

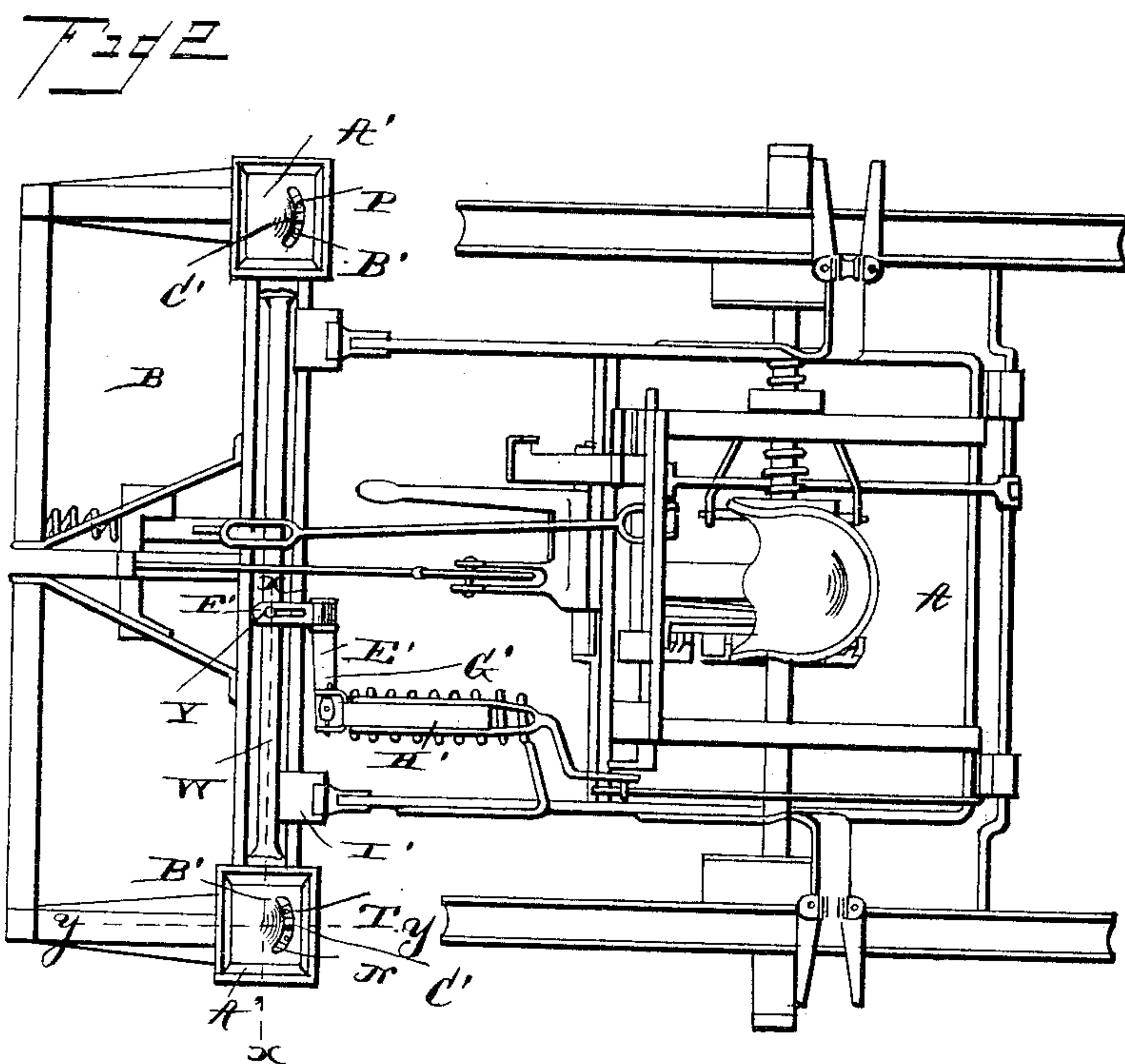
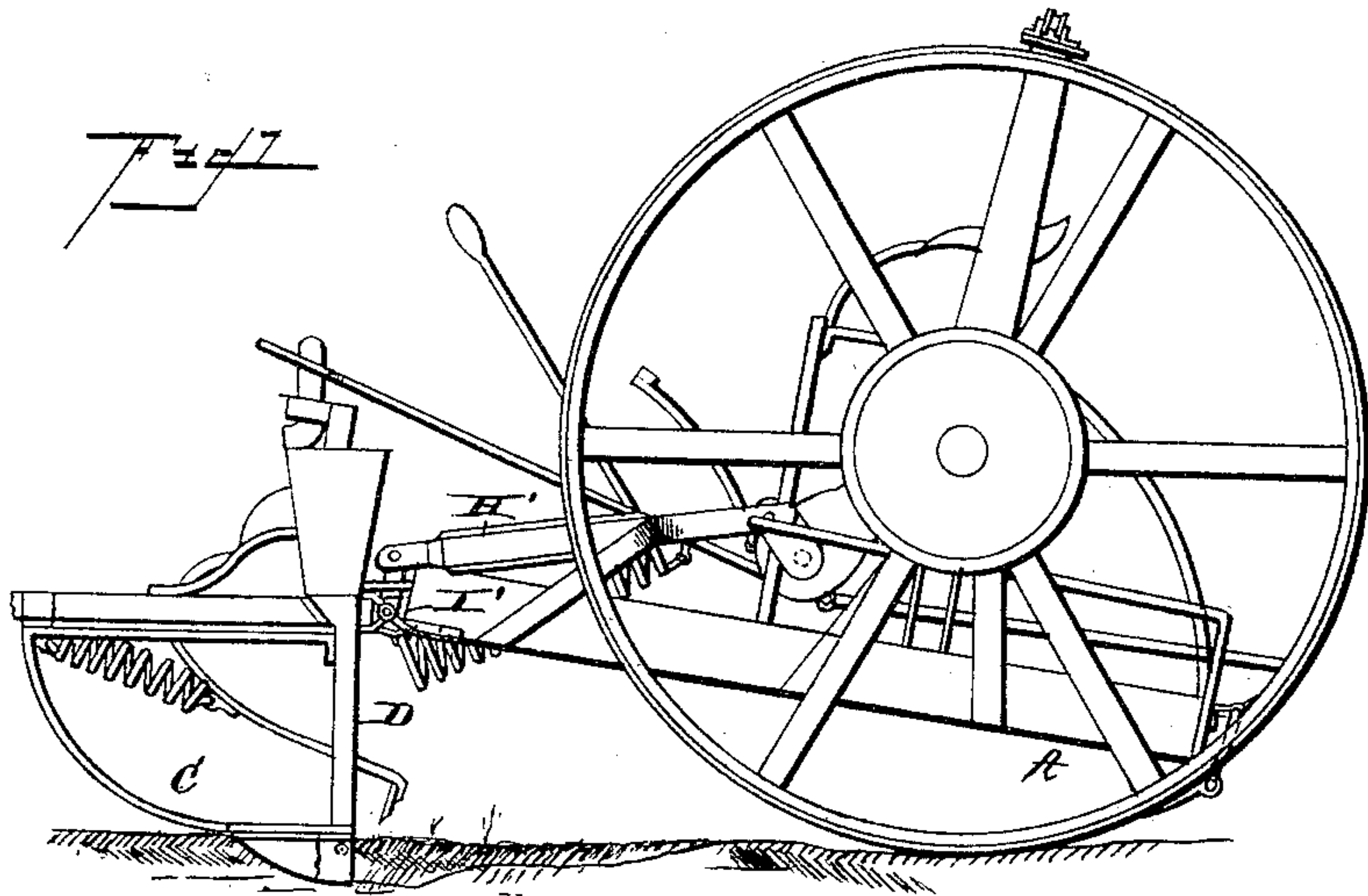
(No Model.)

2 Sheets—Sheet 1.

D. H. DILLON.
CHECK ROW CORN PLANTER.

No. 407,179.

Patented July 16, 1889.



Witnesses

John Imirie
J. W. Garner

Inventor

Daniel H. Dillon

By his Attorneys

C. A. Snowball

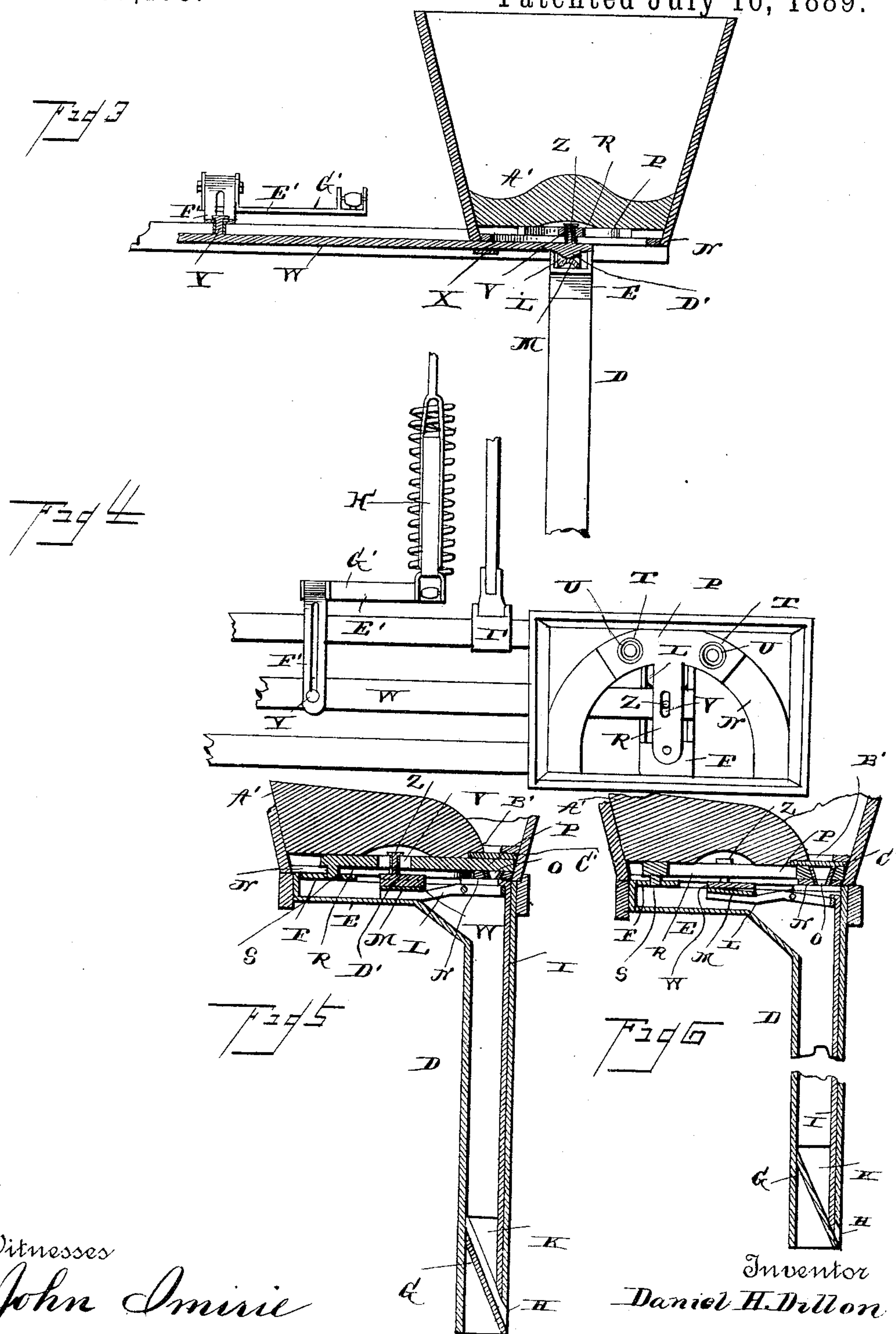
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UNITED STATES PATENT OFFICE.

DANIEL H. DILLON, OF NELSON, NEBRASKA.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 407,179, dated July 16, 1889.

Application filed January 22, 1889. Serial No. 297,175. (No model.)

To all whom it may concern:

Be it known that I, DANIEL H. DILLON, a citizen of the United States, residing at Nelson, in the county of Nuckolls and State of Nebraska, have invented a new and useful Improvement in Check-Row Corn-Planters, of which the following is a specification.

My invention relates to an improvement in check-row corn-planters; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

This invention is an improvement on the check-row corn-planter described in Letters Patent of the United States, No. 391,126, granted to me October 16, 1888; and the objects of my present improvements are to provide improved devices for dropping the corn from the hoppers and dropping it from the seed-spouts at regular intervals.

In the accompanying drawings, Figure 1 is a side elevation of a check-row corn-planter embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is an enlarged detail sectional view taken on the line *xx* of Fig. 2. Fig. 4 is a detailed top plan view of the dropping mechanism with the bottom of the hopper removed. Fig. 5 is a detailed sectional view taken on the line *yy* of Fig. 2, showing the vertically-sliding valve open. Fig. 6 is a vertical sectional view of the spout, the vertically-sliding valve, and the operating mechanism, showing the valve in a closed position.

The main frame A is provided with driving-wheels and operating-gears identical in construction with those described in my before-mentioned Letters Patent, and therefore need no description in this application. The front frame B is rectangular in form, and is provided with curved runners C, and has vertical seed-spouts D at the rear ends of said runners. From the upper ends of the seed-spout project forward-extending arms E, which are hollow, as shown, and have their upper sides open and are provided with bridge-plates F over their front ends. In the lower end of each seed-spout is an inclined plate G, the lower end of which extends to the rear side of the seed-spout and almost entirely closes the same, an opening H of

reduced dimensions being formed at the rear lower corner of each seed-spout.

I represents vertically-movable slides or valves, which are arranged in the seed-spouts and are provided at their lower portions with forward-extending side flanges K, which are wedge-shaped, as shown, and are adapted to fit snugly against the inclined plates G when the valves are at the lower limit of their stroke, with their lower ends closing the openings H. Pivoted in bearings in the sides of the arms E are counterweighted lever-arms L, which have their rear ends open, arranged above the seed-spouts, and pivotally connected to the upper ends of the cut-off valves. On the front end of the said lever is a cam M.

At each end of the frame B is secured a semicircular plate N, said plates having their central portions on the upper ends of the seed-spouts and provided each with an opening O.

P represents segment-shaped seed-plates, which bear upon the curved plates N, have forward-extending arms R, provided with depending studs S, pivoted in the bridge-plates F, and said seed-plates are each provided with a pair of countersunk openings T at suitable distances from their centers. Seed-cups U, having openings of suitable size, are detachably secured in said countersunk openings. The arms R of the seed-plate are provided with slots V.

W represents a bar, which is supported on guides X, arranged transversely in the frame B, and is provided at its center with a stud Y, on which an anti-friction roller may be mounted. From the upper side of the bar W, at the ends thereof, project studs or pins Z, which engage the slots V, and thereby impart oscillating motion to the seed-plates when the bar W is reciprocated by the mechanism to be presently described, and thus the seed-plates are caused to operate in such manner that the openings T of the seed-plates will successively register with the openings O, as will be readily understood. In the bottom of each hopper is a plate A', provided in its rear side with a curved slot *b'*. Arranged on the bottom of the said plate and extending transversely across the slot is a spring cut-off C'. The said cut-offs are arranged directly above the openings O and bear upon the upper sides

of the seed-plates and serve to sweep superfluous seeds from the seed-cups as the seed-plates oscillate, and cause the seeds in said cups to be discharged through the openings O into the seed-spouts.

The reciprocating bar W is provided on its under side at its ends with cams D', adapted to engage the cams M of the levers L. When the said bar W is at the center of its stroke or movement, the said cams D' engage the cams M, as will be seen in Figs. 3 and 5 of the drawings, thus depressing the front ends of the levers L and elevating their rear ends, thereby raising the slides I, carrying the valves K, and causing the contents of the seed-spouts to be discharged through the openings H into the furrows. When the cams D' pass out of engagement with the cams M, the slides I drop back to the position shown in Fig. 6, thereby causing the valves K to close the openings H of the seed-spouts. By so arranging the cams that the seeds will be discharged from the seed-spouts when the seed-plates are at the centers of their strokes the seeds discharged into the seed-spouts will have time to reach the bottoms thereof and become collected against the valves, and thereby the said seeds will be prevented from becoming too widely scattered as they drop into the furrow.

It will be observed that the stroke of the seed-plates is very considerable and will be comparatively slow. This is advantageous, for the reason that it allows the seeds sufficient time to accumulate in the seed-cups by gravity while the said seed-cups are being moved to the discharge-openings O.

E' represents a bell-crank lever, having its arms F' G' arranged at right angles and connected together by a hinge-joint. The arm F' is slotted and engages the stud or pin Y, and the arm G' is pivotally connected to the pitman H', attached to the operating crank-shaft. The frame B is connected to the front end of the frame A by hinge-joints I', such as described in my before-mentioned Letters Patent, and is thereby rendered capable of movement independently of the frame A. The bell-crank lever being flexibly jointed, as previously described, the same adapts itself to all positions which the frame B assumes with relation to frame A, and thereby the bar W is driven uninterruptedly by the operating mechanism when the machine is in motion.

The marking mechanism shown in the drawings is of the same construction as that described in my before-mentioned Letters Patent.

Having thus described my invention, I claim—

1. In a corn-planter, the combination of the seed-spouts having the forwardly-extending hollow arms, the vertically-movable slides or valves arranged in said seed-spouts, the levers mounted upon transverse pivots in the said hollow arms and having forked rear ends connected to the slides or valves and provided with cams or enlargements at their front ends, and the transverse reciprocating bar having cams to engage the cams at the front ends of the levers, substantially as set forth.

2. In a corn-planter, the seed-spouts provided with the forwardly-extending hollow arms, in combination with the levers located in the latter and operating the vertically-sliding valves in the seed-spouts, substantially as specified.

3. In a corn-planter, the combination of a seed-spout provided at its bottom with an inclined plate and a discharge-opening at the lower end of the same, with a vertically-sliding valve-plate arranged to slide against the rear-side of the spout, and provided at its lower end with flanges bent forwardly and having inclined edges adapted to bear against the inclined bottom plate, substantially as set forth.

4. In a corn-planter, the combination of a seed-spout having a forwardly-extending hollow arm, an inclined plate, and a discharge-opening at the bottom of said seed-tube, a vertically-sliding valve-plate provided at its lower end with beveled flanges adapted to bear against said inclined plate, a lever mounted in the hollow arm of the seed-spout, and having a forked rear end engaging the valve-plate, and operating mechanism, substantially as described.

5. In a corn-planter, the combination of the hoppers having suitable seed-openings, the seed-spouts having forwardly-extending hollow arms, the curved plates N, having seed-openings O, the oscillating seed-plates having slots V, the vertically-sliding valve-plates arranged in the seed-spouts, the levers arranged in the hollow arms of the spouts, engaging said valve-plates and having cams at their front ends, and the transverse reciprocating bars having cams to engage the said cam-levers, and pins engaging the slots in the seed-slides, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

DANIEL H. DILLON.

Witnesses:

F. E. BOTTENFIELD,
GEO. LYON, Jr.