

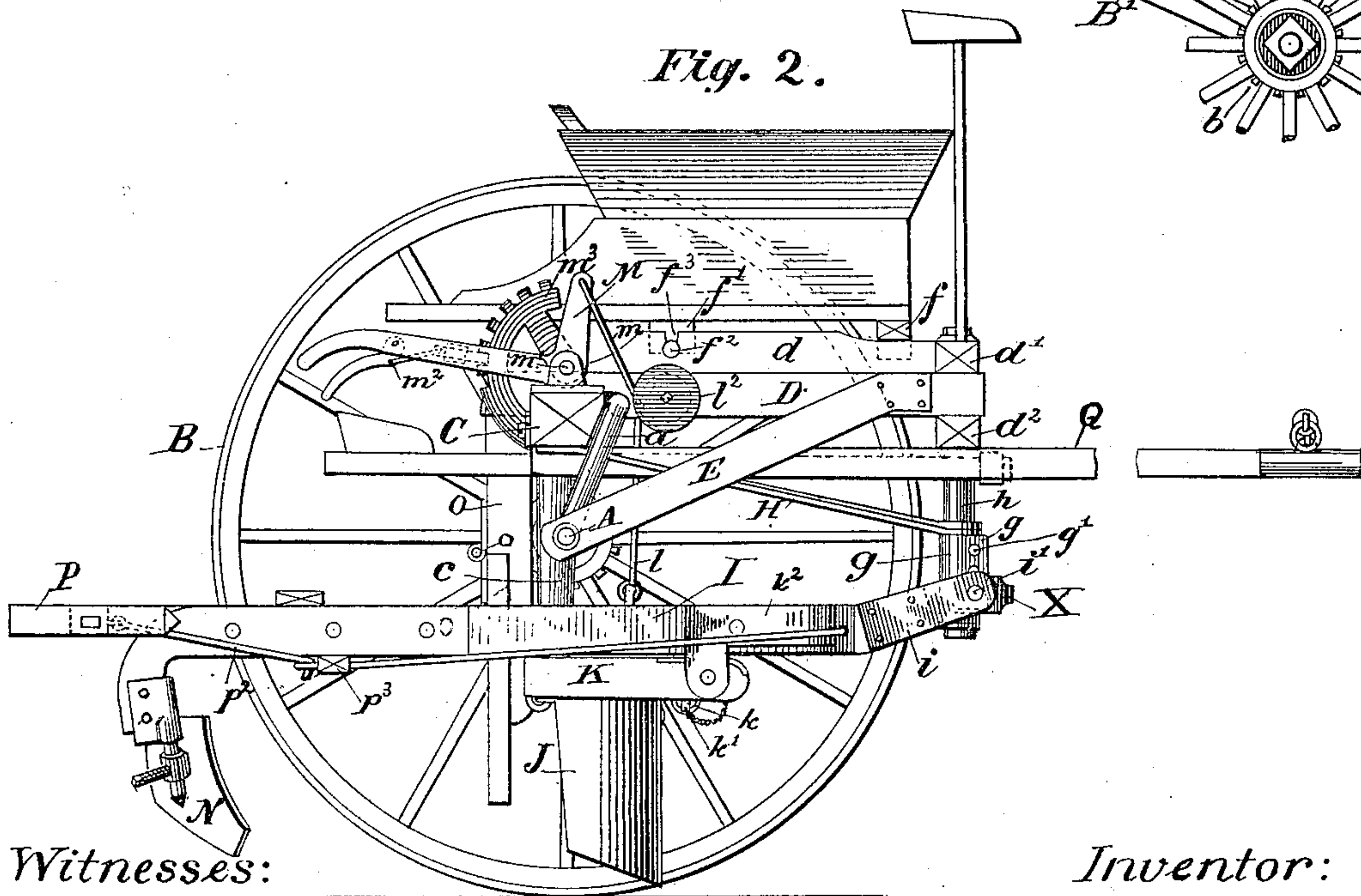
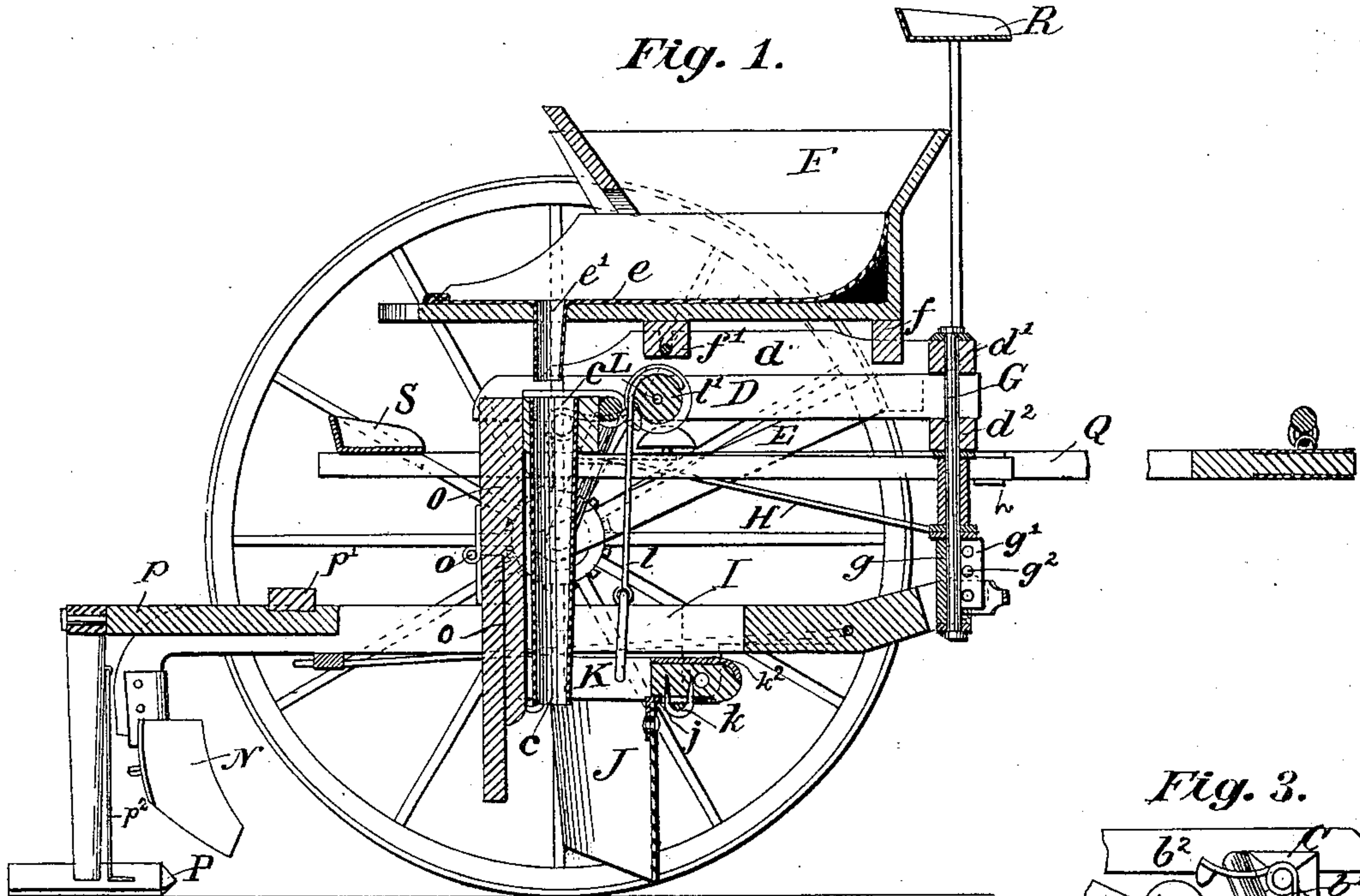
(No Model.)

2 Sheets—Sheet 1.

J. L. ULSH.
POTATO DRILL.

No. 379,745.

Patented Mar. 20, 1888.



Witnesses:

Joseph Barker
Chas. H. Merle.

Inventor:
John L. Ulsh.

per: *J. E. Duffy*
Attorney

(No Model.)

2 Sheets—Sheet 2.

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FIG. 5.

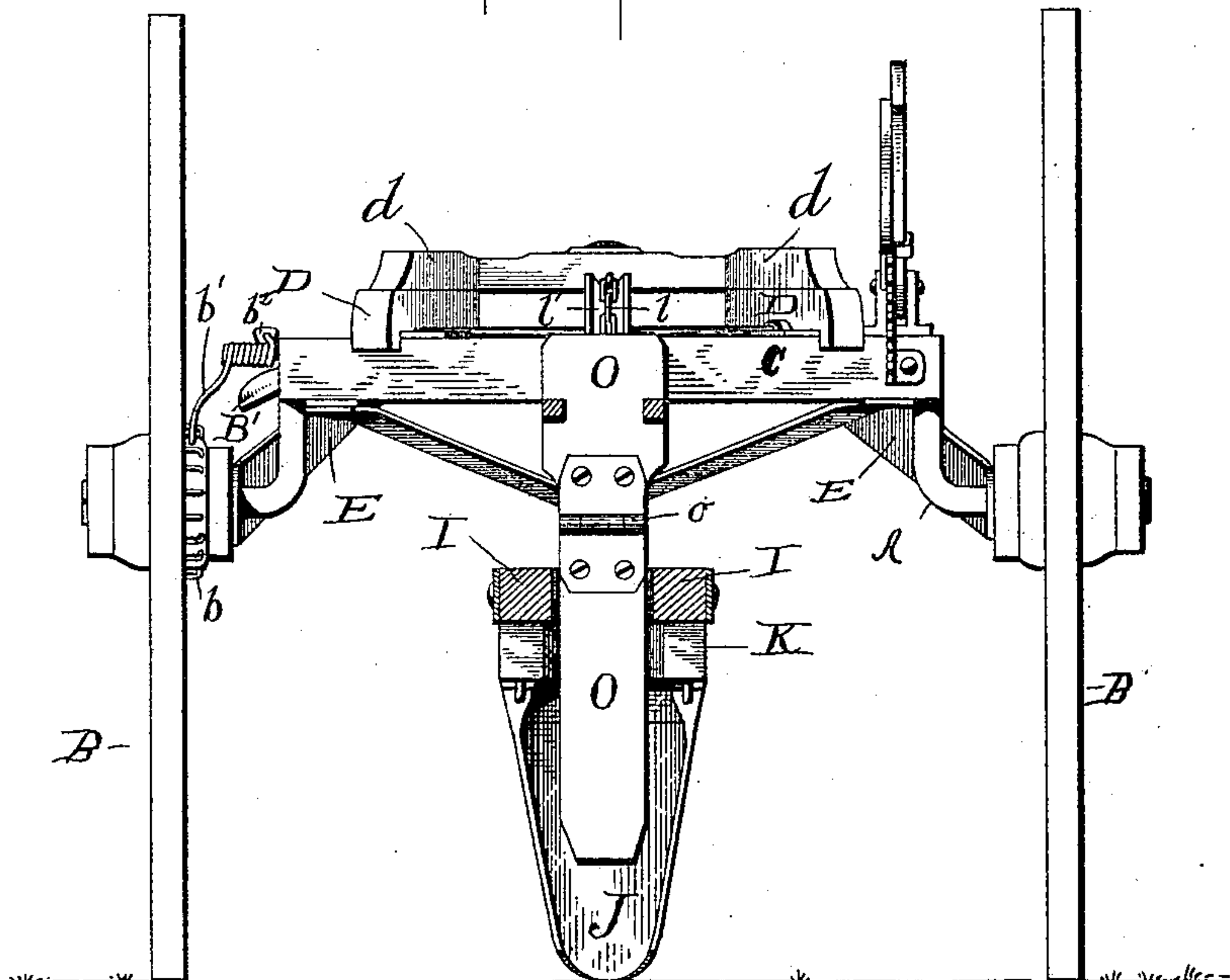
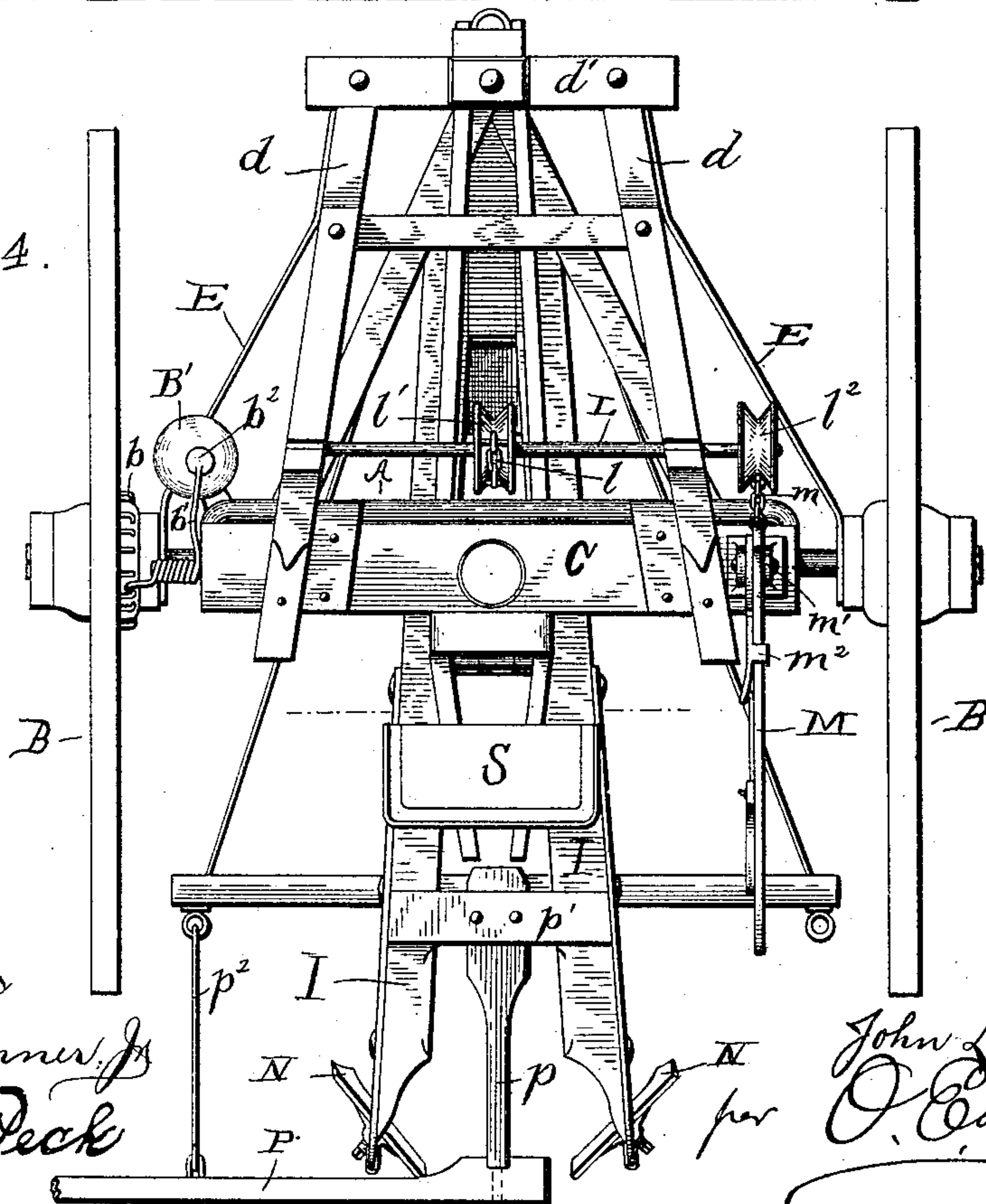


FIG. 4.



Witnesses

J. G. Conner, Jr.
H. E. Peck

Inventor,

John L. Ulsch.
O. E. Cuffey
Attorney

UNITED STATES PATENT OFFICE.

JOHN L. ULSH, OF SOUTH WABASH, INDIANA.

POTATO-DRILL.

SPECIFICATION forming part of Letters Patent No. 379,745, dated March 20, 1888.

Application filed November 7, 1887. Serial No. 254,570. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. ULSH, of the town of South Wabash, in the county of Wabash and State of Indiana, have invented certain
5 new and useful Improvements in Potato-Drills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the
10 same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to that class of potato-
15 planters in which the potatoes to be planted are fed to the feed-tube by hand, its object being to improve this class of machines in several essential points; and my invention consists in the several arrangements and details
20 of construction, as will be fully set forth in the following specification and claims.

In the drawings, Figure 1 is a vertical longitudinal section of my improved planter. Fig. 2 is a side elevation, one wheel being re-
25 moved, and Fig. 3 is a detached detail; Fig. 4, a top plan view with the hopper removed; and Fig. 5, a rear end elevation, with the rear ends of the plow-beams, the reversible marker, and covering-shovels cut away to clearly show
30 the hinged guide-bar.

Similar letters of reference indicate similar parts in the respective figures.

A is the axle, which is arched, as shown at *a*; and B represents the wheels. To the top of
35 the arch *a* is rigidly secured the wooden bar C, which extends the whole length of the top of the arch.

D D are rails resting at one end on the bar C, one at each end thereof, their other ends being supported by the iron braces E, which are
40 attached to the axles A. Resting on and secured to the bars D D is a frame consisting of the side pieces, *d d*, and the end piece, *d'*, and on this frame the tray or hopper F rests. The
45 tray is provided at its bottom with two cross-pieces, *f f'*, the piece *f'* having at each end a pin, *f²*, which pins fit in recesses *f³* in the side pieces, *d d*, and serve as a pivot for the tray F, so that it can be tilted when necessary. The
50 piece *f'* is of a length to allow it to fit in between the sides *d d*, and the piece *f* is notched

out to allow a portion of it to fit in between the sides *d d*, and so prevent the tray F having lateral movement.

To the under side of the rails D, immediately under the end piece, *d'*, is secured a cross-
55 piece, *d²*. G is a bolt which passes through the two pieces *d' d²* and extends some distance downward. To this bolt the braces H H are secured at one end, their other ends being
60 fastened to the under side of the bar C. A collar, *h*, is interposed on the bolt between the braces H and the cross-piece *d²*. Immediately below the braces H, on the bolt G, is another collar, *g*, having the ears or lugs *g'*, which are
65 provided with the holes *g²*.

I I are the plow-beams, the forward ends of which are connected to each other by means of the metal plates *i*, which are bolted to them and to each other. The forward or free ends
70 of these plates *i* are pivotally secured to the collar *g* by means of a bolt which passes through the holes *i'* in the plates and the holes *g²* in the lugs on the collar. A hook, X, is also held
75 by the same bolt, and to this hook the draft-evener (not shown) is to be attached. A nut and washer on the lower end of the bolt will hold the several parts in position. By thus
80 pivoting the plow-beams at their forward ends they will lift in case the shovels should strike a stone or other obstruction.

The bottom of the tray or hopper F is covered with sheet metal, *e*, and is provided with a tube, *e'*, through which the potatoes to be
85 planted are fed. The bar C is provided with a hole, in which is inserted a tube, *c*, which is immediately below the tube *e'* in the tray F. The tube *c* extends downward a short distance below the plow-beams, and is immediately behind the shovel J, which forms the trench into
90 which the potatoes are dropped.

The top of the shovel J is hinged at its rear side to a frame, K, and its front side is provided with a hasp, *j*, which fits over a staple, *k*, in the frame K, a pin, *k'*, being used to keep the
95 hasp and staple in engagement. The forward end of the frame K is hinged to the plates *k²*, which are bolted to the plow-beams, and its rear end is supported by means of a rope or chain, *l*, which is secured to it and to a pulley, *l'*, on which it can be wound. The pulley *l'* is
100 mounted on a shaft, L, which is journaled in

the rails D D. One end of the shaft L extends beyond one of the rails D, and is provided with a pulley, l^2 , to which is secured one end of the rope or chain m , the other end of said chain being secured to one arm of the bent lever M. The lever M is pivoted to a lug, m' , which is bolted to the bar C. The lever is provided with a locking device, m^2 , which engages with the teeth of the segment m^3 , also secured to the bar C. By means of this lever, pulley, and cord arrangement, not only is the rear end of the frame K held in position, but the plow-beams can be lifted till the shovels are above the surface of the ground, and be held in that position when they are not required for use.

N N are the covering-shovels, which are detachably secured to the rear ends of the plow-beams.

O is a bar rigidly secured at its upper end to the bar C, and extending downward and fitting snugly between the plow-beams. The lower end of this bar is in two pieces, hinged together at o . The object of the bar O is to make the plow-beams follow the tongue and prevent them from veering from side to side when the front shovel is in the ground, and the lower end is hinged as described in order that it may not be broken in case the front shovel should strike a stone or other obstruction and be bent backward.

P is a reversible row-marker, pivoted to the end of the bar p , which extends rearwardly midway between the plow-beams, being held in position by means of the cross-bar p' , to which it is rigidly secured, the bar p' being bolted to the plow-beams. When not in use, the marker P is suspended by means of the loop p^2 , which engages with an eye on the cross-bar p^3 , secured to the plow-beams.

Q is the tongue secured to the frame of the machine in the ordinary way.

R is the driver's seat, and S is a seat for the operator who feeds the potatoes to the tube.

The hub of one of the wheels B is provided with ratchet-teeth b , with which one end of a bent lever, b' , engages. This lever is pivoted on the end of the bar C, and carries on its other end a hammer, b^2 , which strikes the gong B' when the wheel is revolved. (See Fig. 3.) The object of this gong is to enable the operator who feeds the potatoes to the tube to ascertain the speed at which the machine is traveling and enable him to feed the potatoes regularly.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a main frame, of a bolt depending from the forward central portion of the same, a collar embracing said bolt and provided with laterally-extending perforated ears or lugs, plow-beams connected at their forward ends, plates whereby the forward ends of said plow-beams are secured together, said plates passing forward upon opposite sides of the ears or lugs, a bolt pivot-

ally securing the plates to the ears or lugs, a rock-shaft horizontally journaled in the main frame and connected with the plow-beams, and a lever pivoted upon the main frame and connected with the rock shaft, whereby the plow-beams can be vertically adjusted, substantially as described. 75

2. The combination, with a main frame and the plow-beams pivotally secured to the same, of a frame hinged at its forward portion to the plow-beams to have a limited vertical swing, an opening-shovel hinged at its upper rear end to the under side of said frame and removably secured at its front edge to the same by means of a hasp and staple, a horizontal rock-shaft journaled in the main frame and connected with said hinged frame by a chain or cord, and a lever pivoted to the main frame and connected with the rock-shaft, for the purpose set forth. 80 85

3. The combination, with a main frame and the plow-beams pivotally secured to the same at their forward portions, of a horizontal rock-shaft transversely journaled in the main frame above the plow-beams, a pulley centrally located upon the rock-shaft, a chain or cord secured to said pulley and connected with the plow-beams, an operating-lever pivoted to the main frame, an additional pulley upon the rock-shaft connected with said lever by a chain or cord, and a locking and holding device whereby the lever, and hence the plow-beams, can be held at the desired vertical position, substantially as described. 90 95 100

4. The combination, with the main frame and the opening and covering shovels, of a hopper mounted upon the main frame, a cross-piece secured to and extending across the bottom of the hopper, the opposite ends of said cross-piece loosely extending into the main frame upon each side of the hopper, whereby the same is allowed a vertically-tilting movement, an additional cross-piece secured to the hopper and engaging the main frame to prevent lateral movement of the hopper, a downwardly-extending tube carried by the hopper, and a tube carried by the main frame and extending from the lower end of the hopper-tube to the rear side of the opening-shovel, substantially as described. 105 110 115

5. In combination, the plow-beams, a shovel-frame hinged at its forward portion to swing downwardly below said plow-beams, an opening-shovel hinged at its rear end to said frame and removably secured to the frame at its forward edge, and a lever and chain, cord, or the like, whereby the hinged frame is operated, substantially as described. 120 125

6. In combination, plow-beams connected together and pivoted at their forward ends, a shovel-frame hinged to said plow-beams to swing below and between the same, and an opening-shovel hinged at its rear upper edge to said frame and secured removably to the same at its front edge, substantially as described. 130

7. The combination, with the main frame,

of a bolt depending from the same and provided with a collar, the plow-beams pivoted at their forward ends to said collar, and a guide-bar secured to the main frame at its upper portion and having its lower end extending downward and fitting between the plow-beams, whereby the plow-beams are allowed a vertical movement, but are prevented from swinging laterally, substantially as described.

8. The combination, with the main frame, of a bolt depending from the same, a collar embracing said bolt, the plow-beams connected at their forward ends and pivoted to said collar, and a guide-bar secured to the main frame at its upper portion and having its lower portion extending downward and fitting between the plow-beams, the said lower portion being formed in two sections hinged together to swing rearwardly, whereby the plow-beams are prevented from lateral swing, substantially as described.

9. In combination with the plow-beams, of a cross-bar connecting the rear portions of said plow-beams, a supporting-bar secured to said cross-bar and extending rearwardly from

the same between the plow-beams, and a marker pivoted to the rear end of the supporting-bar and adapted to swing upwardly and over and engage the ground upon either side of the plow-beams, substantially as described.

10. The combination, with the plow-beams, of a cross-bar secured to the rear portions of the plow-beams, a supporting-bar secured to said cross-bar and extending rearwardly from the same between the plow-beams, a marker pivoted to the end of said supporting-bar and adapted to swing upwardly and over and engage the ground upon either side of the plow-beams, and a hook pivoted to the marker, whereby the marker can be held suspended out of engagement with the ground, substantially as described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

JOHN L. ULSH.

Witnesses:

WARREN BIGLER,
JOHN H. DICKEN.