

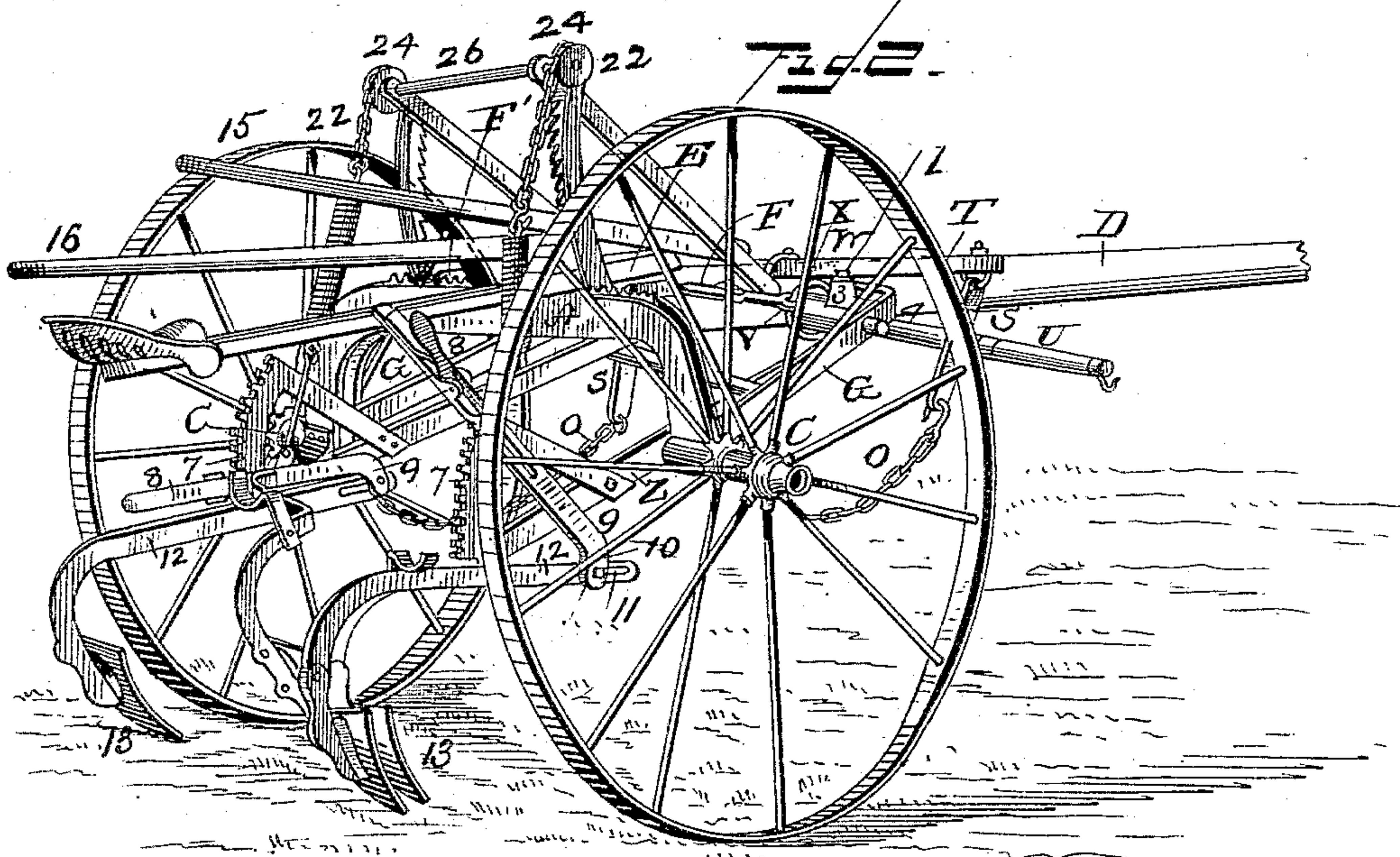
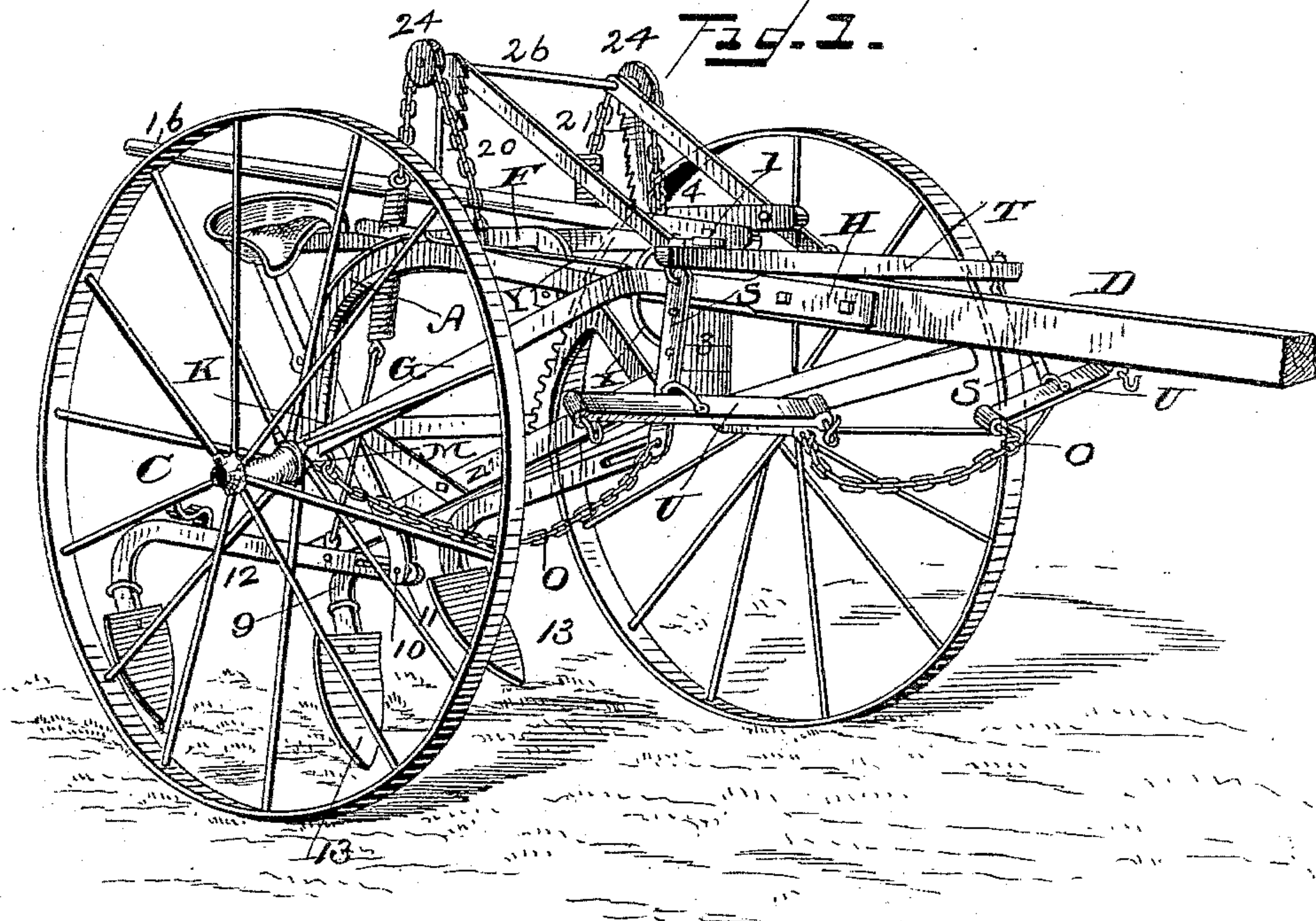
(No Model.)

2 Sheets—Sheet 1.

H. O. SANDERS.
WHEEL CULTIVATOR.

No. 411,733.

Patented Sept. 24, 1889.



WITNESSES:

F. L. Curand
C. F. Chisholm

INVENTOR:

Halleck O. Sanders
J. Davis Daggner & Co.
Attorneys.

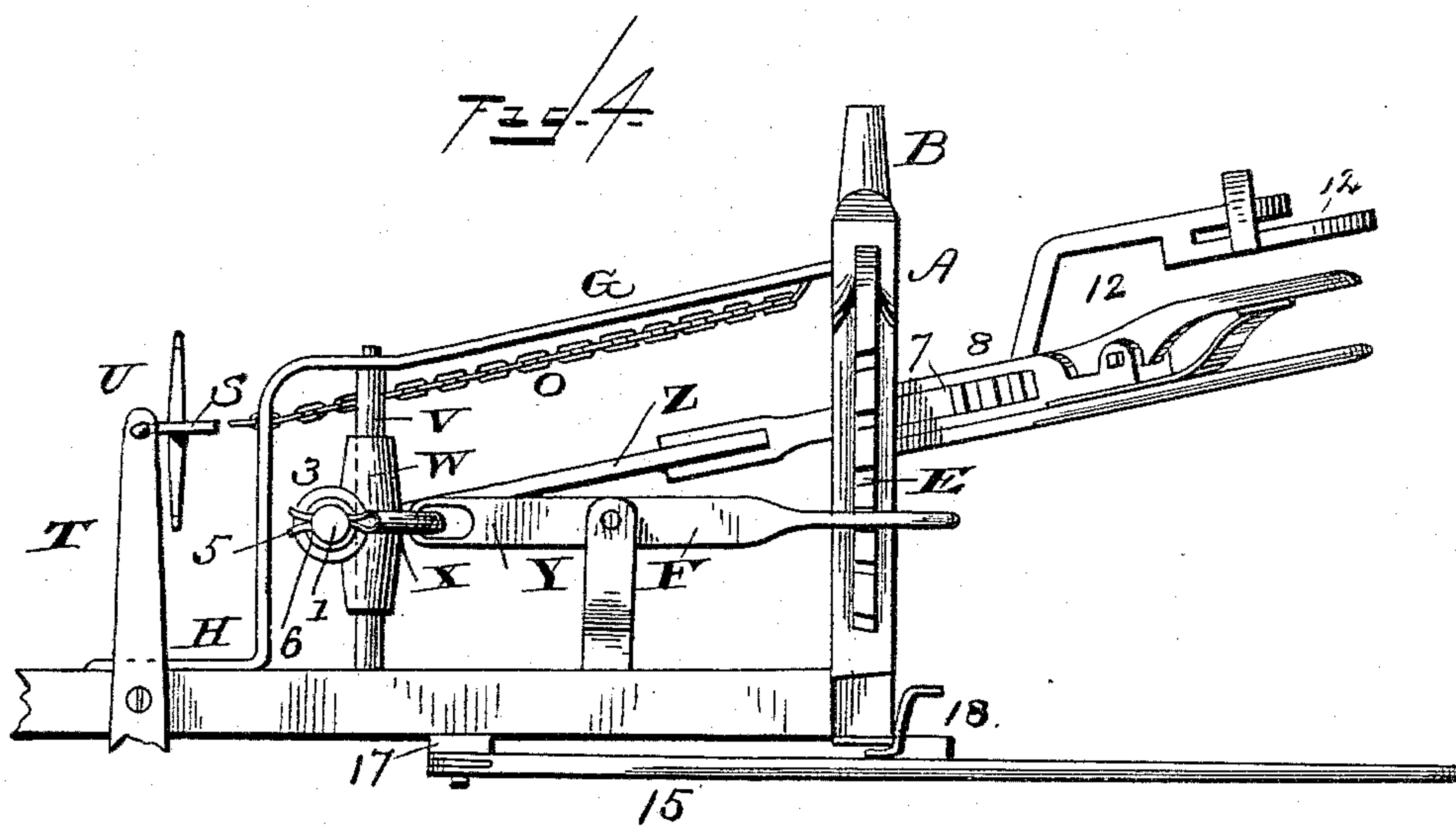
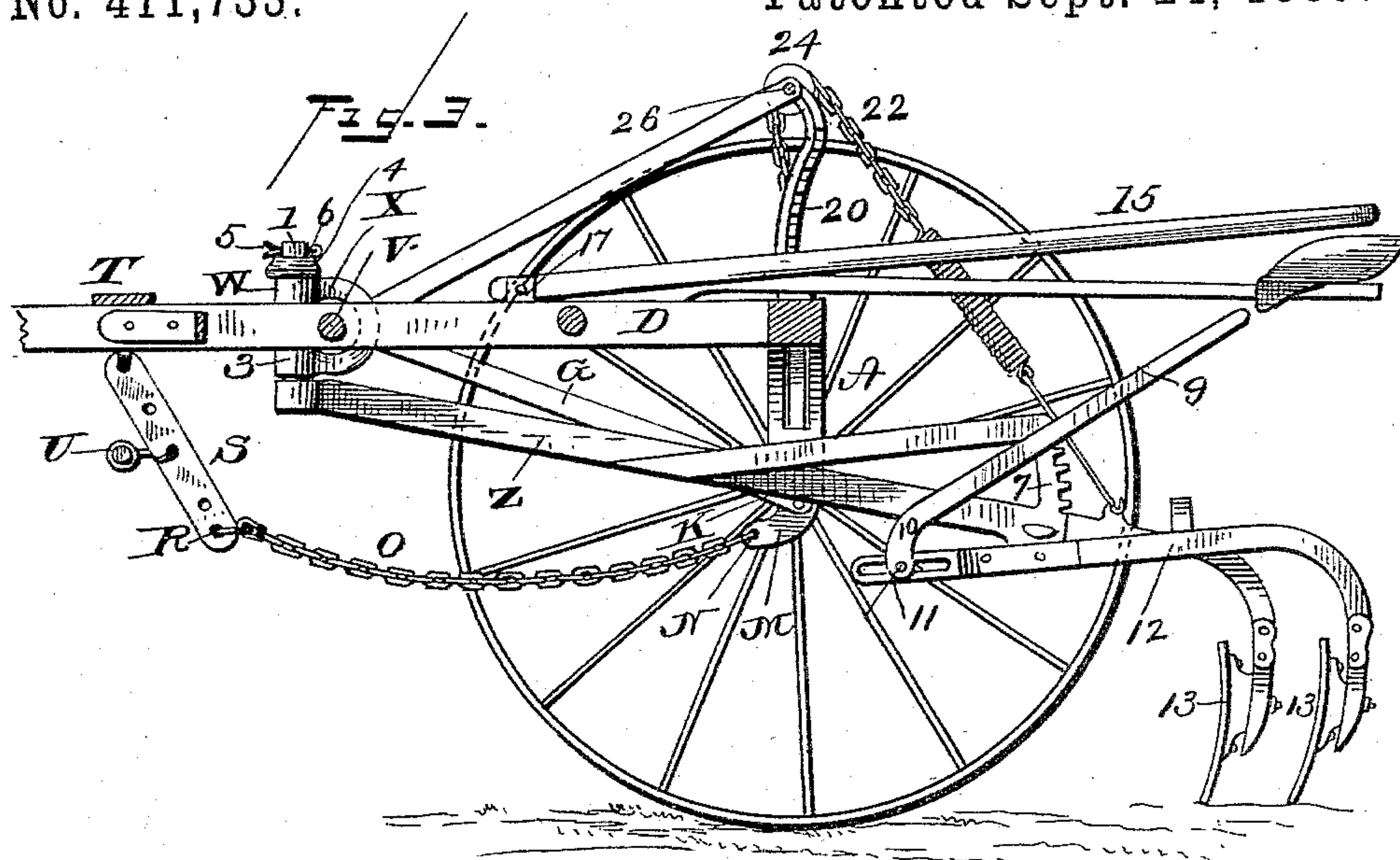
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UNITED STATES PATENT OFFICE.

HALLECK OLE SANDERS, OF MADISON, WISCONSIN.

WHEEL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 411,733, dated September 24, 1889.

Application filed June 15, 1889. Serial No. 314,394. (No model.)

To all whom it may concern:

Be it known that I, HALLECK OLE SANDERS, a citizen of the United States, and a resident of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Wheel-Cultivators; 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.

My invention has relation to wheel-cultivators; and it consists in the construction and novel combination of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings forming part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a view in perspective of a wheel-cultivator, the machine being viewed from in front of the axle. Fig. 2 is a view in perspective of a wheel-cultivator, the same being viewed from in rear of the axle. Fig. 3 is a vertical longitudinal sectional view on the line of the pole, showing one-half of the operating mechanism of the machine. Fig. 4 is a plan view of one-half of the machine, taken on the line of the draft-pole, the two halves being constructed in exactly reverse positions.

Referring by letter to the drawings, A designates the axle of the machine, which is arched upwardly between the journals B B, which enter the boxes in the hubs C C of the supporting-wheels, and is connected at its longitudinal middle line to the rear end of the pole or tongue D of the cultivator. The upper face of the axle is provided with notches E on opposite sides of the tongue D, in either one of which may be locked the rear end of the appropriate lever F or F', as the case may be, said levers F F' being fulcrumed on opposite sides of the tongue D in bifurcated bearing-arms projecting laterally from the tongue of the machine a short distance in front of the arched axle. Outwardly-bent and downwardly and rearwardly inclined bearing-arms G G are securely bolted through their front ends H H to the side faces of the

pole or tongue D, and their rear ends K K are let into recesses in the axle and terminate in forwardly-projecting downwardly-inclined short arms M, having eyes N. In these eyes are secured the rear ends of the chains O, the front ends of said chains O being secured in the lower ones of a set of holes in the equalizer-bars S, which are hinged to the outer ends of the doubletree T, secured upon the tongue D. To the draft-equalizer bars are secured the singletrees U, which may be shifted either up or down, as may be necessary, from one hole to another in the equalizer-bar.

On a transverse rod V, fixed through the tongue D and through the inclined bearing-arms G G, are loosely mounted universal sleeve-joints W W, the rearwardly-extending vertical rings X X of which engage the bifurcated forward ends Y of the levers F F'. The front ends of the cultivator-beams Z Z are fixed on vertical rods 1-1, which are hinged in the sleeves 3 of the universal sleeve-joint. Transverse pins 5 pass through aligned perforations 6 in the rods 1 and wearing-disks 4 to hold all in place. It will be seen that by means of the levers F F' and the universal sleeve-joints W W the cultivator-beams are capable of both lateral and vertical adjustment.

The rear ends of the cultivator-beams are provided with vertically-disposed segmental arcs 7, which are engaged by spring-controlled detents 8, fulcrumed to the bifurcated levers 9, the said levers 9 being fulcrumed to the cultivator-beams Z Z. The front ends of said levers 9 are curved downwardly at 10, and between these downwardly-curved ends 10 are loosely secured the slotted arms or links 11. The links 11 are bolted to and form an integral part of the angularly-bent arms 12, to which the cultivator-teeth 13 are fastened. The angularly-bent arms 12 are fulcrumed to the rear ends of the cultivator-beams Z Z, so that by operating the levers 9 either up or down on their fulcrums the cultivators may be either raised or lowered so as to enter the ground at the proper or required angles.

Lifting-levers 15 16 are fulcrumed at their front ends to angle-irons 17, secured to the

pole or draft-beam, and are provided also with laterally-projecting metallic arms 18, which are adapted to engage the teeth of vertical rack-standards 20 and 21, rising from the frame of the machine. These laterally-projecting arms 18 are connected by chains 22, which run over pulleys 24 at the upper ends of the rack-standards upon the transverse connecting-rod 26 to the cultivator-beams near the rear ends of the latter, so that either of the cultivator-beams with their teeth may be raised entirely out of operation whenever desired by the driver of the cultivator.

15 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wheel-cultivator, the combination, with the cultivator-beam, the arched axle, the inclined guard-bearing, and the transverse shifting-rod, of the universal sleeve on said shifting-rod, the bifurcated shifting-lever engaging the universal sleeve and engaging also the notched axle of the cultivator-beam connected to the universal sleeve, the arc-rack at the rear end of the cultivator-beam, the lever pivoted to the cultivator-beam and provided with the front bent end and the detent at its rear end, the hinged

cultivator-shank connected to the pivoted lever by a slotted link-arm, and transverse pins, substantially as specified. 30

2. In a wheel-cultivator, the combination, with the main frame, of the laterally-movable universal sleeve and its shifting-lever, the cultivator-beam connected thereto by a vertical rod having a wear-plate at its upper end, the segmental rack secured to the rear end of the cultivator-beam, the pivoted cultivator-shank on the rear of the cultivator-beam, the pivoted lever having the bifurcated downwardly-bent front end and the spring-detent at its rear end, the slotted link connecting the hinged lever to the pivoted cultivator-beam, the vertical racks connected at their upper ends and provided with pulleys, the lifting-levers provided with the laterally-projecting arms for engaging the vertical racks, and the chains connecting the lifting-levers with the cultivator-beams, substantially as specified. 40 45 50

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

HALLECK OLE SANDERS.

Witnesses:

HARLOW S. OTT,
AUGUST DEIKE.