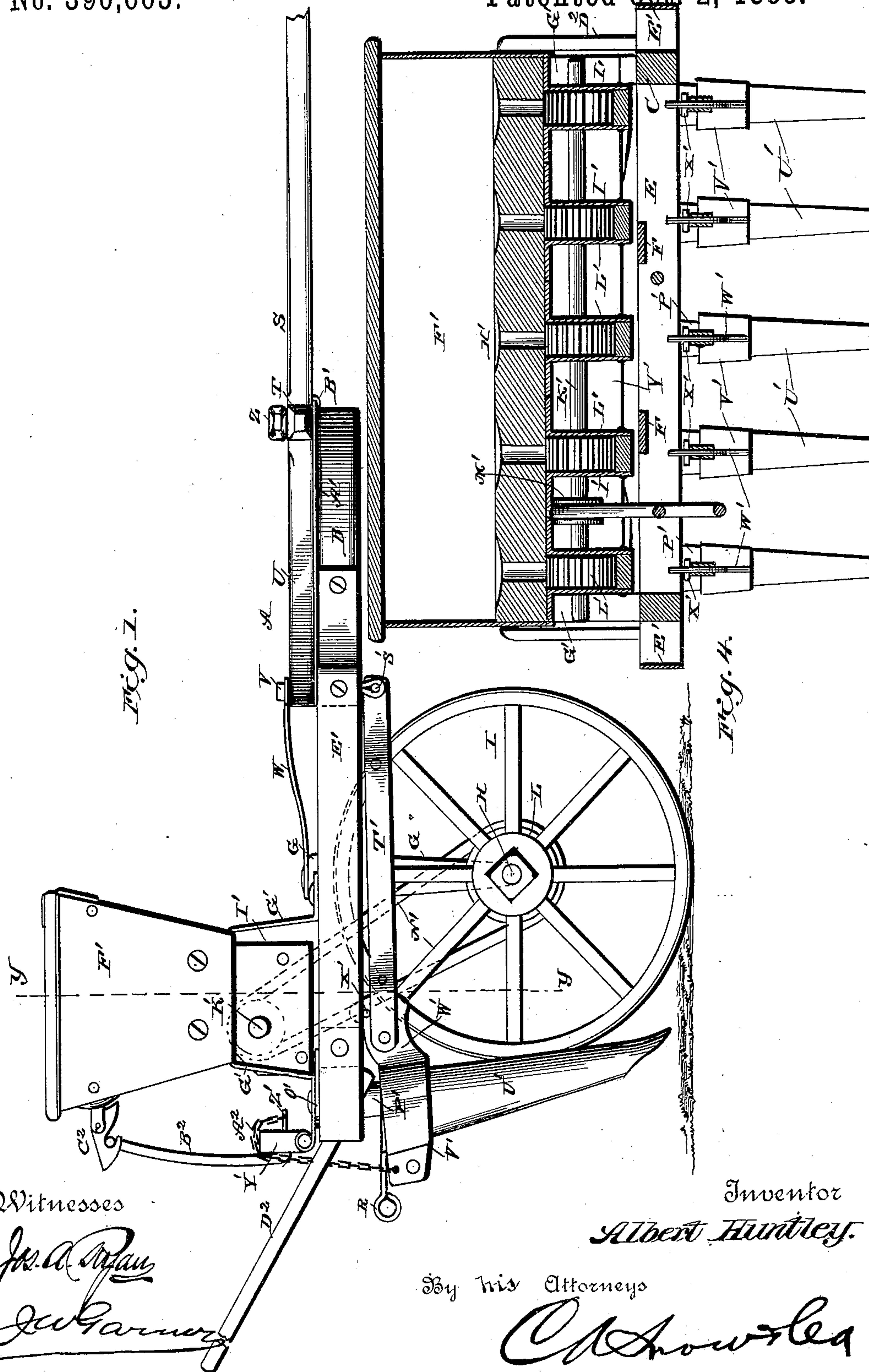


3 Sheets—Sheet 1

No. 390,603.

Patented Oct. 2, 1888.

Witnesses

Inventor

Albert Huntley.

By his Attorneys

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

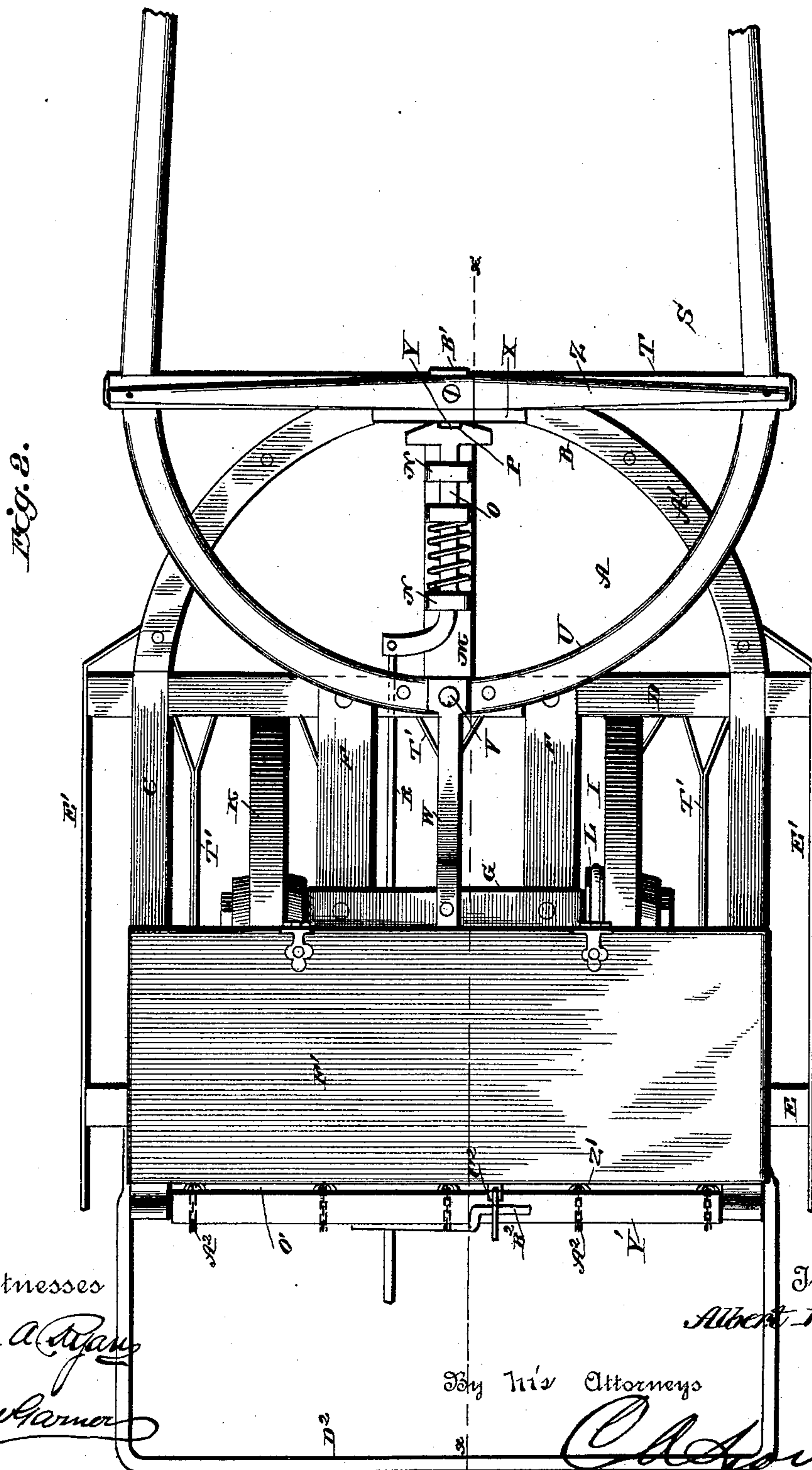
3 Sheets—Sheet 2.

A. HUNTLEY.

SEED DRILL.

No. 390,603.

Patented Oct. 2, 1888.



Witnesses
Jos. A. Ryan
J. Warner

Inventor
Albert Huntley

By his Attorneys

Chas. H. & Co.

(No Model.)

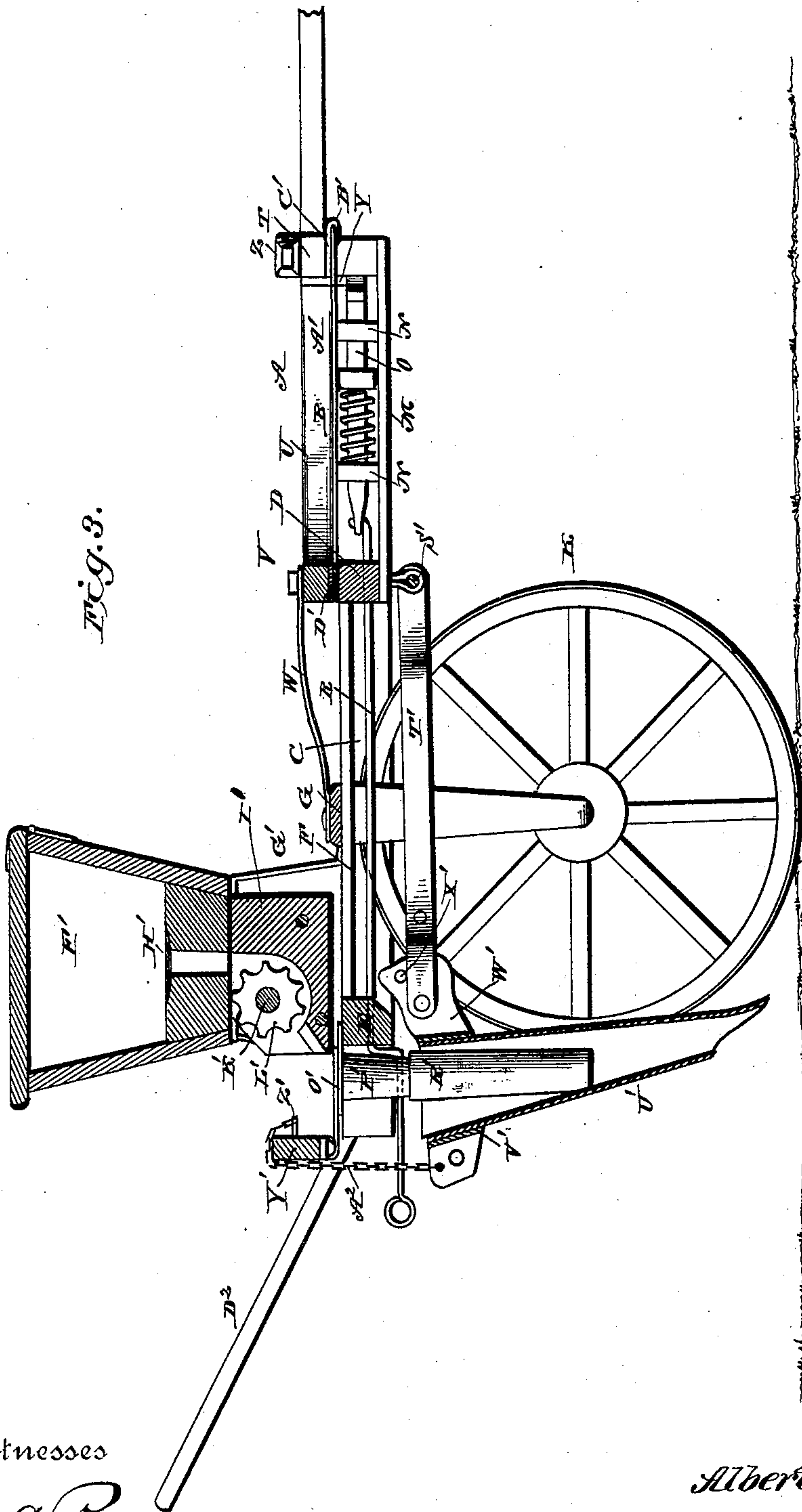
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C. H. Snow & Co.

UNITED STATES PATENT OFFICE.

ALBERT HUNTLEY, OF OSTRANDER, OHIO.

SEED-DRILL.

SPECIFICATION forming part of Letters Patent No. 390,603, dated October 2, 1888.

Application filed April 19, 1888. Serial No. 271,204. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HUNTLEY, a citizen of the United States, residing at Ostrander, in the county of Delaware and State of Ohio, have invented a new and useful Improvement in Seed-Drills, of which the following is a specification.

My invention relates to an improvement in seed-drills adapted particularly for drilling seed between rows of standing corn; 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.

In the accompanying drawings, Figure 1 is a side elevation of a seed-drill embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal sectional view taken on the line *x x* of Fig. 2. Fig. 4 is a vertical transverse sectional view taken on the line *y y* of Fig. 1.

A represents a U-shaped bar, the front portion of which forms a semicircular guiding-yoke, B, and the rearward-extending arms of which form side beams, C. Said beams are connected near their front and rear ends by cross-bars D E, the ends of which project slightly beyond the outer sides of beams C.

F represents a pair of longitudinal metallic bars or plates, which are arranged parallel with each other and connect the cross-bars D E at suitable distances from the centers of the same.

G represents an arched axle, which has a central portion arranged transversely over the plates F, at the centers of the same, and bolted thereto, as shown. The depending vertical arms of the arched axle are provided at their lower ends with outwardly-projecting spindles H, on which are journaled wheels I K, of suitable size and diameter. Secured to the hub of the wheel I, on the inner side of the same, is a pulley, L.

M represents a plate, which connects the central portion of the curved yoke B and the front cross-bar, D. From the upper side of this plate projects a series of ears, N, in which is guided a longitudinally-movable spring-actuated bolt, O, the front end of which is T-shaped, has a central notch, P, and has its ends beveled rearward in opposite directions from the said notch.

R represents a link-rod, which is attached to the bolt, extends rearward under the frame of the machine, and has its rear end guided and supported in the rear cross-bar, E.

S represents a pair of shafts or thills, which are made from a single piece of material, bent and fashioned into the shape of the letter U, and provided with a cross-bar, T. The center of the yoke or bow U at the rear end of the thills is pivoted on the center of the front cross-bar, D, by means of a vertical bolt, V, and the upper end of the latter is connected to the central upper portion of the arched axle by means of a hammer-strap, W.

From the foregoing description it will be understood that the thills are pivotally connected to the frame of the drill, so that the thills may be swung to either side of the frame when the machine is being turned at the end of the furrow, thereby enabling the drill to be turned in a very small space, and consequently preventing the horse from tramping down the growing cornstalks at the ends of the rows.

The cross-bar T of the thills is provided at its center, on its rear side, with a plate, X, from which depends a stud, Y, that is adapted to be engaged by the notch P of the bolt O, so as to lock the thills rigidly to the frame, when the same are in line therewith. On the cross-bar T is also pivoted the usual whiffletree, Z. The upper side of the curved yoke B is provided with a sheathing-plate, A', of suitable metal, adapted to prevent wear. The outer edge of this sheathing-plate, which is semicircular and conforms to the shape of the bow or yoke, projects beyond the outer side of the latter, and thereby forms a guiding-flange, which is engaged by a lip, B', that is formed on the front side of a plate, C', which is secured under the center of a cross-bar, T. By this means the connection between the thills and the machine-frame is strengthened and the pivotal bolt V is relieved of strain. Suitable wear-plates, D', are also secured to the opposing central portions of the bow U of the thills and the cross-bar D of the frame.

E' represents a pair of fender-straps, which are secured to the projecting ends of the cross-bars E D, and have their front ends secured to the sides of the front bow or yoke of said frame, the function of these fender-straps be-

ing to part the cornstalks on opposite sides of the path of the machine, and thereby enable the drill to be drawn between the rows of growing corn without injuring the same.

5 F' represents a hopper, which is arranged transversely over the frame, near the rear end thereof, and is provided at its ends with depending supporting knees or standards G', which are secured to the side beams of the
10 frame. In the bottom of the said hopper are a number of discharge-openings, H', which are arranged at suitable distances apart. From the under side of the hopper depend a number of vertical feed-cases, I', which have their
15 rear sides open and have their lower and front sides curved, as shown. Journaled in the said cases, and arranged under the hopper, is a transverse shaft, K', to which is keyed a number of feed seed-wheels, L', that are arranged in the
20 cases I', and are under the discharge-openings in the bottom of the hopper.

M' represents a pulley, which is also keyed to the shaft K', and is also connected to the pulley L by means of an endless belt, N'.

25 O' represents a plate, which is arranged transversely on the rear side of the frame, and is provided with a number of openings, which are below the rear open ends of the cases I', and in the said openings are secured the upper ends of a number of depending spouts, P'.

30 R' represents a series of flexible seed-tubes, which have their upper ends attached to the spouts P', and depending therefrom.

35 S' represents a rod, which is supported in suitable keepers that depend from the front cross-bar, D. To the said rod are pivoted the front ends of a series of rearward-extending link-arms, T'. Said link-arms have their front and rear ends bifurcated, as shown.

40 U' represents a series of drill-holes, each of which is provided at its upper end with a clamping-collar, V', that has a forward-extending arm, W', which is pivoted in the bifurcated rear end of one of the link-arms. Each
45 of the said arms W' has a transverse opening in its upper corner, in which is inserted a frangible pin, X', the function of the said pins being to normally keep the hoes at work, but said pins being adapted to break should the
50 hoes encounter obstructions, so that the said hoes may turn rearward on their pivotal connections with the link-arms, and thereby avoid being injured.

The flexible seed-tubes extend downward in the drill-hoes in the usual manner, as shown.

55 Y' represents a rocking beam, which is provided with trunnions at its ends on its inner corners, which are journaled in suitable bearings on the rear end of the frame. The said
60 beam is provided on its upper side with a series of keepers, Z', to which are attached the upper ends of chains A², the lower ends of which are connected to the clamping-collars at the upper ends of the drill-hoes.

65 B² represents an arm which projects outward from the rocking beam and serves as a lever by which the latter may be turned, so as to

raise or lower the drill-hoes; as will be readily understood. A hook, C², is pivoted in a suitable support that projects from the rear side
70 of the hopper, and said hook is adapted to engage the arm B² when the latter is raised, so as to support the drill-hoes in their elevated position.

D² represents a bail, which is bent substantially in the form of the letter U, and has the front end of its arms pivoted on the outer sides of the beams C, near the rear ends thereof, the function of the said bail being to serve as a handle, whereby the operator walking in rear
80 of the machine may raise the same, so as to enable it to pass over obstructions, and may guide the machine out of the way of stalks of standing corn. The extremities of the arms of the bail D² bear against the projecting ends
85 of the cross-bar E, so that by depressing the rear end or cross-bar of the bail the front ends of its arms will be raised and the machine lifted off the ground.

It will be understood from the foregoing description that a machine thus constructed is adapted to be drawn by one horse and to drill
90 wheat, rye, or other cereals between rows of standing corn before the corn crop has been gathered.

Having thus described my invention, I claim—

1. The combination, in a seed-drill, of the frame having the curved bow or yoke B at its front end and the transverse bar D, the shafts
100 or thills having the curved bow or yoke U at their rear ends pivoted to the center of the bar D, the cross-bar of said shafts or thills bearing on the curved yoke or bow at the front end of the frame, a wearing-plate secured on the upper
105 side of the bow B and having its edge projecting forward of the same, and the plate C', secured to the cross-bar of the thills and having the lip B' engaging the edge of the wearing-plate, substantially as described. 110

2. The combination, in a seed-drill, of the frame having the curved yoke or bow B at its front end and the cross-bar D, the shafts or thills having the bow at their rear ends centrally pivoted to the center of bar D and
115 adapted to turn in a horizontal plane, the cross-bar of the shaft or thill having a stud, the bar M, extending between the bow B and the cross-bar D and having a series of keepers on its upper side, and the spring-actuated locking-bolt mounted in said keepers and having
120 the central notch at its front end adapted to engage the stud of the shafts or thills, for the purpose set forth, substantially as described.

3. The combination of the frame having the cross-bars D E, the plates F, connecting said bars, the arched axle having its raised central portion arranged transversely on the plates F and secured thereto, the wheels journaled on the spindles of the axles, one of said wheels
130 having the pulley L, the hopper, the shaft arranged under the same having the feed-wheels and the pulley, the endless belt connecting the pulleys, and the seed-spout having the verti-

cally-movable drill-holes, in which said tubes are arranged, substantially as described.

4. The combination of the frame having the side bars, C, and the cross-bar E, projecting
5 beyond the side bars, and the bail D², pivoted on the side bars, C, at the rear ends thereof, and having its ends bearing against the projecting ends of the cross-bar E, as specified.

5. The combination of the frame having the
10 side bars, C, and the cross-bars D E, secured to the side bars and projecting beyond the

same, and the fender-straps arranged outside the frame parallel to the side bars and secured to the ends of the cross-bars D E and to the front portion of the frame, as set forth.

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

ALBERT HUNTLEY.

Witnesses:

CHARLEY HUNTLEY,
ASROWE WILSON.