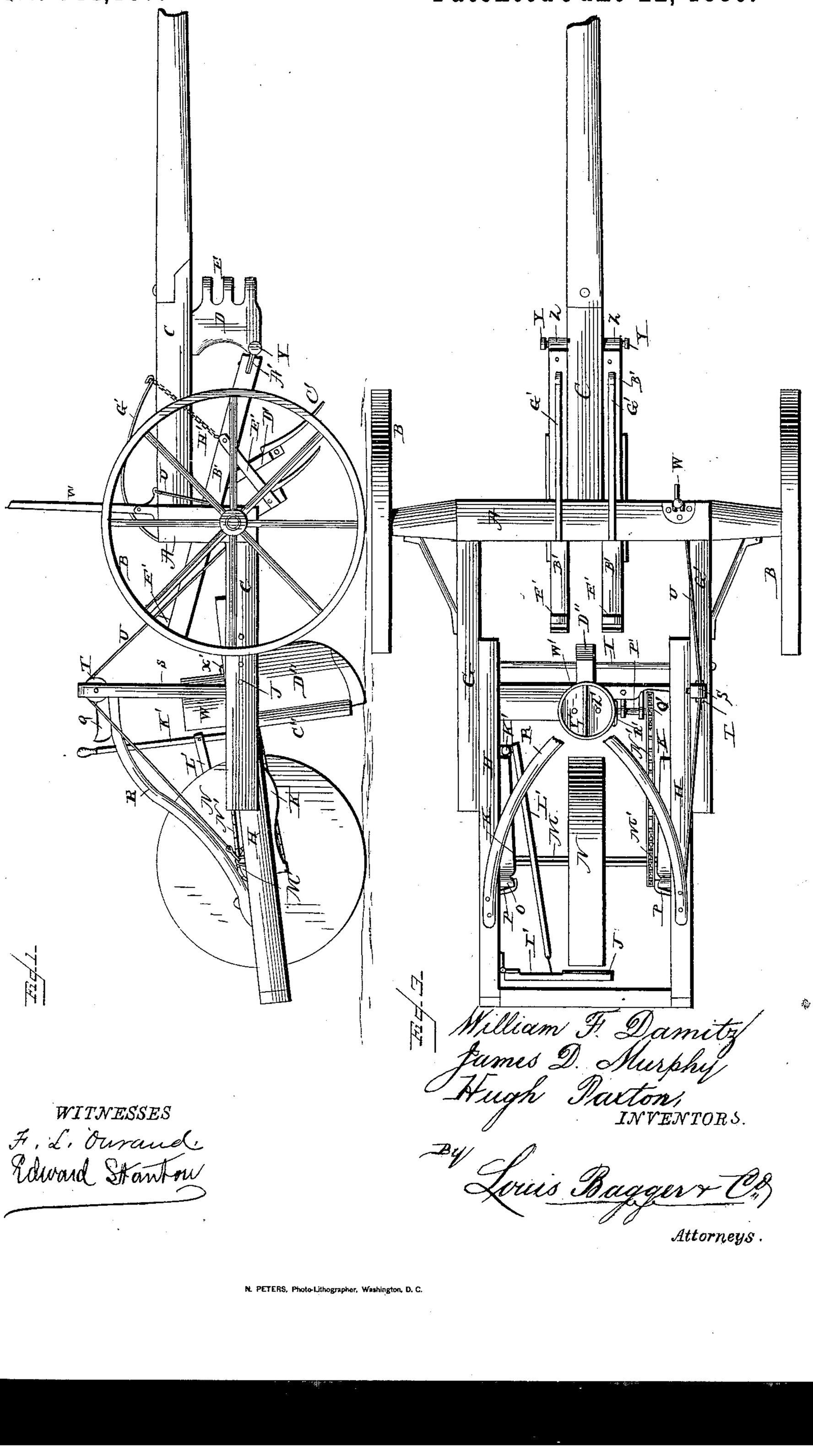
(No Model.) 3 Sheets—Sheet 1.

W. F. DAMITZ, J. D. MURPHY & H. PAXTON.

SEEDING MACHINE.

No. 344,167. Patented June 22, 1886.



WITNESSES
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3 Sheets—Sheet 2.

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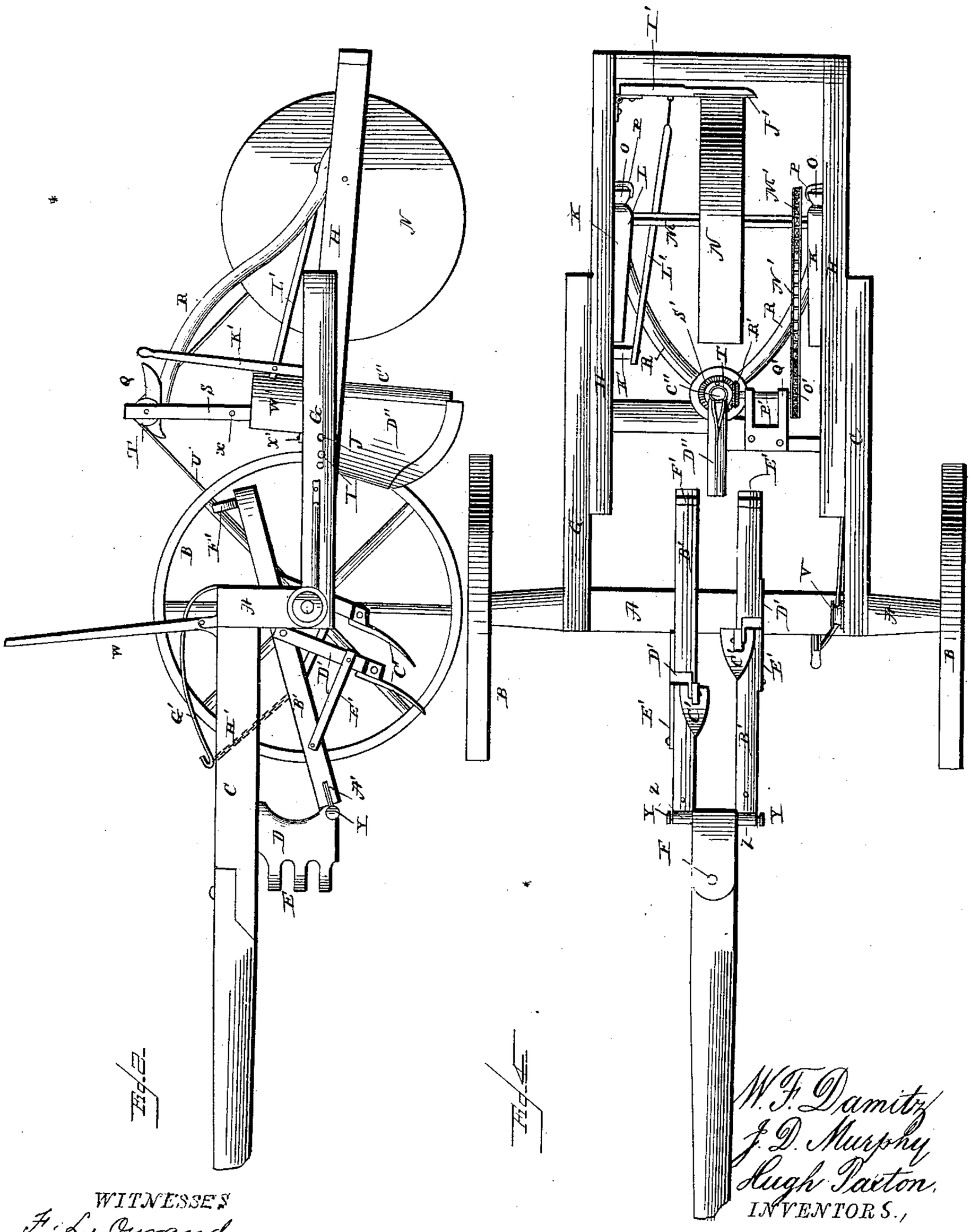

Fig. 2.

Fig. 1.

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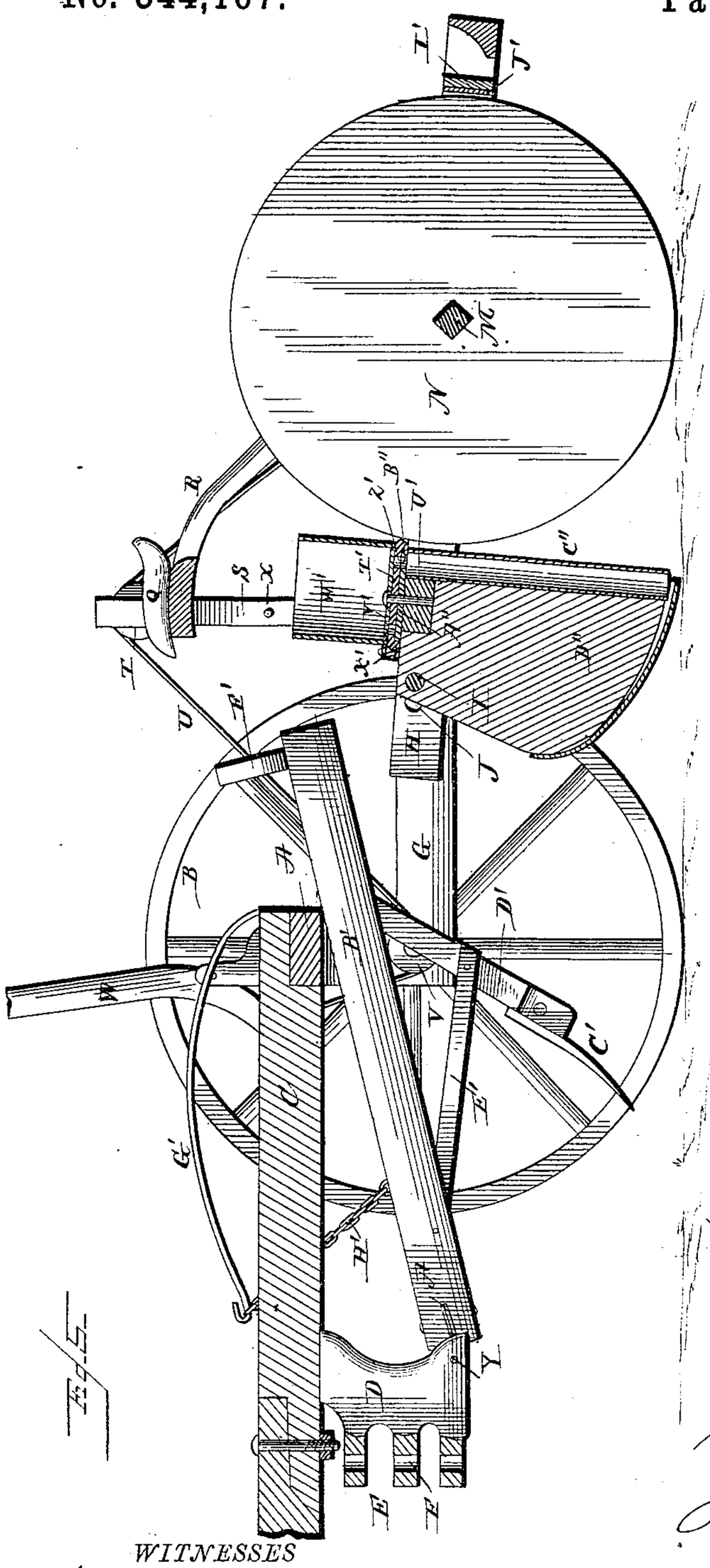

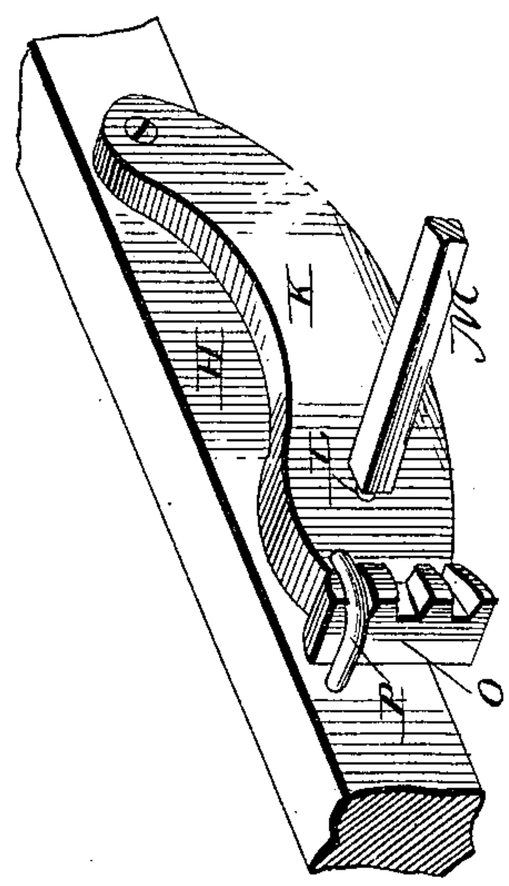

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UNITED STATES PATENT OFFICE.

WILLIAM F. DAMITZ, JAMES D. MURPHY, AND HUGH PAXTON, OF WHEATLAND, MISSOURI.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 344,167, dated June 22, 1886.

Application filed March 9, 1886. Serial No. 194,549. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. DAMITZ, JAMES D. MURPHY, and HUGH PAXTON, all residents of Wheatland, in the county of Hickory and State of Missouri, have invented certain new and useful Improvements in Seeding-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view of our improved corn-planter. Fig. 2 is a similar view seen from the other side. Fig. 3 is a top view of the machine. Fig. 4 is a bottom view. Fig. 5 is a longitudinal vertical sectional view; and Fig. 6 is a perspective detail view of one of the arms carrying the bearing for the axle of the seed-wheel.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention has relation to corn-planters; and it consists in the improved construction and combination of parts of a planter, which is provided with plows preceding the planter-foot, and which break up the soil for the reception of the grain, accomplishing in one operation the breaking of the ground as well as the planting of the corn, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the axle of the machine, which axle is slightly arched, and has the two wheels B B journaled upon its ends. The tongue C projects forward from the middle of this axle, and is provided at a short distance from the axle with a downwardly-projecting bracket, D, the forward side of which is provided with a number of equidistant forwardly-projecting lips, E, having perforations F, and between which lips the double-tree may be pivoted, the changing of the double-tree from an upper pair of lips to a lower pair of lips causing the forward end of the machine to be raised when drawn forward.

Two side pieces, G G, project from the rear side of the axle, and the forward end of a rectangular frame, H, is pivoted upon a transverse rod, I, between these two side pieces, the rod passing transversely through the side pieces and through the frame, which side pieces or side brackets, as well as the side pieces of the frame, are provided with a number of perforations, J, so that the frame may be hinged closer to or farther from the axle.

Two arms, K K, are pivoted at their forward ends near the forward ends of the side pieces of the rectangular frame upon their inner sides, and the free rear ends of these arms are formed with bearings L, for the ends of the axle M of the drive-wheel N, and to the rear of these bearings the ends of the arms are formed with notched segments O the notches of which may be engaged by the inner bent ends of bolts P, which fit in perforations in the side pieces of the frame, the bolts fitting in the notches with the bent ends, the notches being upon the inner sides or facing sides of the segments.

The seat Q, for the driver, is secured upon the united forward ends of two arms, R, or seat-supports, the rear diverging and downwardly-projecting ends of which are secured to the side pieces of the rectangular frame near their rear ends.

An upright, S, is secured upon one of the rearwardly-projecting side brackets, and is provided with a pulley, T, at its upper end, over which pulley a rope or chain, U, passes, one end of which rope or chain is secured to the middle of a side piece of the rectangular frame by means of a hook and an eye, while the other portion of the rope or chain passes under a pulley, V, under the arched portion of the axle, and is secured to the lower short arm of a hand-lever, W, which has its fulcrum upon the axle, and may be drawn rearward from the seat of the driver, so as to be engaged at its handle end by a stud, X, projecting from the inner side of the upright, the lever raising the rear portion of the hinged frame, so as to raise the wheel from contact with the ground.

The lower end of the bracket or clevis, projecting from the tongue, is provided with two laterally-projecting bolts, Y Y, upon which two eyes, Z Z, having flat rearwardly-projecting lips A′, are pivoted, and the slotted forward ends of two plow-beams, B′ B′, are piv-

oted to swing in a horizontal plane upon the lips and to swing in a vertical plane with the eyed lips. These beams are provided with plows or shovels C′, secured to the lower ends of standards D′, braced by means of oblique brace-rods E′, and these plows or shovels may be of any desired construction, according to the soil in which they are used, and may be secured to the lower ends of the standards in any suitable manner. The rear ends of the beams are provided upon their upper sides with straps or loops F′, into which the driver may place his feet, so that he may raise or lower the plows at will by the aid of his feet and legs, and flat forwardly-curved springs G′ are secured to the rear side of the axle and bent forward, having ropes or chains H′ secured to the ends of the springs and to the beams, so that the springs may assist in raising the beams.

A lever, I′, is pivoted at one end to the rear corner of the rectangular frame, and is provided at its outer end with a downwardly-projecting scraper-blade, J′, which may be brought into contact with the rim of the planter-wheel, and a connecting-rod, L′, is pivoted to the lever or arm and to a lever, K′, which is pivoted at its lower end to the side-piece of the frame near the seat of the driver, so that the scraper may be brought into contact with the rim of the planter-wheel by tilting the lever forward.

The axle of the planter-wheel is provided with a sprocket or chain wheel, M′, over which a chain, N′, passes, and this chain passes over a smaller wheel, O′, upon the outer end of a short shaft, P′, which is journaled in transverse bearings Q′, projecting from the rear side of the forward cross-piece of the rectangular frame. The inner end of this shaft is provided with a bevel-pinion, R′, which meshes with a corresponding cogged rim, S′, upon the under side of the revolving seed-disk T′, which disk is journaled upon a bolt, U′, fitting into the upper side of the forward cross-piece of the frame.

The bottom V′ of the seed-box W′ is formed with a forwardly-projecting eye, X′, by means of which it is secured to the cross-piece, and has a cross-piece, Y′, through the center of which the pivotal bolt passes, which secures the said bottom to the cross-piece.

The seed-disk is formed with seed-apertures or seed-cups Z′, which may register as the disk revolves with an aperture in a disk, A″, secured under the seed-disk upon the cross-piece, and the aperture B″ in the said lower disk is at the upper end of the seed-tube C″, which is secured to the rear edge of the planter-shoe D″, which is secured to the forward cross-piece projecting downward, and which is provided with the usual curved furrowing-edge at its lower end, for opening the furrow for the seed. It will now be seen that as the machine is drawn across a field the plows, which are depressed by the legs and feet of the driver, will break the soil and prepare it for the seed, and the shoe will open a furrow for the seed which is dropped down through the seed-tube from the seed-disk, which is revolved from the planter-wheel, which serves to revolve the seed-disk, and at the same time covers the seed by compressing the furrow.

The seed-disk may have any desired number of seed-apertures or seed-cups, according to the distance which it is desired to have between the hills, the disk being interchangeable with other similar disks provided with various numbers of seed-perforations or seed-cups.

The planter-wheel may be adjusted at different heights in relation to the shoe by sliding the bent bolts inward, so as to disengage the bent ends from the notches in the inner sides of the segments, when the arms may be raised or lowered, as desired, whereupon they may again be adjusted at the desired height by sliding the bolts out so as to bring the bent ends into engagement with the desired notches of the segments.

Any dirt which might accumulate upon the rim of the planter-wheel may be scraped off, so as to prevent the said wheel from either dragging or from covering the furrow unevenly, by tilting the scraper lever forward, which will draw the end of the arm having the scraper-blade toward the rim of the wheel, scraping the same.

The planter-frame may be raised either slightly or entirely off from the ground by tilting the handle of the lever upon the axle rearward, when the said lever will draw upon the rope or chain attached to the frame, so as to raise it either slightly out of the way of some obstruction or entirely off the ground, when the handle of the lever is prevented from flying forward by being engaged by the stud upon the inner side of the upright upon the side piece of the frame.

The springs will serve to hold the plow-beams up above the ground when the machine is transported from one place to another or when they are to be raised out of the way of obstructions, and by depressing the ends of the beams with the legs and feet the driver may force the plows into the ground at any desired depth without exerting any large quantity of power, as the motion required for forcing the beams down is stretching the legs, in which a great amount of power may be exerted with comparative ease, and the plows, when they have engaged the ground will be drawn into the ground by the soil passing over their inclined upper sides.

The plows may be guided laterally by the feet, as the beams are pivoted to swing in a horizontal plane at the forward ends, so that they may be turned out of the way of obstructions in the soil without raising them above the ground.

It will be seen that by having the breaking-plows ahead of the opening-shoe the soil may be prepared for the seed and the seed may be planted in one operation, doing away with the

necessity of first breaking the soil for the reception of the seed and afterward planting the seed, without increasing the draft of the implement to any perceptible extent over the draft of the plows for breaking up the soil.

By changing the transverse rod, upon which the planter-frame is hinged to the brackets of the axle, from one set of perforations to another, the frame and the seat of the driver may be brought closer to or farther away from the axle, and consequently closer to or farther away from the rear ends of the plow-beams, so that the frame may be adjusted to suit the length of the legs of the driver.

By changing the double-tree in the clevis or bracket upon the tongue the forward end of the axle-frame may be forced down or up, causing the plows to make a deeper or more shallow furrow with the plow-beams held down at the same distance from the seat of the driver.

The seeding apparatus is here shown and described adapted to plant corn; but the seeding apparatus may be changed to plant other seeds which are to be sown in rows without departing from the spirit of our invention, and all seed planted in the soil which has just been broken previous to the dropping of the seed will sprout with greater ease, as the soil is loose and fresh, and all superfluous moisture will evaporate from the furrow, as the soil is loose and open.

In the drawings the beams are shown as only having one plow or shovel each; but, if desired, the beams may be provided with two or more standards each, each standard being provided with a plow or shovel, which plows or shovels may either be in the shape of turning-plows provided with mold-boards and landsides; or, as shown in the drawings, they may be cultivator plows or shovels, being shaped in any desired shape, according to the condition and character of the soil to be broken.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In a seeding-machine, the combination of an axle mounted upon wheels and having a forwardly-projecting tongue, a planter-frame hinged to the rear of the axle and having the seat for the driver supported over its forward end, and plow-beams pivoted at their forward ends under the tongue, and having straps or stirrups at their rear ends for the feet of the driver, as and for the purpose shown and set forth.

2. In a seeding-machine, the combination of an axle mounted upon wheels and having a forwardly-projecting tongue and two rearwardly-projecting brackets provided with transverse perforations, a planter-frame provided with a seat for the driver, supported above the forward end of the frame, and having transverse perforations in the forward ends of its side pieces with a transverse rod passing through them and through the perforations in the brackets of the axle, and plow-beams pivoted at their forward ends under the tongue and having straps or stirrups at their rear ends for the feet of the driver, and having springs drawing them upward, as and for the purpose shown and set forth.

3. In a seeding-machine, the combination of an axle having wheels at its ends and having a forwardly-projecting tongue provided with a downwardly-projecting bracket having laterally-projecting studs at its lower end, eyes pivoted upon the studs and having perforated flat lips upon their rear sides, plow-beams pivoted with their slotted forward ends to the lips and having suitable plows or shovels, and provided with straps or stirrups upon the upper sides of their rear ends, forwardly-curved springs secured to the axle, and ropes or chains secured to the forward ends of the springs and to the beams, as and for the purpose shown and set forth.

4. In a seeding-machine, the combination of an axle having wheels at its ends, and having a forwardly-projecting tongue formed with a downwardly-projecting bracket, a planter-frame hinged to the rear side of the axle and having a seat for the driver above its forward end, and plow-beams pivoted to rock or swing in horizontal and vertical planes to the lower end of the bracket upon the tongue, and having springs for raising them, and straps or stirrups at the rear ends for the feet of the driver, as and for the purpose shown and set forth.

5. In a seeding-machine, the combination of an axle having wheels at its ends and having a forwardly-projecting tongue, a planter-frame hinged to the rear side of the axle and having the seat for the driver supported above the forward end of the frame, a bracket or clevis projecting downward from the inner end of the tongue and having a series of perforated lips for the reception of a double-tree, and plow-beams pivoted to the lower end of the bracket or clevis and having straps or stirrups at their rear ends for the reception of the feet of the driver, as and for the purpose shown and set forth.

6. In a seeding-machine, the combination of a wheeled axle having a tongue and having breaking-plows secured to it, a planter-frame hinged to the rear side of the axle between brackets projecting from the same, and having a planter-wheel and seeding mechanism, and provided with the seat for the driver supported above the forward end of the frame, an upright upon one of the brackets of the axle, having a pulley at its upper end, a hand-lever fulcrumed upon the axle, and a rope or chain secured to one side piece of the hinged frame, passing over the pulley of the upright and under a pulley upon the axle and secured to the lower end of the hand-lever, as and for the purpose shown and set forth.

7. In a seeding-machine, the combination of a planter-frame having a planter-shoe projecting from its forward cross-piece, arms pivoted at their forward ends upon the inner sides of the side pieces of the frame, near the

forward ends of the same, and formed with bearings near the rear free ends, and with segments having notches in the inner edges, bolts sliding in transverse perforations in the side pieces of the frame and having their inner ends bent and engaging the notches of the segment, and a planter-wheel having the ends of its axle journaled in the bearings of the arms, as and for the purpose shown and set forth.

8. In a seeding-machine, the combination of a wheeled axle having a tongue projecting forward, with a downwardly-projecting bracket or clevis, and having rearwardly-projecting brackets, plows pivoted at the forward ends of their beams to the lower end of the bracket or clevis and having springs for raising them and straps or stirrups at their rear ends, a rectangular planter-frame hinged between the rearwardly-projecting brackets and having means for raising its rear end, the seat of the driver supported by converging and upwardly and forwardly projecting arms above the forward end of the frame, the planter-wheel adjustably journaled in the planter-frame, and the planter-shoe having the seed-tube and the seed-box and projecting downward from the forward cross-piece of the planter-frame, and having connection with the planter-wheel for revolving the seed-disk, as and for the purpose shown and set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

WILLIAM F. DAMITZ.
JAMES D. MURPHY.
HUGH PAXTON.

Witnesses:
W. P. DAUGHERTY,
AMOS M. PAXTON.