(No Model.)

3 Sheets—Sheet 1.

A. F. RUNYAN.

CORN PLANTER.

No. 447,205. Patented Feb. 24, 1891.

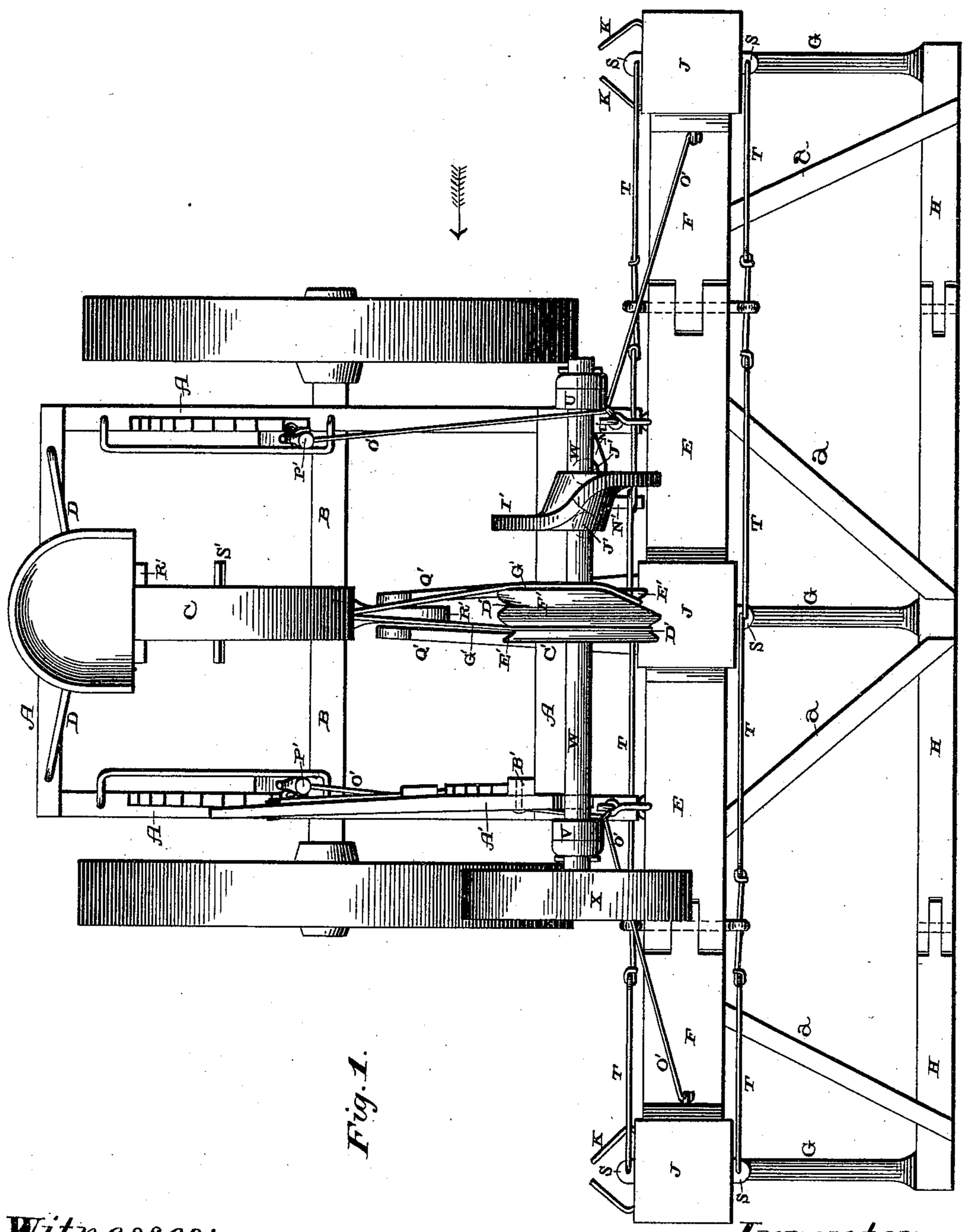

Fig. 1.

Witnesses:
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B. Brockett,

Inventor:
A. F. Runyan
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attys

(No Model.) 3 Sheets—Sheet 2.

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CORN PLANTER.

No. 447,205. Patented Feb. 24, 1891.

Fig. 2.

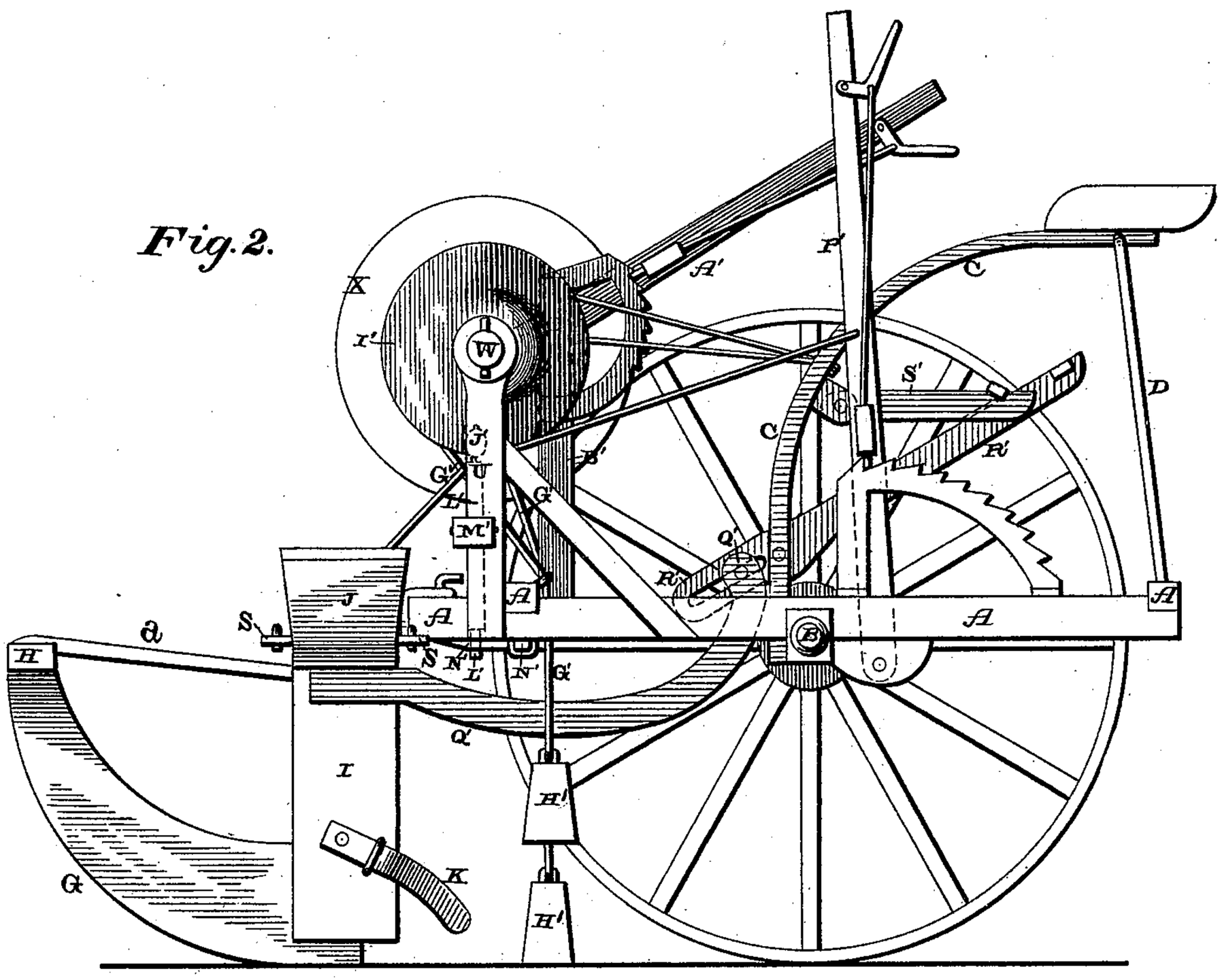


Fig. 3.

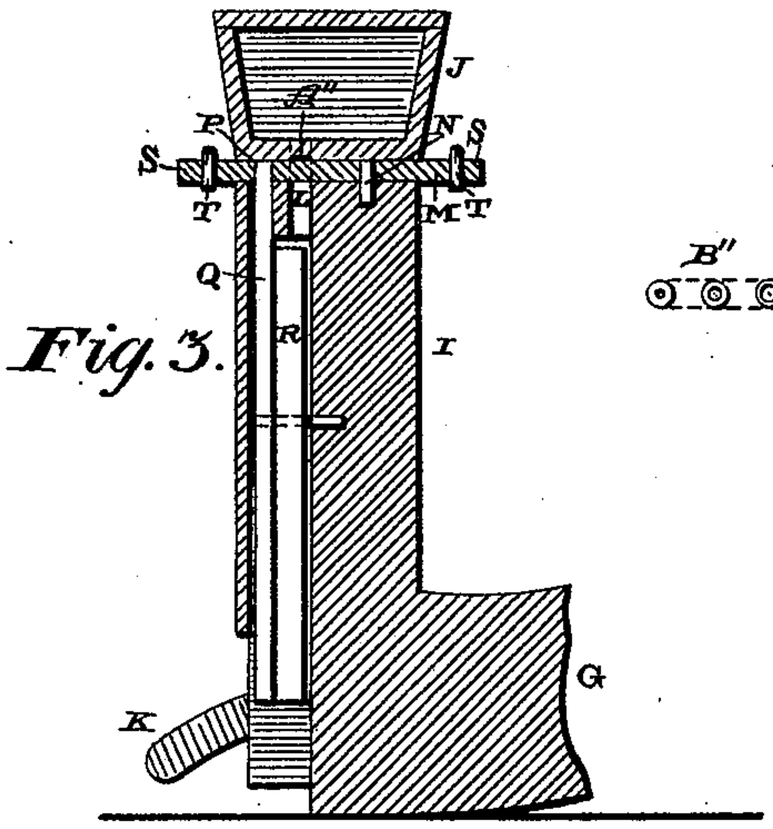


Fig. 4.

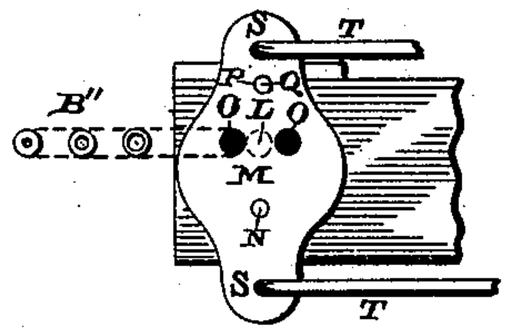
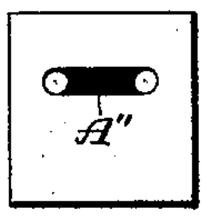


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

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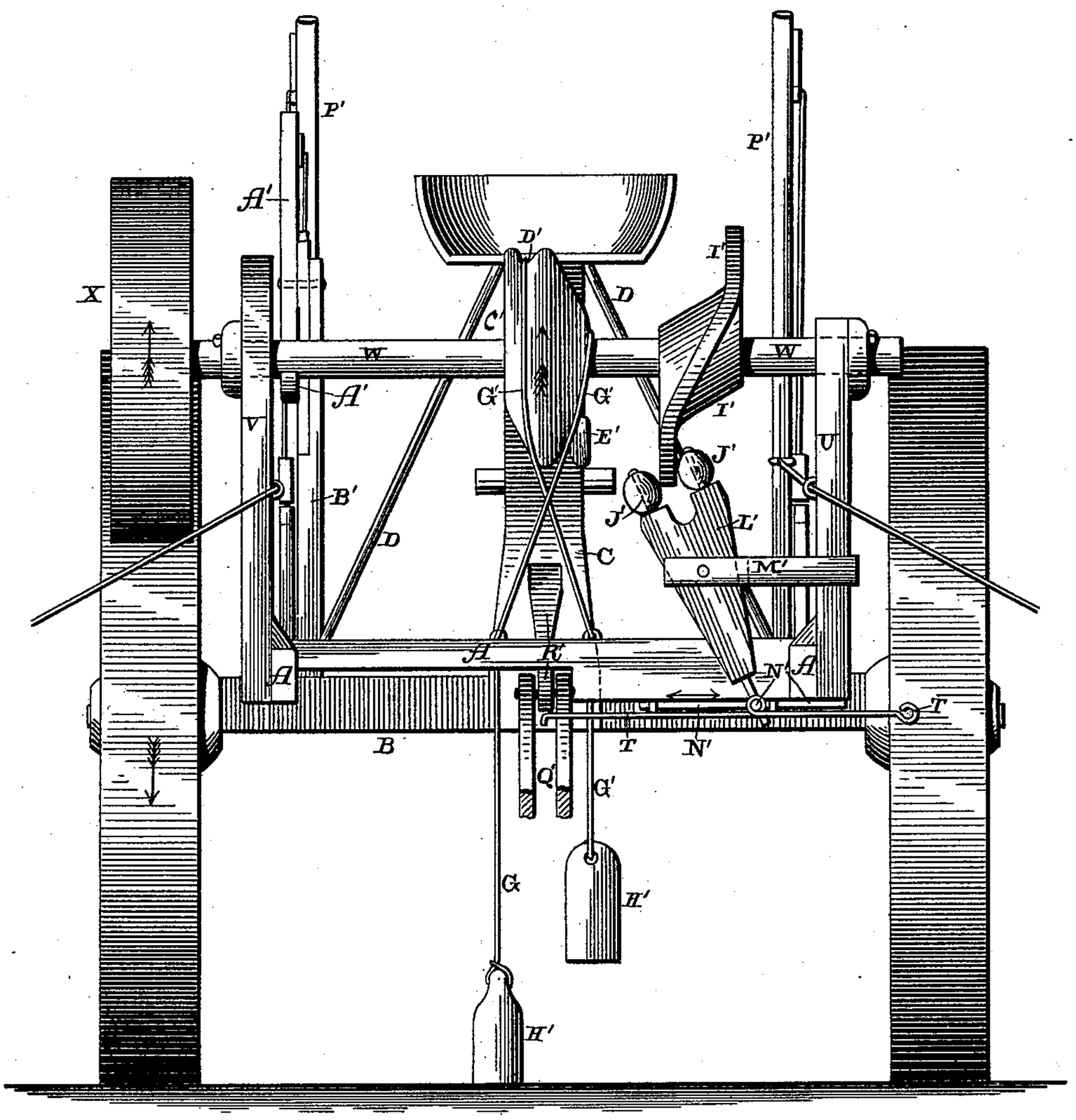
CORN PLANTER.

No. 447,205. Patented Feb. 24, 1891.

Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

ARTHUR F. RUNYAN, OF YORKTOWN, INDIANA.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 447,205, dated February 24, 1891.

Application filed July 17, 1890. Serial No. 359,043. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR F. RUNYAN, of Yorktown, in the county of Delaware and State of Indiana, 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, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in corn-planters; and it consists in the particular arrangement and combination of parts to be fully described hereinafter, and pointed out in the claims.

The object of my invention is to provide a three-row corn-planter which is simple in arrangement and in which the parts are so arranged that a marker-operating wheel is placed on the same shaft upon which a cam-wheel is placed which operates the dropping mechanism, and to construct these parts as hereinafter shown and described, for the purposes set forth.

The objects of my invention further consist in the particular construction of specific parts.

Figure 1 is a top plan view of a planter embodying my invention. Fig. 2 is a side elevation looking in the direction indicated by arrow in Fig. 1, one of the driving-wheels being removed. Fig. 3 is a detail of one of the boxes and the hollow standard therefor. Fig. 4 is a plan view of the feed-rings to be placed in the oscillating plate. Fig. 5 is a detail of the bottom of the box. Fig. 6 is a front view of the wheel-frame in rear of the seed-boxes.

The main or wheel frame of my machine consists of the rectangular frame-work A, which has secured thereto at its center the axle B, upon the outer ends of which the driving-wheels are placed.

Secured to the axle at its center and extending upward and backward is the curved bar C, to the upper rear end of which the driver's seat is secured, and to this bar C below the seat are secured the braces D, which have their lower ends fastened to the rear cross-bar of the main frame of the machine.

The main portion E of the runner-frame is hinged to the front end of the wheel-frame, and to the ends of this frame E are hinged the end runner-frames F.

Secured to the upper forward ends of the runner or openers G are the bars H, which form a part of the main and end frames, and these bars are braced by rods *a*, which are connected to the said frames proper and to the said bars H.

Extending from the center of the main runner-frame E and from the outer ends of the end frames F are the hollow vertical standards I, which guide the seed from the seed-boxes J, which are placed above them, to the rear end of the opener or runner G and into the furrow made thereby. Secured to the lower ends of the said vertical standards and extending rearward therefrom are the coverers K, which throw the dirt upon the seed dropped as the machine passes along.

In the frames E and F under the seed-boxes are the openings L, and placed over the holes and under the seed-boxes are the oscillating plates M. These plates are pivoted near one end to the frames by means of the pins N, and are provided with the two openings O, which alternately register with the openings L. These openings O will be made so that their size can be increased or decreased for the purpose of regulating the number of seed dropped, as will be hereinafter described.

The oscillating plates M have an opening P near the opposite end from the pivot, and into this opening the upper end of the vertical oscillating bar Q projects. This bar Q is pivoted within the vertical hollow standards I and has secured to its inner side the longitudinal bar R, and which bar R, as the oscillating feeding-plates M feed the seed to the standards I, guides the seed first to one side of the lower end of the standards I and then to the other and also prevents the seed from becoming wedged within the said standards.

The oscillating feeding-plates M are each provided with the two projections S, and to these projections are secured the horizontal rods T, which extend from the projections of one plate to the projections of the center plate, whereby when the central plate M is

made to oscillate the end plates are also made to oscillate by the said rods. At the hinged points of the said frames the rods are made flexible in any suitable manner, either by cords or hinges, so that the end frames F can be raised.

Projecting upward at the front corners of the wheel-frame A are the vertical standards U V, in the upper ends of which the horizontal shaft W is journaled. Secured to one end of this shaft outside of the standard V is a wheel X, which is over and engages with the adjacent driving-wheel. This standard V is or may be provided with a vertical slot, through which the shaft W passes and which allows this end of the shaft to be raised, so that the wheel X is disengaged from the periphery of the driving-wheel. The shaft W is raised by means of a lever A′, which has its front end extending under the said shaft and pivoted to a vertical standard B′ in the rear of the said shaft, and has its rear end extending backward within the reach of the operator. Placed upon this shaft at its center is a wheel C′, which is provided with the two grooves D′ at opposite sides of the periphery and which terminate at one end in the hooks E′. The wheel is so shaped that the opposite ends of the grooves terminate at the cut-away portion F′.

Passing over the wheel C′ are the cords G′, which have their rear ends secured to the bar that supports the driver's seat, and secured to their lower ends are the weights H′. As the shaft revolves, the hooks of this wheel alternately catch the cords, and thus raise the weights until the cord reaches the end of its groove, when it slips from the wheel, dropping on the shaft and allowing the weight to drop on the ground, and thus make a mark at the side of the central hill. Also placed upon this shaft is a cam-wheel I′, which engages the friction wheels or rollers J′ upon the upper end of the lever L′, which is pivoted in the outer end of the horizontal support M′. The lower end of this lever L′ engages a slide N′, which is supported in guides under the front cross-bar of the frame A and which has an extending end that engages the inside rod. By this means as the shaft W revolves the lever L′ is oscillated, the slide reciprocated, and with it the rods, which in turn oscillate the feeding-plates M.

Secured to the outer ends of the frames F are the elevating-cords O′, which extend through eyes secured to the standards U V and have their ends secured to the operating-levers P′, by means of which the end frames F are raised.

The levers A′ and P′ are provided with ordinary spring-catches which engage with cogs or ratchets, by means of which they are held in their adjusted position.

Secured to the central opener-frame E is a rearwardly-extending and upwardly-curved bar Q′, to the upper end of which is pivoted an operating-lever R′, which is pivoted to the seat-support and extends rearward under the seat.

Pivoted at its upper end to a socket, which is secured to the rear side of the seat-support, is a catch S′, which has its lower end bifurcated and engaging the lever R′. By means of this lever the entire runner-frame is raised and lowered. Secured to the under side of the seed-boxes next to the oscillating plates is a piece of rubber A″, the ends of which extend to the openings made therein, as shown in Fig. 5, and thus form a cut-off.

In order to vary the size of the openings in the plates for the purpose of regulating the number of seed they will contain and thus regulate the number of seed dropped, I provide a number of rings B″, (shown in Fig. 4,) which fit in the openings in the plate, and these rings have different-sized openings, as shown. By this means the size of the openings in the oscillating plates can be regulated at will.

Having thus described my invention, I claim—

1. In a corn-planter, the combination of the wheel-frame, the seed-box, and runner-frame, the driving-wheels, a shaft journaled upon the wheel-frame, having one end provided with a friction-wheel which engages the driving-wheel, a cam-wheel upon the said shaft, the seed-boxes, plates under the boxes having an opening and extending ends, pivots passing through the plates between their ends, and a lever pivoted between its ends, one end of which engages the said cam-wheel and its opposite ends operating the said rods, substantially as shown and described.

2. The combination of the wheel-frame, the seed-box, and runner-frame, the driving-wheels, a horizontal shaft supported upon the wheel-frame, a wheel secured thereto and engaging the driving-wheel, a wheel secured to the said shaft, having grooves which have one end terminate in hooks and their opposite ends cut away, and cords which have one end secured to the frame and passed loosely over the wheel, engaged by the said hooks and carried thereby to the said grooves, and weights secured to their opposite ends for making a mark, and the planting mechanism, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ARTHUR F. RUNYAN.

Witnesses:
L. D. OVERMIRE,
FLORENCE BORP.