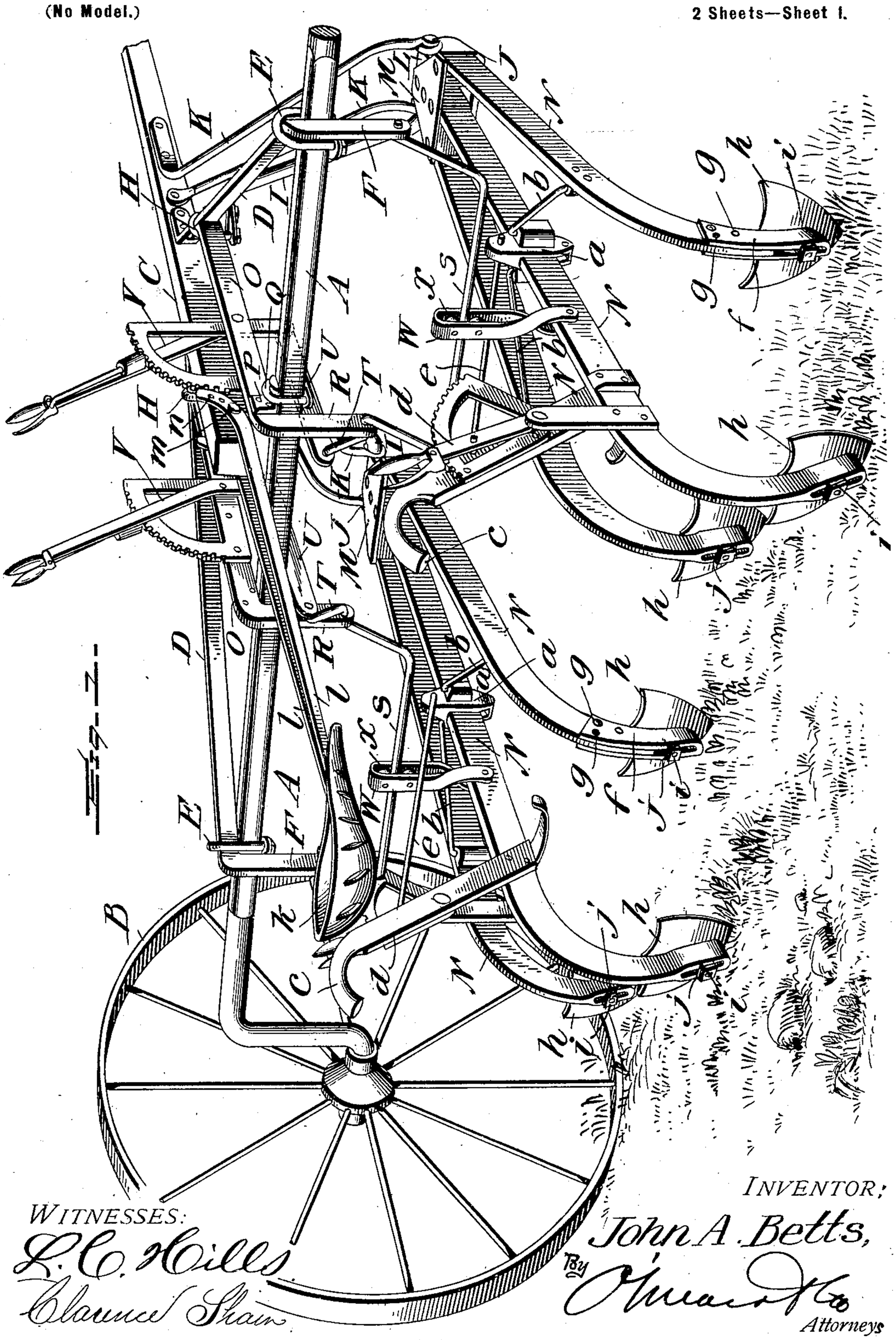
No. 699,138. Patented May 6, 1902.

J. A. BETTS.

CULTIVATOR.

(Application filed Nov. 24, 1900.)

(No Model.) 2 Sheets—Sheet 1.



WITNESSES:
L. C. Hills
Clarence Shain

INVENTOR;
John A. Betts,
By Church & Co
Attorneys

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Fig. 2.

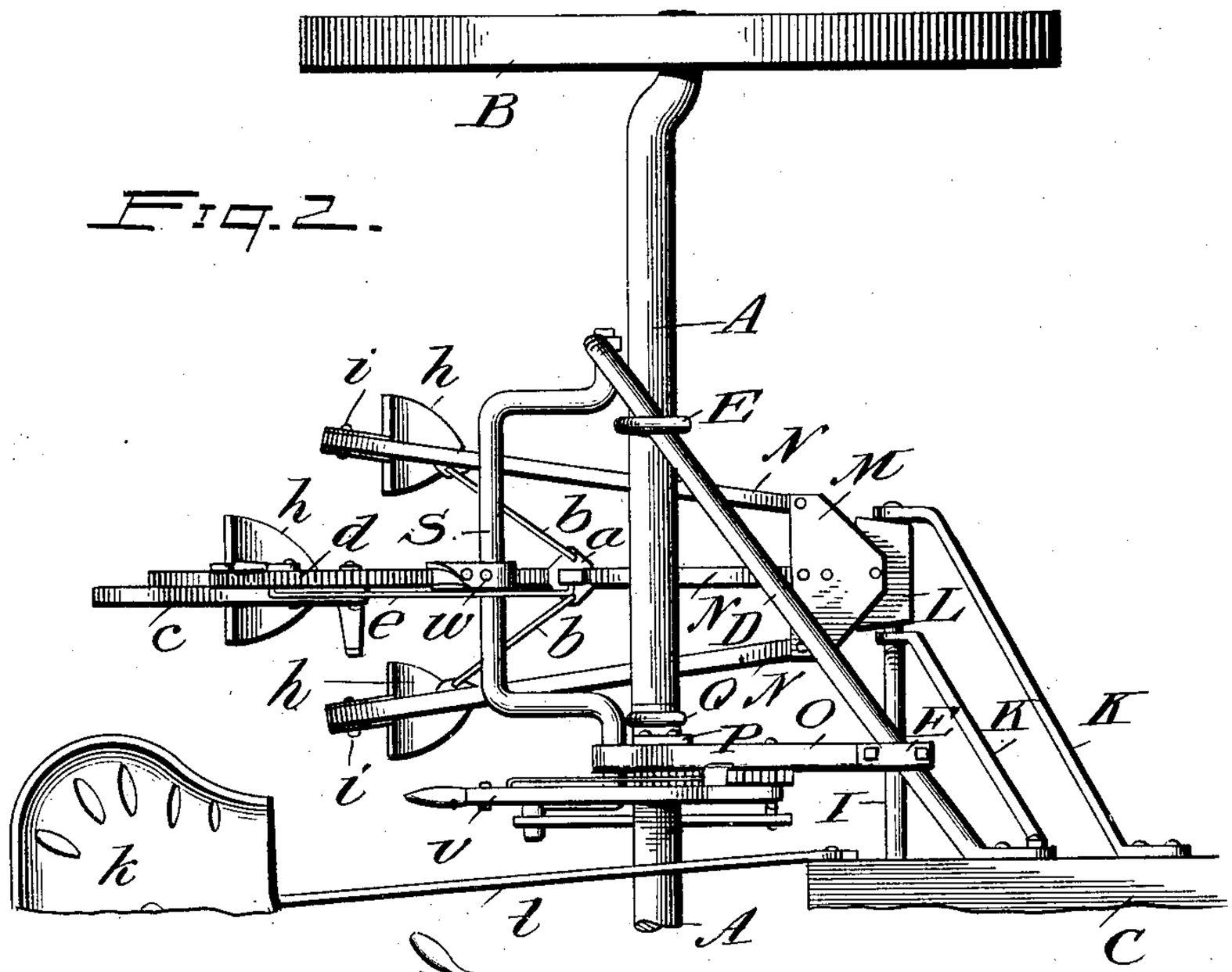
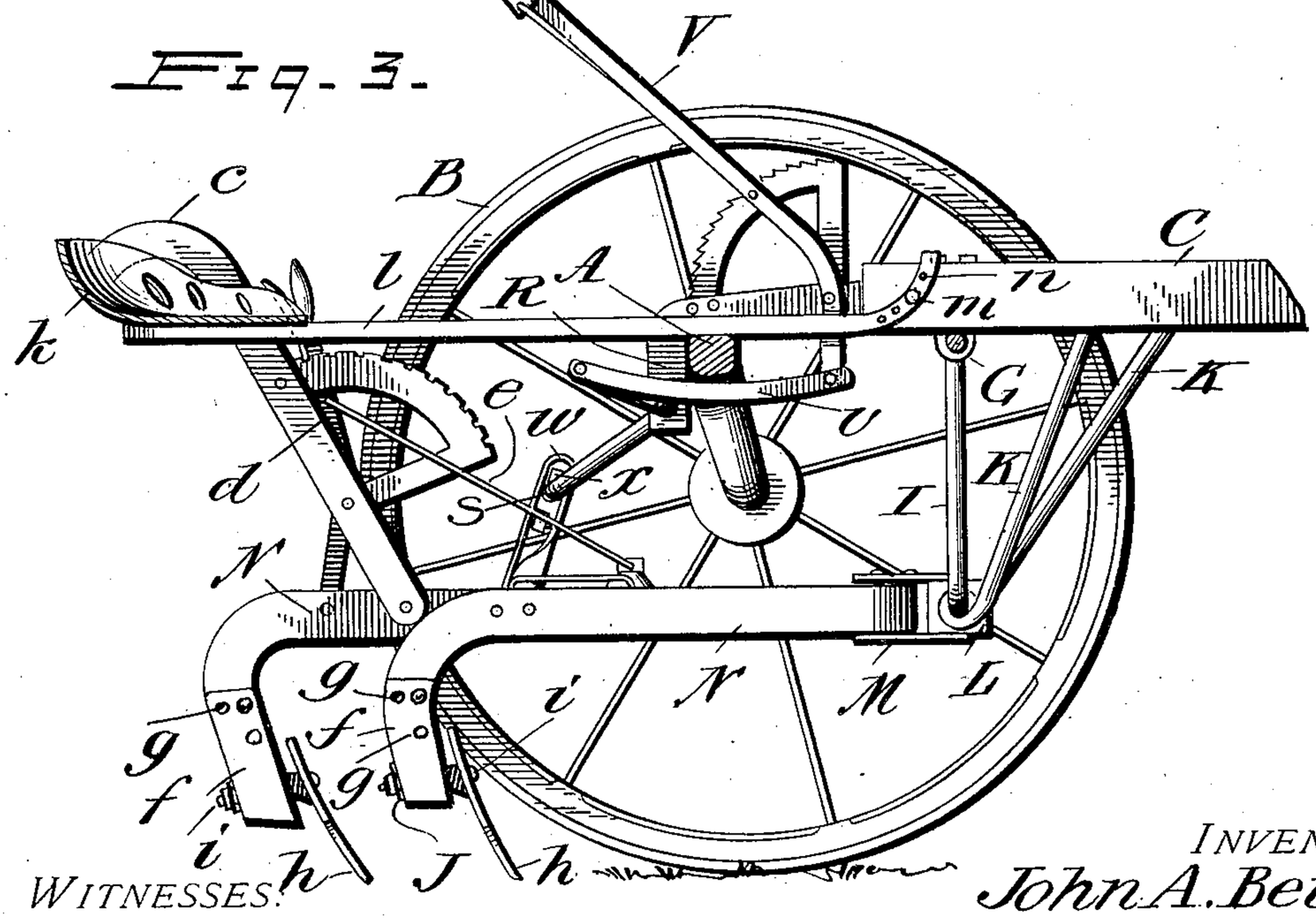


Fig. 3.



WITNESSES:
L. C. Hills.
Clarence Shaw.

INVENTOR:
John A. Betts,
BY
O'Meara & Co
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN ADELBERT BETTS, OF SMITH CENTER, KANSAS.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 699,138, dated May 6, 1902.

Application filed November 24, 1900. Serial No. 37,642. (No model.)

To all whom it may concern:

Be it known that I, JOHN ADELBERT BETTS, a citizen of the United States, residing at Smith Center, in the county of Smith and State of Kansas, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to improvements in cultivators; and the object is to provide an improved construction of cultivator for cultivating a number of rows simultaneously having means for raising and lowering the gangs of plows and for adjusting the gangs laterally and also effecting the lateral adjustment of the plows of each gang.

With the above object in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claim, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a cultivator embodying my invention; Fig. 2, a top plan view of one-half of the machine, and Fig. 3 a vertical transverse section.

Referring now more particularly to the accompanying drawings, A designates a crank-axle, having ground-wheels B mounted on the spindles thereof. C designates the draft-beam, and secured to the opposite sides of said beam are the beams D, which diverge at their opposite ends and are secured to the axle by clips E. The inner ends of these beams are bent at right angles and depend from the axle, as indicated by the letter F, said depending portions F being formed with horizontal perforations. Secured to the under side of the draft-beam by a clip G and to beams D by clips H is a substantially U-shaped support I, having its legs depending beneath the draft-beam, with their extremities turned at right angles to form horizontally-extending pivots J. The ends of this support are braced by inclined braces K, secured at their upper ends to opposite sides of the draft-beam and at their lower ends looped about the pivots J. Mounted on each of the pivots J, between the lower ends of braces K, is a swinging block L. Pivoted to swing laterally on each block L is a head M. Each head carries three rearwardly-extending plow-beams N, which are curved downwardly at their rear ends, the central beam of each set being rigidly secured at its forward end in said head and extending at its rear end beyond the rear ends of the side beams, while the side beams at their forward ends are pivotally attached to the head, so as to swing laterally therein.

Bars O are positioned on opposite sides of the draft-beam, at the rear end thereof, said bars being secured at their front ends to beams D and support I by clips H, before referred to, and at their rear ends to plates P, which are secured to the axle by clips Q. These bars have their rear ends bent at right angles to form depending portions R, which are perforated in line with the perforations of the depending portions F of beams D. Mounted in the perforations of said supports R and F are crank-shafts S. The inner end of each crank-shaft projects through its support R and is formed with a crank T, to which one end of a link U is pivotally connected, the opposite end of the link being pivoted to the lower end of an intermediately-pivoted lever V. This lever is provided with the usual ratchet mechanism for holding it locked in the desired adjustment. By operating said lever V the central portions of the crank-shafts are raised and lowered. Pivoted to each central plow-beam is a U-shaped strap W, which embraces the central portion of the crank-shaft S. Friction-rollers X are mounted in each strap and disposed on opposite sides of the crank-shaft, so that as the gang of plows is swung laterally said rollers move upon the shaft and reduce the friction.

From the above description it will be understood that it is only necessary to operate the lever to raise or lower the gangs of plows and that the gangs may be so raised or lowered independently of each other.

Sliding on the central plow-beam of each gang is a block *a*, and pivotally connecting said block with each of the side beams N are the arms *b*, so that as said block is moved upon the central beam the side beams are adjusted laterally with relation to the central beam.

Each gang of plows is provided with a guiding-handle *c*, secured at its lower end to the

central beam and suitably braced. Pivoted at its lower end to this handle is a lever *d*, provided with the usual toothed segment and dog for locking it in its adjusted position and connected with the sliding block by a link *e*. By operating this lever the side beams of each gang of plows are adjusted laterally through the medium of the movement of the sliding block on the central beam. Intermediately pivoted to each of the plow-beams N is a plow-standard *f*, formed with a plurality of perforations *g* at its upper end to receive a securing bolt and nut, which passes through the downwardly-curved portion of each beam. Thus each standard may be adjusted to vary the angle of the plow-point. Each of the plow-standards is bifurcated nearly its entire length and embraces the depending portion of the plow-beam, to which it is attached, and adjustably secured to each of said standards is a plow-point *h*. This plow-point has a bolt *i* extending through the bifurcation of the standard and movable therein and through a plate *j*, bearing against the rear side of the standard, and receives a clamping-nut for locking it in its adjustment.

A seat *k* is provided, which is pivotally attached to the rear end of the draft-beam by having a bifurcated support *l* embracing said beam and receiving a pivotal bolt *m*. The attaching ends of this bifurcated support are inclined upwardly and provided with a series of perforations *n*, by means of which the support may be adjusted with relation to the beam. The support rests upon the axle of the cultivator, as will be seen from the drawings.

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

In a cultivator, the combination with the draft-beam, of a wheeled axle, diagonally-extending braces secured to the sides of the beam and to said axle and having perforated portions depending from the axle, rearwardly-extending arms disposed on opposite sides of the beam and secured at their forward ends to the diagonal braces and at their rear ends to the axle and having depending perforated portions, crank-shafts mounted in the perforated depending portions of the braces and arms, an arched bar secured to the under side of the beam and having the legs thereof at their lower ends bent horizontally, braces secured to the respective sides of the beam and having their lower ends looped about the horizontal portions of the arched bar, blocks pivotally mounted upon said horizontal portions between the looped ends of the braces, a gang of plows pivoted to each of said blocks to swing laterally, a pivoted strap carried by each gang embracing the crank-shafts and having rollers movable thereon, and operating-levers for swinging said crank-shafts to raise and lower the gangs of plows, substantially as described.

JOHN ADELBERT BETTS.

Witnesses:
LYMAN COOK,
GEORGE E. HOMMON.