(No Model.) 2 Sheets—Sheet 1.

F. STORCK.

POTATO PLANTER.

No. 446,271. Patented Feb. 10, 1891.

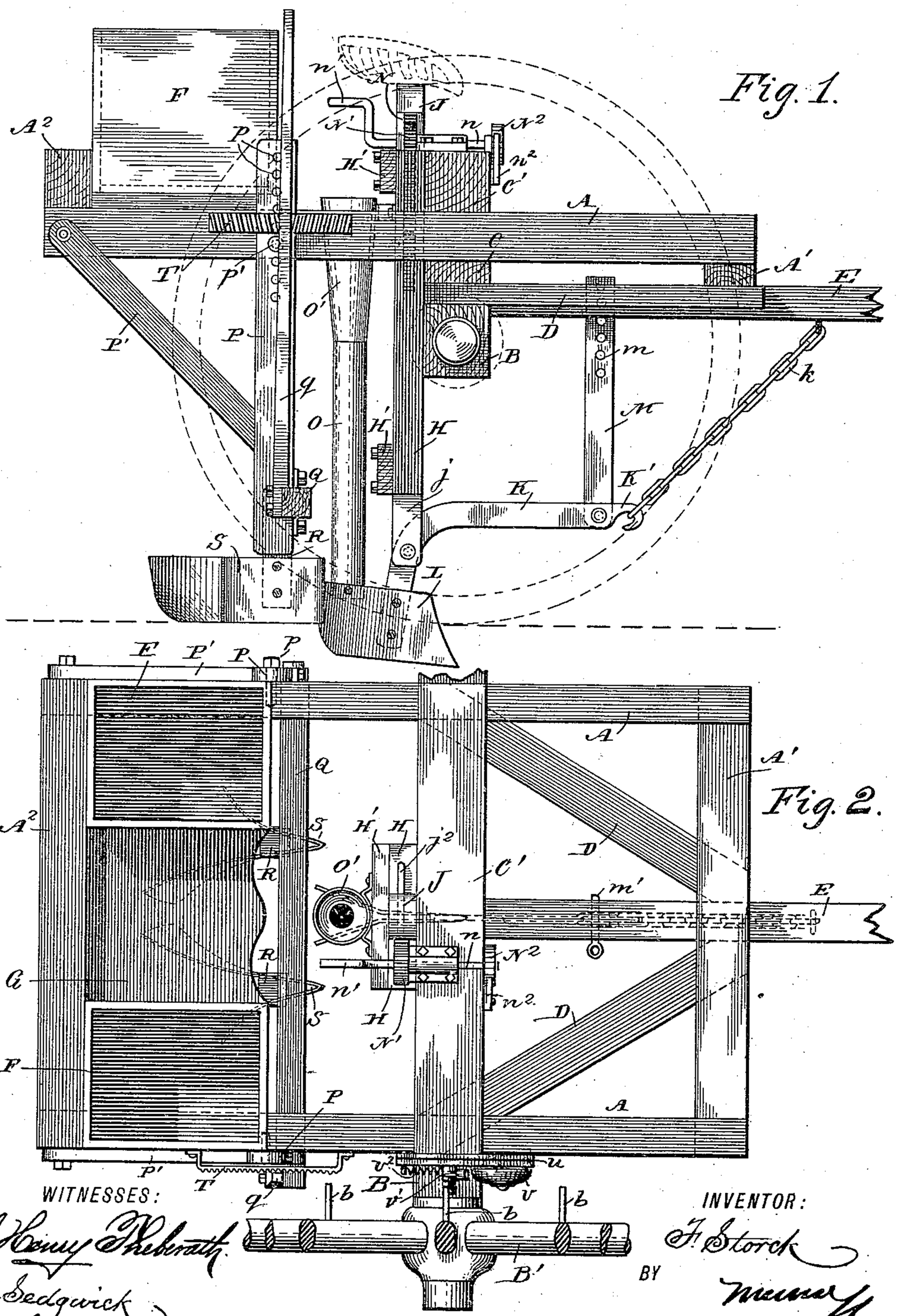

Fig. 1.

Fig. 2.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

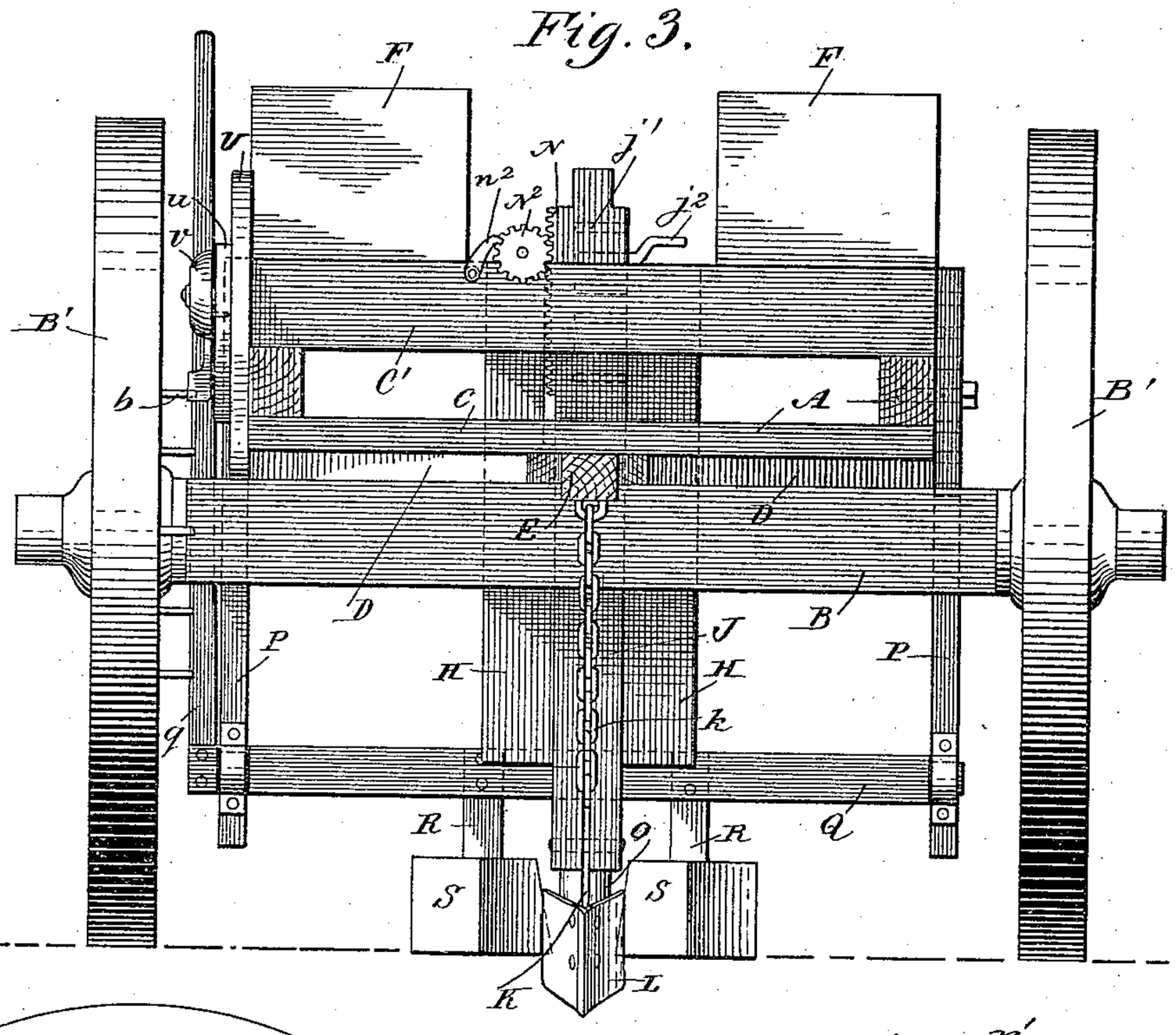


Fig. 4.

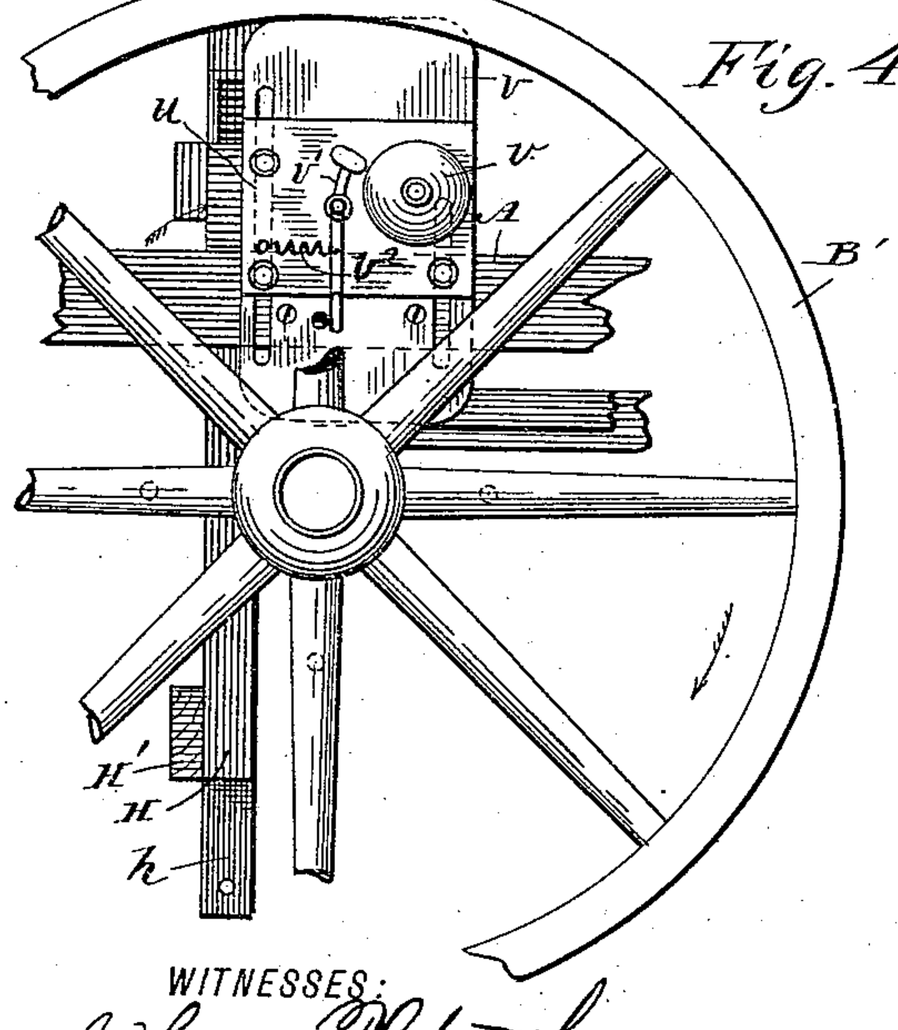
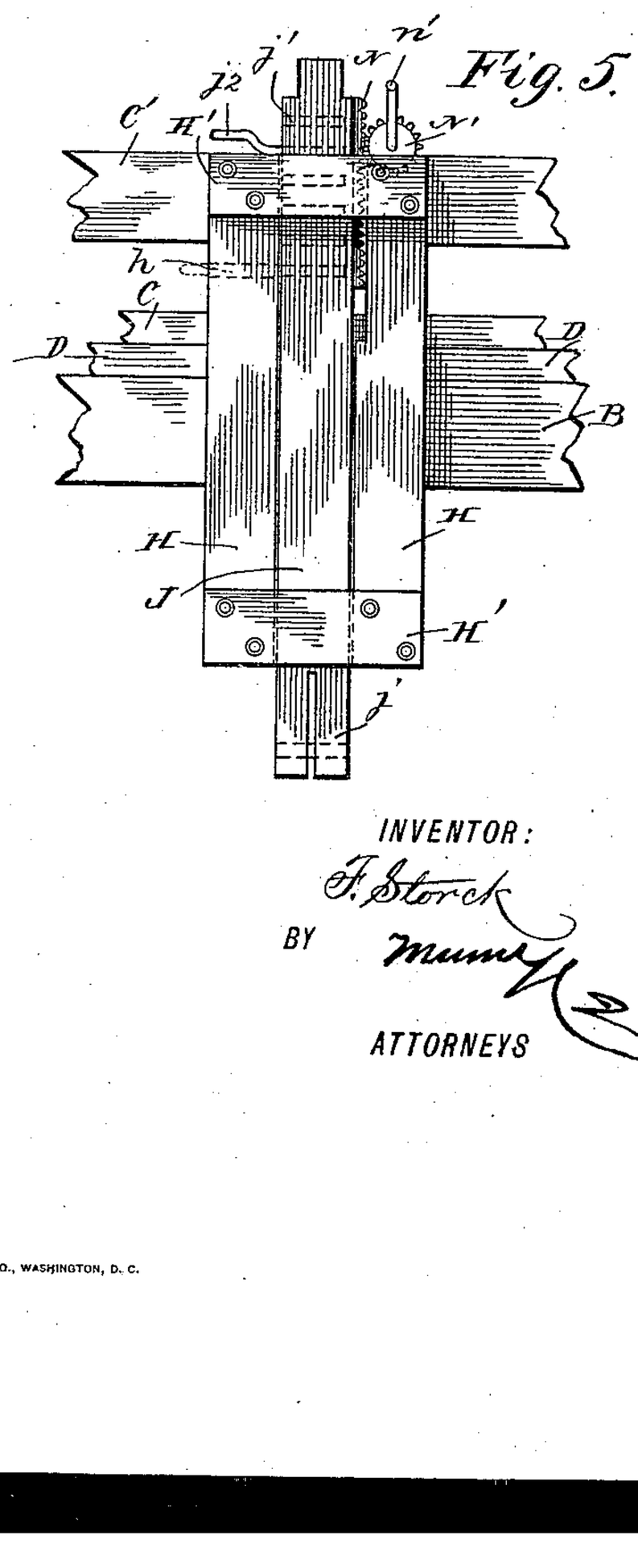


Fig. 5.



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UNITED STATES PATENT OFFICE.

FERDINAND STORCK, OF BUENA VISTA, COLORADO.

POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 446,271, dated February 10, 1891.

Application filed September 11, 1890. Serial No. 364,612. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND STORCK, of Buena Vista, in the county of Chaffee and State of Colorado, have invented a new and Improved Potato-Planter, of which the following is a full, clear, and exact description.

My invention relates to improvements in potato-planters; and the object of my invention is to produce a machine of simple construction, that is efficient, durable, and cheap, and by means of which potatoes may be planted in a straight line and with the hills an equal distance apart.

To this end my invention consists in certain features of construction and combinations of parts which will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken side elevation of the machine with the wheels of the vehicle to which it is attached removed. Fig. 2 is a broken plan view of the same, showing one of the vehicle-wheels. Fig. 3 is a front elevation of the machine mounted on the vehicle-wheels and with the tongue of the vehicle in cross-section. Fig. 4 is a broken enlarged detail view of the gong attachment which indicates when a potato is to be dropped; and Fig. 5 is a broken detail view, in rear elevation, of the mechanism for adjusting the main plow.

A rectangular frame A is supported upon a suitable axle B, mounted in the wheels B′, the front end of the frame being provided with a cross-piece A′ on the under side, which rests on the tongue of the vehicle, and the rear end of the frame being provided with a cross-piece A^2 on the upper side. A cross-piece C and the braces D are interposed between the frame A and the axle B, the cross-piece extending centrally across the lower side of the frame, and the braces extending forward from the axle B to the tongue E, thus supporting the tongue. A cross-piece C′ extends centrally across the upper side of the frame A, so as to align with the lower cross-piece C.

On the rear portion of the frame are two boxes F, there being a box on each side, and the boxes are intended to carry the potatoes to be planted. Between the boxes is a seat G, on which the driver or operator sits.

A vertical frame H is fixed to the rear portion of the cross-pieces C and C′ and axle B, the upper and lower ends of the frame being connected by suitable cross-strips H′, and the frame thus forms a slideway in which the standard J is vertically movable. The standard J has its lower end *j* split vertically, and in it is pivoted the curved plow-beam K, the forward end of the plow-beam being provided with a hook K′, which is connected by a chain *k* with the tongue E, so that the tongue and chain thus receive the drawing strain of the plow L, which is fixed to the lower end of the plow-beam.

To the front end of the plow-beam K is pivoted a vertical strip M, which extends through a slot in the tongue E, and which is provided at its upper end with a series of holes *m*, adapted to receive a pin *m′*, which extends through corresponding holes in the tongue, so that by changing the height of the strip M and fixing its position by the pin, as described, the depth at which the plow L runs is regulated. The upper end of the standard J is provided with a series of transverse holes or slots *j′*, as indicated by dotted lines in Figs. 3 and 5, and these slots are adapted to receive the bent pin j^2, the pin being inserted on the upper side of the cross-piece C′, and the standard and plow are thereby prevented from being drawn too far into the soil.

The standard is provided on one side with a vertically-toothed rack N, which meshes with a pinion N′ on the shaft *n*, which is mounted upon the upper side of the cross-piece C′. The shaft *n* is formed into a crank-handle *n′* at its rear end, and by turning the shaft the pinion N′ operates on the rack N and raises or lowers the standard, as the case may be. The front end of the shaft *n* is provided with a ratchet-wheel N^2, which is engaged by a pawl n^2, which is pivoted on the cross-piece C′, and the shaft is thereby prevented from turning back and the standard J from being raised.

A tube O is supported in the rear of the frame H and in line with the standard J, the lower end of the tube being fixed to the cen-

tral portion of the plow L and the upper end O′ being enlarged, so that it will easily receive a potato, and the tube should be large enough throughout its entire length to prevent a potato from being clogged therein.

Mounted on opposite sides of the frame A, in the rear of the tube O, are the depending standards P, which are braced by the braces P′, extending from the lower portion of the standards to the rear portion of the frame A. The standards are vertically adjustable, having a series of holes *p* in their upper ends, and the standards are held in the desired position by means of the pins *p′*, which extend through corresponding holes in the sides of the frame A and through the holes in the standards.

A shaft Q is mounted in the lower ends of the standards P, the said standards having suitable boxes so that the shaft may be easily turned; and fixed to one end of the shaft which extends through one of the standards is an upwardly-extending lever *q*, by means of which the shaft may be operated, as described below. The shaft Q has two depending posts R fixed thereto, and attached to the lower ends of the posts are plows S, the plows being arranged on each side of the plow L and in the rear of said plow, so that the points of the plows S will be about opposite the rear portion of the plow L. It will thus be seen that by moving the lever *q* so as to oscillate the shaft Q the plows S may be made to run at a desired depth. The lever *q* is held in a desired position so as to fix the shaft and the plows connected therewith by means of the toothed rack T, which is attached to the frame A, the lever *q* being arranged to engage the teeth in a well-known manner.

Fixed to one side of the frame A opposite one of the wheels B′ is a vertically-slotted board U, on which is mounted a board *u*, the board *u* being attached to the board U by bolts extending through the slot of the board U, so that the board *u* may be vertically adjusted thereon, and fixed to the board *u* is a gong *v*. A hammer *v′* is arranged adjacent to the gong *v*, the shank of the hammer being centrally pivoted on the board *u*, and the hammer is held by a spring v^2, so as to strike the gong when the hammer is actuated, as described below.

The wheel B′ opposite the gong has pins *b* extending inwardly from the spokes of the wheel, the pins being sufficiently long to strike the shank of the hammer *v′* when the wheel is turned. It will thus be seen that when the wheel revolves one of the pins will force the hammer from the gong and as it passes the spring v^2 causes the hammer to return and strike the gong. These pins *b* may be arranged on any desired number of spokes and at any distance from the hub, and the board *u* is adjusted so that the hammer-shank will be opposite the pins. The pins and gong are to notify the operator when to drop a potato, and they may be arranged to sound the gong a desired number of times at each revolution of the wheel; and it will be seen that the distance the potatoes are apart will depend upon the arrangement of the pins in relation to the gong, supposing, of course, that the operator drops a potato every time the gong is sounded.

The machine operates as follows: The boxes F are filled with potatoes, the operator seats himself between the boxes upon the seat G, and he may either drive the team which draws the vehicle or may have a driver, as desired, and when the vehicle starts the plow L will make a furrow, and at the sounding of the gong *v* the operator drops a potato in the tube O, the potato passing through the tube into the furrow made by the plow L. The plows S, which follow in the rear of the plow L, cover the potatoes and throw up sufficient earth to form the potato-hills. It will be seen, too, that the plows S will form a furrow on each side of a row of hills, said furrows being well adapted to receive water from an irrigating-ditch in countries where irrigation is used.

From the foregoing description it will be seen that the front and rear plows may be quickly and easily adjusted, that the potatoes will be planted in a straight line, and that as the machine is of simple construction it will not easily get out of repair.

If desired, a seat may be attached to the top of the standard J, as indicated by dotted lines in Fig. 1, so that one person may sit thereon and drive and another may sit on the rear seat and drop potatoes. In loose soil the ratchet for raising the standard J may be dispensed with, and the position of the standard may be changed by hand and it may be held in place by thrusting the pin j^2 through the slot *h* in one of the side pieces of the frame H and into one of the holes *j′* in the standard.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A frame mounted on wheels, a vertically-adjustable standard secured to the frame, a plow on the standard, an adjustable brace for the plow, a seed-tube connected with the plow, and adjustable covering-plows in the rear of the main plow, substantially as described.

2. In a potato-planter, the combination, with the main plow having a seed-tube connecting therewith, of the vertically-adjustable standard, the curved plow-beam pivoted in the standard and having its lower end fixed to the plow, and the vertically-adjustable strip extending from the front end of the plow-beam through the vehicle-tongue, substantially as described.

3. A potato-planter comprising a frame mounted horizontally upon a vehicle-axle, a vertically-adjustable standard mounted in the frame and provided with a slotted lower end, a curved plow-beam pivoted in the standard, a plow fixed to the lower end of the plow-beam, a dropping-tube mounted in the frame

and extending to the rear of the plow, a vertically-adjustable strip pivoted to the front end of the plow-beam and extending through the vehicle-tongue, and a chain attached to the front end of the plow-beam and to the vehicle-tongue, substantially as described.

4. A potato-planter comprising a frame mounted horizontally upon a vehicle-axle, a vertical frame fixed to the horizontal frame, a vertically-adjustable standard sliding in the vertical frame, a curved plow-beam pivoted in the lower end of the standard, a plow fixed to the lower end of the plow-beam, a dropping-tube supported in the main frame and extending to the rear of the plow, adjustable connections between the front end of the plow-beam and the vehicle-tongue, and covering-plows arranged in the rear and on each side of the main plow, substantially as described.

5. In a potato-planter, the combination, with the horizontal and vertical frames, of the standard adapted to slide in the vertical frame and having its lower end connected with the main plow, as shown, the rack on the standard, the horizontal crank-shaft arranged adjacent to the standard and provided with a pinion meshing with the rack, a ratchet to hold the shaft and standard from moving in one direction, and the pin adapted to be placed in holes in the standard to prevent it from moving in the opposite direction, substantially as described.

6. In a potato-planter, the combination, with the vertically-adjustable standard and the curved plow-beam pivoted in the lower end thereof, said plow-beam having its lower end fixed to a plow and its forward end formed into a hook, of a vertical strip pivoted to the front end of the plow-beam, said strip being provided with a series of holes and arranged to extend through the vehicle-tongue, a pin for the holes, and a chain connecting the hook of the plow-beam with the vehicle-tongue, substantially as described.

7. In a potato-planter, the combination, with the vertically-adjustable standards on the sides of the horizontal frame, of the rocker-shaft pivoted in the lower end of the standards, the covering-plows supported from the shaft, a lever fixed to one end of the shaft and extending upwardly by the main frame, and a rack for holding the lever in position, substantially as described.

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