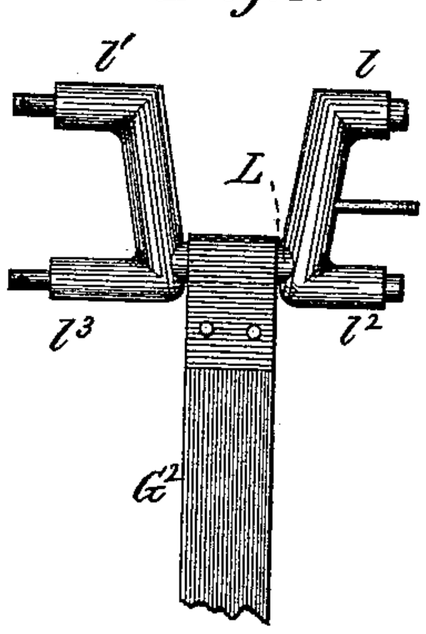


Fig. 7.

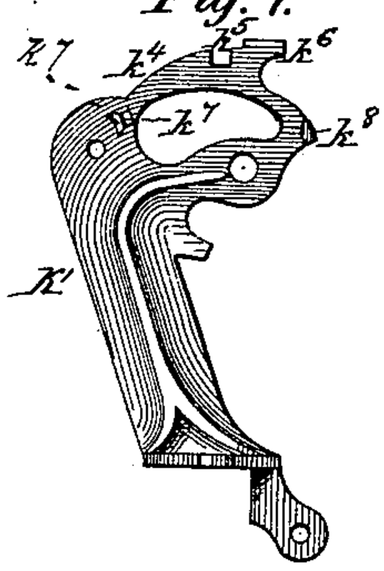


Fig. 8.

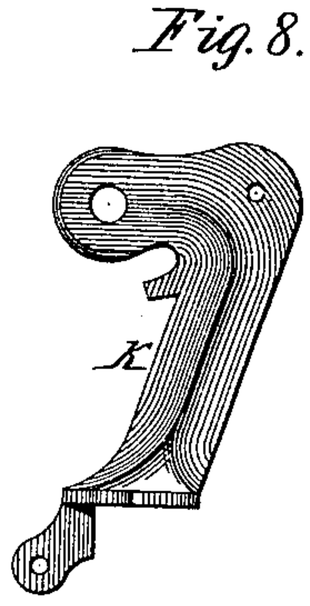


Fig. 10.

Fig. 11.

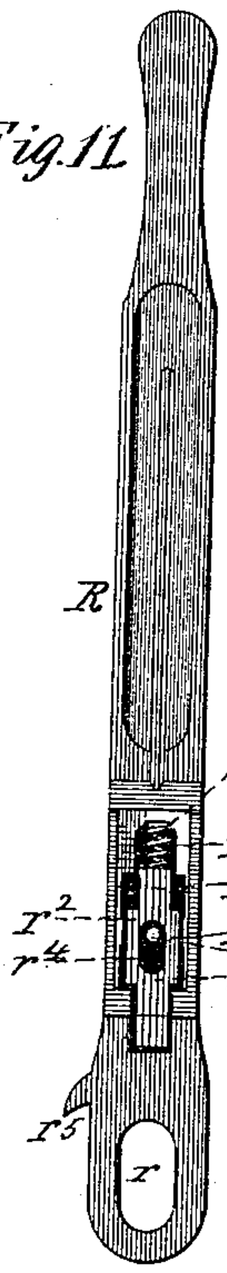
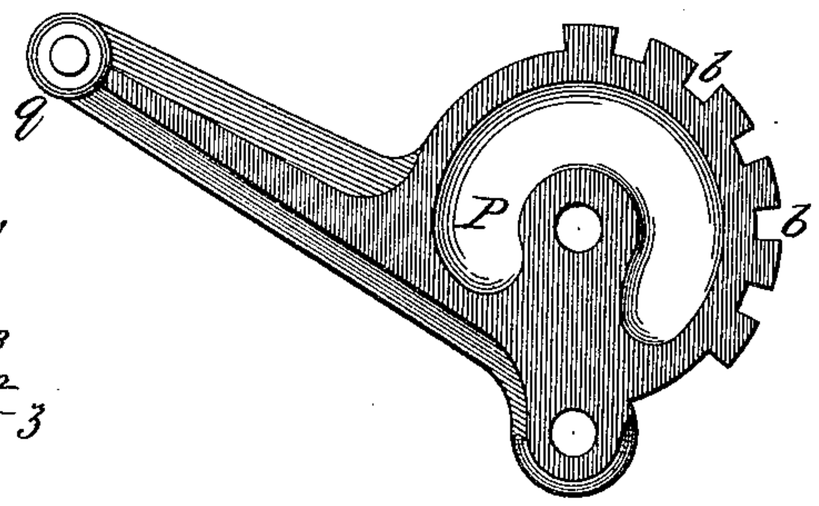


Fig. 9.



Witnesses:
W. C. Jirdinston
Fred G. Church.

Inventor:
Joseph C. Barlow
by
Church & Church,
his Attorneys.

UNITED STATES PATENT OFFICE.

JOSEPH C. BARLOW, OF QUINCY, ILLINOIS.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 329,994, dated November 10, 1885.

Application filed September 27, 1883. Serial No. 107,566. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. BARLOW, a citizen of the United States, and a resident of Quincy, in the county of Adams and State of Illinois, 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, which will enable others skilled in the art to which said invention appertains to make and use the same, reference being had to the accompanying drawings, and to the figures and letters of reference marked thereon.

This invention relates particularly to improvements in that class of corn-planters for which Letters Patent of the United States No. 162,599 were granted to me on the 27th day of April, 1875; and it consists in certain novel devices for adjusting and controlling the runner-frames and for securely locking the same in adjusted positions, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 represents a side view of a corn-planter containing and embodying my improvements, the near wheel of the machine being removed and the runner-frame being shown lowered with the runners resting upon the ground. Fig. 2 represents a similar view of the machine with the runner-frame shown raised up and locked. Fig. 3 is a rear elevation of the machine adjusted as shown in Fig. 1, but with both wheels on. Fig. 4 represents a longitudinal vertical section of the machine, taken on the line *x x*, Fig. 3. Fig. 5 is a perspective view, looking from the rear, showing particularly the parts embodying the present improvements. Fig. 6 is a view of the crank-shaft and of the pitman connected thereto. Figs. 7 and 8 are views, respectively, of the right and left plates in which the crank-shaft has its bearings. Fig. 9 is a detached view of the left foot-lever. Fig. 10 is a view of the hand-lever, looking from the left. Fig. 11 is a view of the same, looking from the right, and showing particularly the recess or chamber containing the spring-bolt or plunger, the cover for said recess or chamber being removed. Fig. 12 is a view showing in full lines the position of the hand-lever when pulled back to its fullest extent, so as to remain out of operation, and showing in dotted lines the position of the lever when engaged with a recess on the left foot-lever, so as to enable the driver to use it in tilting up the runner-frame.

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

The letter A designates the runner-frame of the machine, carrying at opposite sides the runners B B. Upon this frame and over the runners are arranged the seed-boxes E E, and between the seed-boxes is the seat F, on which the dropper sits while he operates the seed-dropping mechanism by means of the lever or handle E′, arranged within convenient reach.

C represents the rear or wheeled frame, mounted on the wheels D D, and hinged or jointed to the front runner-frame at *a a*, so as to permit the latter to be raised or lowered by the tilting of frame C, when desired.

The tongue G of the machine is secured to the runner-frame, and has fastened to it a rearwardly-projecting extension, G′, which projects back under the wheeled frame C and beneath the seat-standard I, mounted on the latter. The seat-standard is inclined backward and upward, and carries at its upper end seat I′ for the driver.

K and K′ are suitable plates or castings bolted or otherwise secured to the axle-piece C′ of the frame C, and also preferably, though not necessarily, bolted or otherwise secured to the right and left sides of the seat-standard, as shown in Fig. 3.

L is a crank-shaft having crank-arms *l* and *l′* projecting to the right and left, respectively, and also having extensions l^2 and l^3, which project parallel to the outer portions of the right and left crank-arms, respectively, as shown in Figs. 3 and 6. The crank-arms *l l′* of the crank-shaft have their bearings in suitable orifices in the plates K and K′, respectively. To the extremity of the crank-arm *l*, which projects through the plate K and to the extension l^2 of the crank-shaft, is connected a foot-lever, M, having at one end a foot-rest, *m*, and at the other end a foot-rest, *o*. I preferably connect this lever M in the manner shown—that is to say, by forming two orifices in it to fit over the ends of the crank-arm *l* and crank-shaft extension l^2, and clamp it securely in place by means of a screw-bolt, *n*, passed through the lever and into the crank-arm, as shown in Fig. 3. This makes a very strong and simple

connection. The end of the crank-arm *l'* projects through the plate K' on the opposite side of the seat-standard, and secured to it is the left foot-lever, P, said lever being provided with two orifices, one for the crank-arm end and the other for the crank-shaft extension, and being held in place by screw-nuts *p p'*, as seen in Figs. 1, 2, and 3.

A pitman, G^2, is connected at one end to the crank-shaft L between the crank-arms thereof, and at the other end to the rear of the tongue-extension G', as shown in Figs. 1, 2, and 3.

The machine, as so far described, does not differ in essential particulars from that shown and described in my former patent referred to, and can be operated in substantially the same manner. For instance, the driver, sitting in his seat I', may, by manipulating the right and left foot-levers with his feet, rotate the crank-shaft backward or forward, and thus tilt the frame C on its axis backward or forward, so as to raise or lower the front runner-frame and cause the runners to be raised from or to be pressed into the ground, as desired—that is to say, by pressing with his left foot upon the foot-rest *q* of the left foot-lever, P, to initiate the movement, and then with his right foot upon the foot-rest *m* of the right lever, M, to complete the movement, he can tilt the frame C backward and lift the runner-frame so as to raise the runners out of the ground. On the other hand, by pressing down with his right foot upon the foot-rest *o* of the right lever, M, he can tilt the frame C forward, and thus press down the runner-frame and cause the runners to enter the ground more or less, and then by continued pressure upon the foot-rest *o* keep the runners to their work.

Now, the object of my present improvements is, first, to provide means for locking the crank-shaft when swung way forward or way backward, or when stopped at any intermediate point, and thus enable the runners to be held just where adjusted, whether in or out of the ground, or at any desired depth in the ground; secondly, to provide a hand-lever so arranged as not to interfere at all with the free tilting of the frames up or down by the foot-levers, but capable of being engaged at the will of the driver in such manner as to assist the foot-levers in their operation or take their places entirely and render their use unnecessary; and, thirdly, to so arrange the locking device upon the said hand-lever as to cause it to automatically operate to lock the frames when the runners are raised or lowered to the desired point.

The means which I have contrived for attaining the results mentioned are of very simple character, and will now be briefly described.

Between the foot-lever P and the plate K' on the left of the seat-standard, I place a hand-lever, R. This lever, near its lower end, is provided with an elongated slot, *r*, through which passes the crank-arm *l'* of the crank-shaft. On the outer side of the lever is cast or otherwise formed a projecting lug or tooth, *s*, which, when the lever is raised and then dropped, is adapted to engage with one or the other of a series of recesses or notches, *b*, formed in a segmental portion of the lever P, as shown in Fig. 2, as will be further on explained. On the inner side the said lever is formed with a socket or chamber, *r'*, in which is arranged a sliding bolt or plunger, *v*. This bolt or plunger is preferably arranged so as to be capable of being projected or retracted through the end of the socket. Within the socket it is provided with lateral projections r^2 r^2, and an upper extension, r^3, which serve to guide it in its movements, and it is further provided with a longitudinal slot, r^4, through which passes the pin *z*, that secures the covering plate or cap *x* of the socket or chamber in position. The weight of the bolt or plunger itself may be relied upon to effect its projection at the proper time; but I preferably insert within the socket above it a spiral spring, *w*, in order to insure its positive action at all times. The upper portion of the plate K' is provided with a ledge, k^4, and also with a somewhat higher ledge, k^6, and in the ledge k^4 a recess, k^5, is formed for the reception of the bolt or plunger *v*, carried by the lever. At the forward side of the plate K' a projecting stop, k^7, is arranged for the purpose of limiting the forward swing of the lever, while at the rear side of said plate another stop, k^8, is provided to limit the swing of the lever in that direction. When the lever is raised (its elongated slot permitting this) and swung back to its fullest extent, its spring bolt or plunger will rest upon the ledge k^6, and the hook-shaped lug r^5, formed on its rear edge, will hook over the rear stop, k^8, as shown in Fig. 8. While the lever is in this position, the foot-levers can be freely worked so as to tilt the frame C and raise and lower the runner-frame, as in the old machine. If, now, the driver desires to lock the crank-shaft at any particular point between its extremes of movement, he simply manipulates the foot-levers until the particular point desired is reached, and then slightly raises the hand-lever and moves it forward until its spur or lug *s* engages with one of the notches in the lever P, on the one hand, while its spring bolt or plunger engages with the recess or notch k^5 in the ledge of plate K', on the other hand. To change again the position of the parts, it is only necessary for him to raise and disengage the lever and throw it back again to its original position, out of the way. Another function of the lever is to assist the foot-levers in pressing the runners into the ground. For instance, after the runner-frame has been lowered and the runners pressed more or less into the ground, the driver may disengage the hand-lever and throw it forward and engage the left lug or tooth, *s*, with one of the notches *b* of the foot-lever P that is forward of the notch k^5 in the ledge of plate K', and then by pull-

ing backward upon the lever he can still further rotate forward the crank-shaft and cause the runners to be pressed into the ground to the fullest extent, and when this point is reached the lever will have traveled back to the shoulder of the ledge k^6, which reached, the spring bolt or plunger will automatically drop into the notch k^5 and thus hold all the parts securely locked in position and prevented from further movement. To unlock the hand-lever from this last-described position, a pressure downward and forward on the foot-rest *o* of the right-hand foot-lever, M, will generally be necessary in order to unbind and relieve the hand-lever and enable it to be raised sufficiently to disengage its lug and its bolt or plunger from their respective recesses or notches. In fact, it may be given as a general direction that to release the lever after it has once locked the parts at any given point the releasing operation will be much facilitated by operating the foot-levers so as to free the said hand-lever from lateral pressure. The hand-lever may also be utilized, if desired, in raising the runners from the ground by causing its side lug or tooth to engage with the appropriate recess of the foot-lever P, as will be readily understood.

It will be observed that the hand-lever, when engaged with the foot-lever, is to all intents and purposes a part of said foot-lever, and controls the crank-shaft and connections just as completely as does the said foot-lever, and, in fact, more completely.

The most important feature of the hand-lever is its complete adjustability, whereby the driver is enabled to apply it to the foot-lever just when and where the necessities of the case demand. Until the occasion for its use arises it remains swung back out of the way, not interfering in the slightest with the maintenance of the full control of the machine by means of the foot-levers. The locking of the runners at any point, or the raising or lowering of them, equally fall within its sphere of usefulness. It is not so permanently connected to the foot-levers as to be vibrated back and forth in front of the driver, as the runners are made to rise and fall to suit the requirements of the work performed, but remains out of the way till the occasion for its use arises. Moreover, being independent of the foot-lever and crank-shaft, a range of movement is given the latter not possible if it were rigidly and permanently connected to them.

Having thus described my invention, I claim as new—

1. The combination, in an agricultural implement, of the crank-shaft, the foot-lever connected thereto having the circular series of notches or recesses, and the loose longitudinally-movable hand-lever having the lug for engaging with the notches of the foot-lever, substantially as described.

2. The combination, in an agricultural implement, of the crank-shaft, the plates in which it is journaled, the foot-lever having the series of notches or recesses, the adjustable lever having the lug for engaging the notches of the foot-lever, and the bolt or plunger for engaging the notches of the stationary plate, substantially as described.

3. The combination, in an agricultural implement, of the crank-shaft, the foot-lever connected thereto and having the series of notches, and the longitudinally-movable hand-lever having its fulcrum on the arm of the crank-shaft, and provided with the lug for engaging with the notches of the foot-lever, substantially as described.

4. The combination, in an agricultural implement, of the crank-shaft, the plates in which it is journaled, one of which has the ledges and notch, of the foot-lever having the series of notches, and the longitudinally-movable adjustable hand-lever having the side lug or tooth, and the automatic bolt or plunger, substantially as described.

5. The combination, in an agricultural implement, of the crank-shaft, the plates in which it is journaled, one of which has the ledges and notch, the levers on opposite ends of the crank-shaft, one of which has the series of notches or recesses, and the adjustable longitudinally-movable hand-lever provided with the side lug and automatic bolt or plunger, substantially as described.

6. The combination, in an agricultural implement, of the crank-shaft, the plate K′, and the adjustable lever adapted to be swung back and locked to the plate K′ by its rear hook engaging with the rear stop, substantially as described.

7. The combination, with the notched foot-lever of the corn-planter, of the adjustable hand-lever adapted to be thrown into or out of engagement with the said foot-lever at will, and carrying the automatic bolt or plunger for automatically locking it when swung back from a forward position, substantially as described.

8. The hand-lever having the oblong slot in its lower end, and the automatically-operating bolt, substantially as described.

9. The hand-lever having the oblong slot in its lower end, the lug, and the automatically-operating bolt or plunger, substantially as described.

10. In a planter, the hand-lever having the recess or chamber, the bolt or plunger within the chamber having the slot in it, the spring for projecting the bolt, the cap-plate, and the screw for holding the same in place, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand, this 4th day of September, 1883, at Quincy, Illinois.

JOSEPH C. BARLOW.

Witnesses:
MELVILLE CHURCH,
LEWIS B. BOSWELL.