

(No Model.)

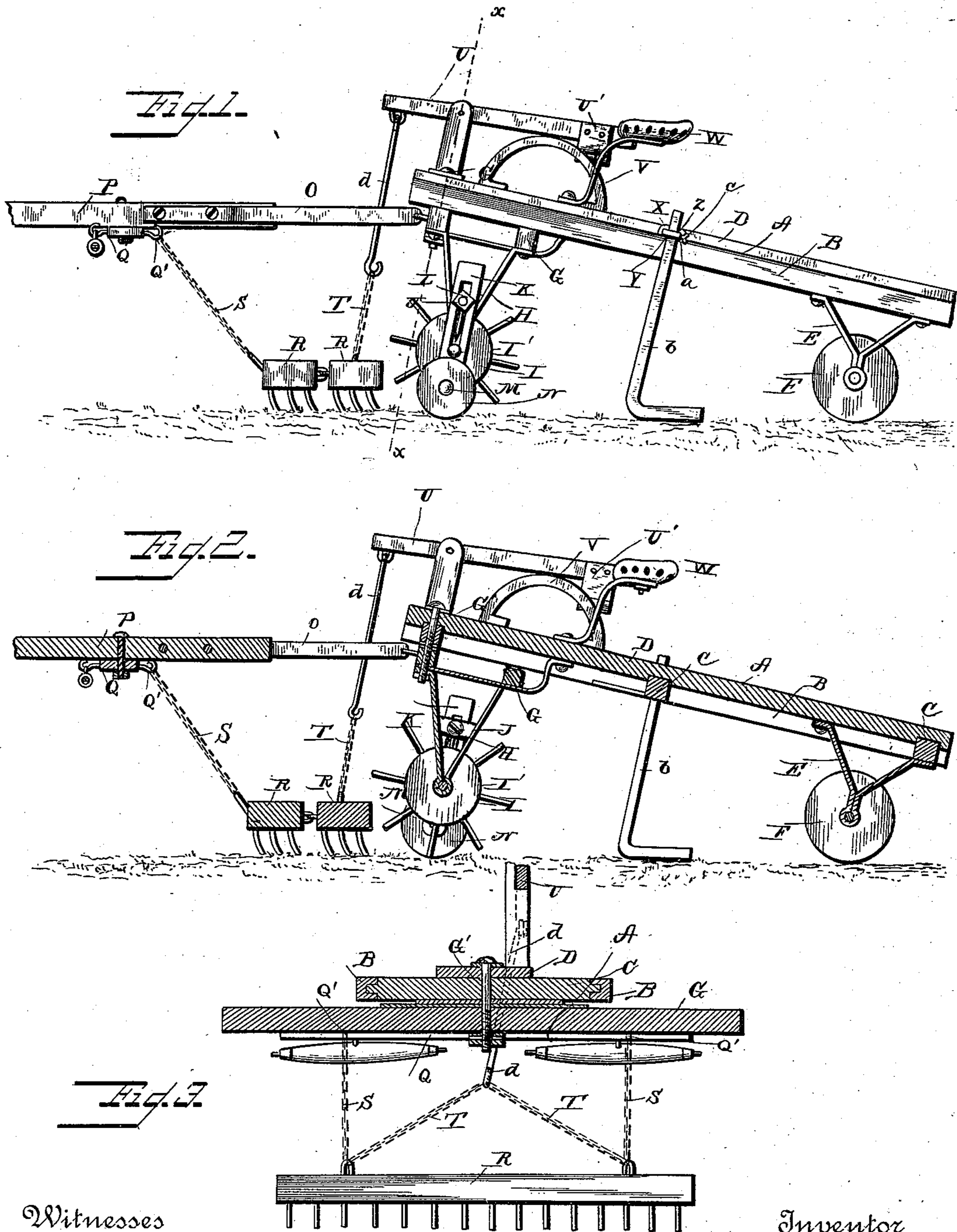
2 Sheets—Sheet 1.

G. W. ALBAUGH.

COMBINED HARROW, CLOD CRUSHER, AND LAND ROLLER.

No. 376,841.

Patented Jan. 24, 1888.



Witnesses
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Benj. H. Cowl

Inventor
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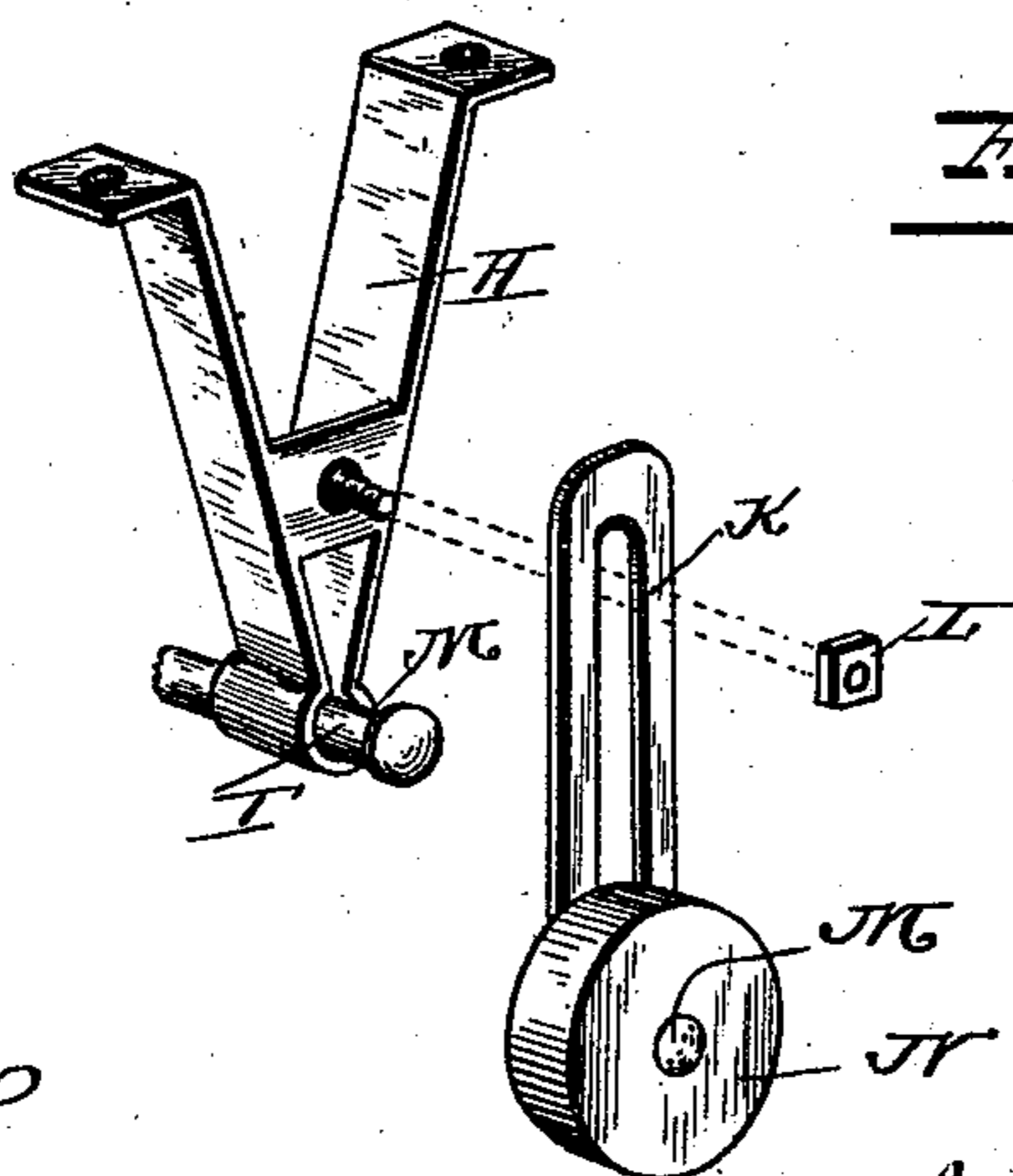
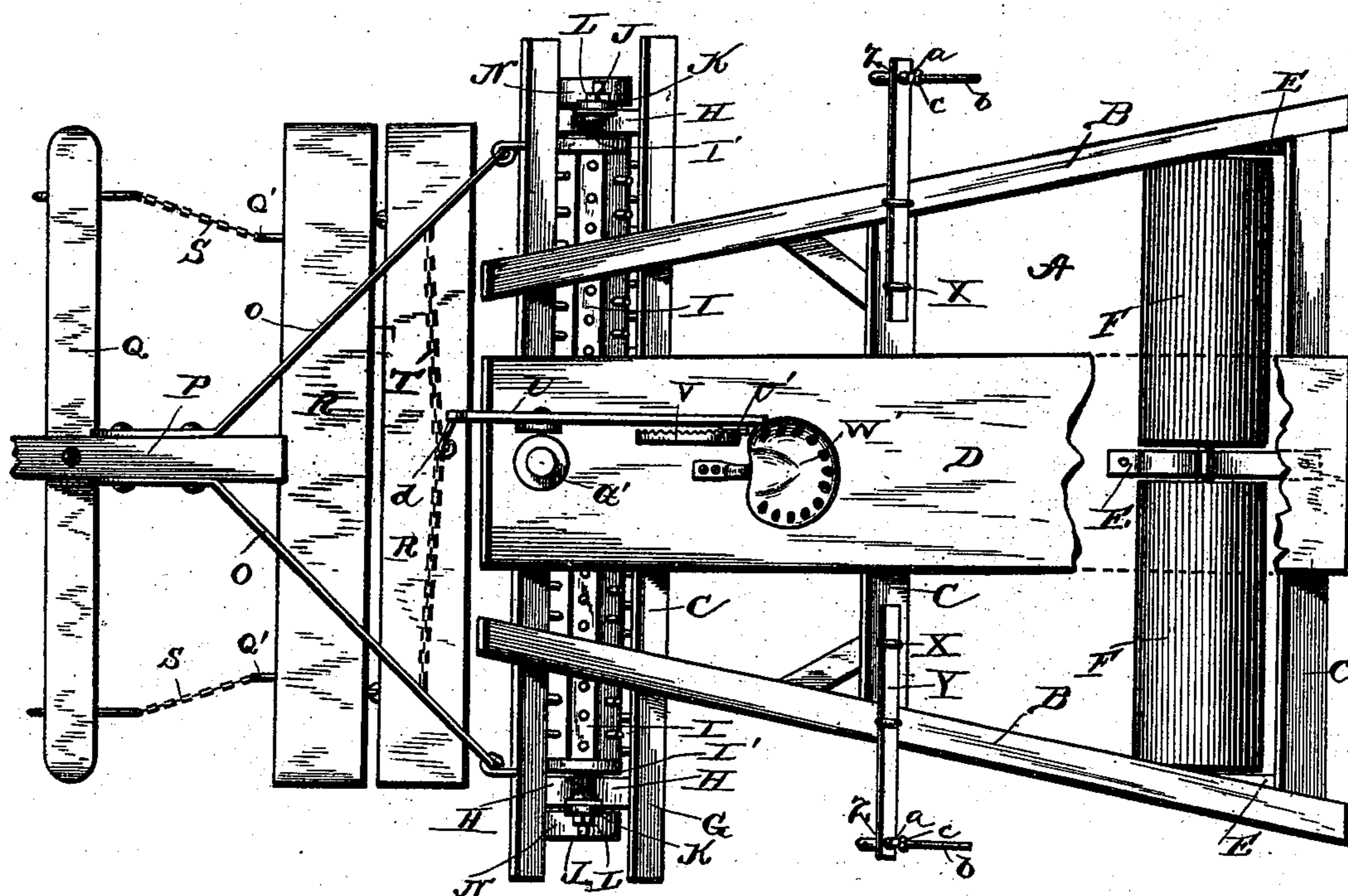
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UNITED STATES PATENT OFFICE.

GEORGE W. ALBAUGH, OF STATE LINE, PENNSYLVANIA.

COMBINED HARROW, CLOD-CRUSHER, AND LAND-ROLLER.

SPECIFICATION forming part of Letters Patent No. 376,841, dated January 24, 1888.

Application filed August 18, 1887. Serial No. 247,252. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. ALBAUGH, a citizen of the United States, and a resident of State Line, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Harrow, Clod-Crusher and Land-Roller; 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 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 my improved combined harrow, clod-crusher, and land-roller. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a transverse vertical sectional view taken on line *xx* in Fig. 1. Fig. 4 is a top plan view; and Fig. 5 is a detail perspective view of one of the brackets and one of the wheels or rollers of the pivoted frame.

Like letters of reference denote corresponding parts in all the figures.

My invention has relation to that class of inventions known as "combined harrows, clod-crushers, and land-rollers;" and it consists in the construction and combination of parts of the same, as will be hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the main frame, which is preferably constructed with converging side pieces, B B, which are connected by cross-pieces C C C, having a longitudinally-extending strip or platform, D, secured thereto. Brackets E E E project downwardly from the rear end of the main frame, and are formed with bearings at their lower ends to receive the trunnions of two land-rollers, F F.

A transverse frame, G, is pivoted upon a king-bolt, G', under the forward end of the main frame, and has brackets H H H, similar to those secured to the rear end of the main frame, projecting downwardly. The trunnions I' I' of the clod-crushers II are journaled in the lower ends of these brackets, to the outer ones of which are secured outwardly-projecting screw-threaded bolts J J, to which two longitudinally-slotted bars K K are adjustably secured by means of thumb-nuts L L. The

trunnions of the clod-crushers project through the slots in the bars and serve to keep the said bars in a vertical position. To the lower ends of these slotted bars, which are provided with stub-axes M M, are journaled wheels or rollers N N, adapted to travel upon the ground.

To the forward end of the frame G are pivoted the rearwardly-diverging hounds O, to which the tongue P, carrying the doubletree Q, is attached.

Two or more harrow-beams, R R, hinged together at their sides and having teeth, preferably inclined rearwardly in their under sides, are attached to the hooks Q' Q' upon the rear side of the doubletree Q by means of chains S S, secured to the forward harrow-beam. The rear one of these harrow-beams has a chain, T, secured to its upper face, and is connected by means of a rod, *d*, to a lever, U, fulcrumed upon the main frame, the said lever being adapted to raise and lower the harrow-beams when desired, and to retain them in their raised or lowered position by means of the catch U', upon the free end of the lever engaging the teeth upon segment-rack V, which is secured to the platform of the main frame near the driver's seat W, so as to enable the driver to easily adjust the lever in the said segment-rack.

Bails X X are secured upon the central cross-piece of the main frame, and receive bars Y Y, having vertical apertures Z Z in their free ends communicating with apertures *a a* at right angles to the vertical apertures.

b b denote the markers, having curved flattened lower ends, and are secured in the bars Y Y by passing their upper straight ends through the vertical apertures and securing them adjustably in position by means of thumb-nuts *c c*.

It will be seen that by having the adjustable bars, with wheels journaled thereto, the crusher-rollers may be raised or lowered according to the condition of the ground, and when the implement is transported from one place to another the wheels or rollers are lowered sufficiently to allow the pressure-rollers to pass over the ground without coming in contact with the same.

It will further be seen that by having the harrow supported by the chains connected to

the doubletree and to the lever the harrow may rock to either side, and will follow any unevenness of the ground, or, if desired, it may be raised from contact with the ground by means of the operating-lever.

The implement will first harrow the ground, whereupon the crusher-rollers will crush any clods which were not broken by the harrow, and at last the land-rollers will smooth the ground, leaving it perfectly prepared for planting. All of these processes will be performed at once without requiring but little more draft than either one of the separate elements.

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

1. In a combined harrow, clod-crusher, and land-roller, the combination of the main frame having brackets in its rear end, land-rollers journaled therein, a pivoted cross-frame at its forward end, brackets secured thereto, and clod-crushers journaled in said brackets, with slotted bars formed at their lower ends with stub-axles, wheels, or rollers journaled upon said axles, and means, substantially as described, for adjusting said bars.

2. In a combined harrow, clod-crusher, and land-roller, the combination of the main frame having brackets secured in its rear end, land-

rollers journaled in said brackets, brackets secured at its forward end, screw-threaded bolts projecting outwardly therefrom, and clod-crushers journaled in said brackets, with slotted bars formed at their lower ends with stub-axles, wheels, or rollers journaled thereto, and thumb-nuts.

3. In a combined harrow, clod-crusher, and land-roller, the combination of the main frame, land-rollers journaled in its rear end, a cross-frame pivoted to its forward end, clod-crushers journaled in brackets secured to the said cross-frame, and markers, substantially as described, secured to the side of the main frame, with a harrow consisting of two or more beams having teeth in their under sides hinged together, the tongue secured to said cross-frame, a doubletree secured to said tongue, chains connecting said harrow with said doubletree, and means, substantially as described, for raising and lowering the said harrow.

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

GEORGE W. ALBAUGH.

Witnesses:

P. N. BRUMBAUGH,
J. R. BEMISDORFER.