

No. 731,591.

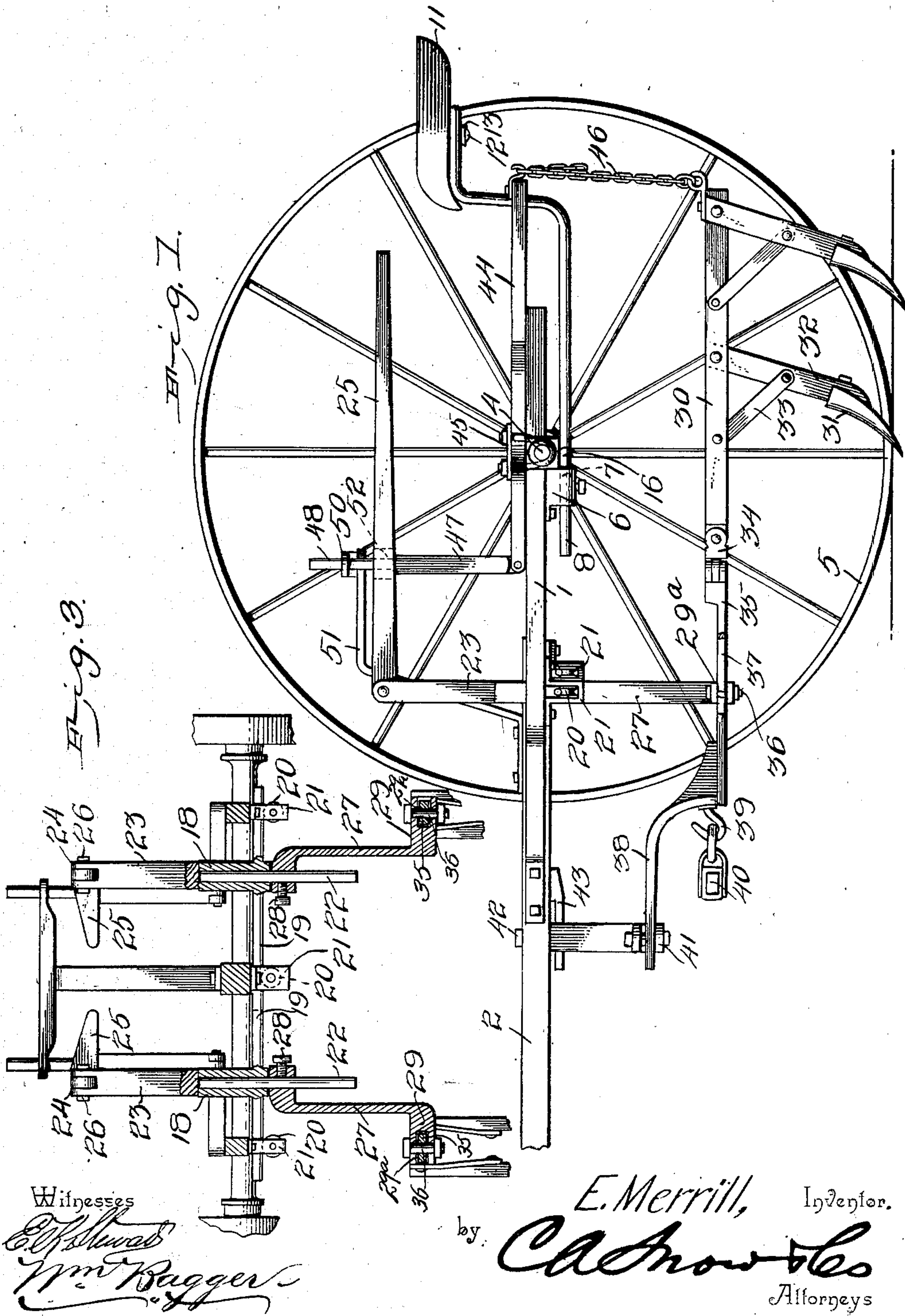
PATENTED JUNE 23, 1903.

E. MERRILL.
CULTIVATOR.

APPLICATION FILED NOV. 12, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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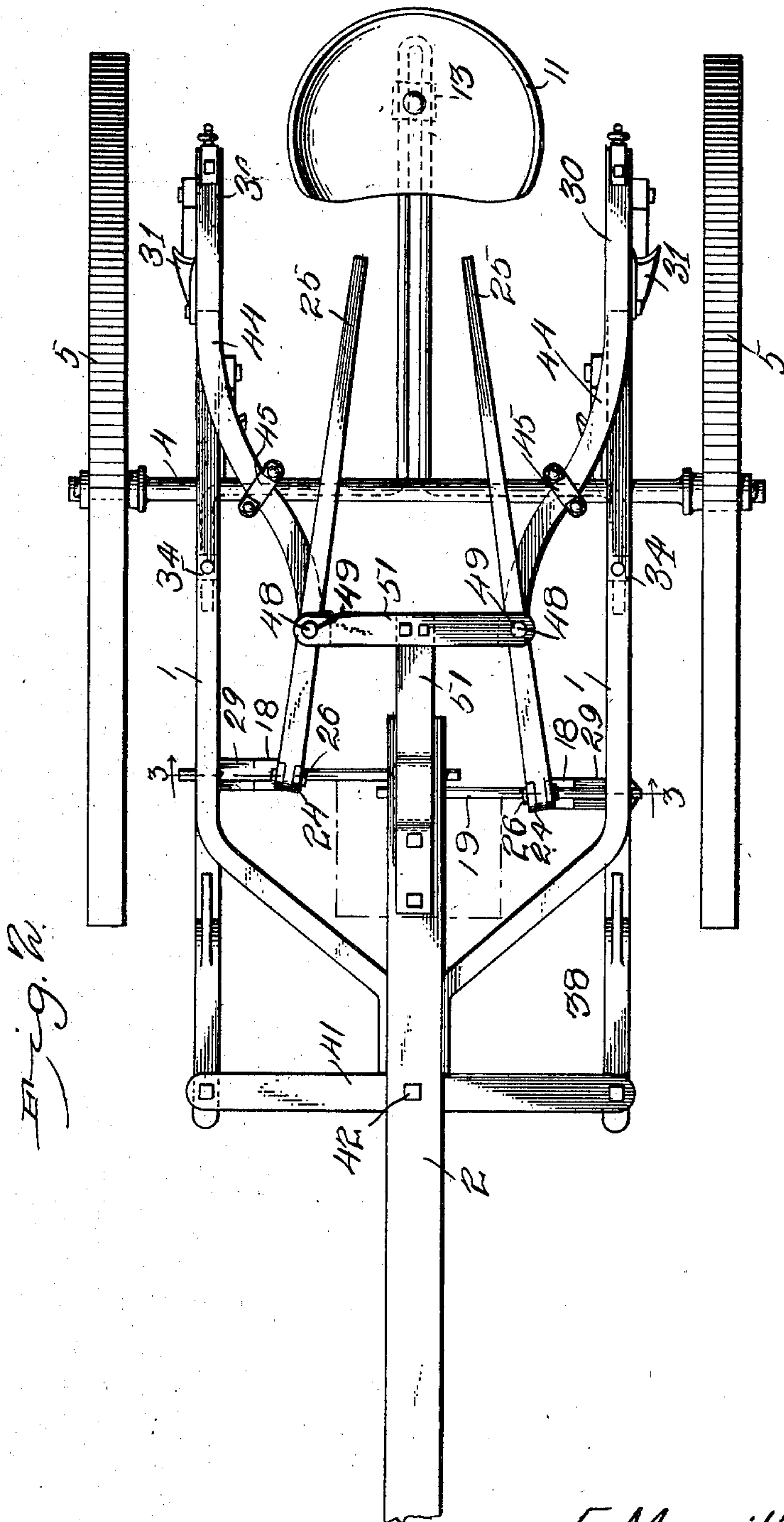
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Witnesses

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by

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UNITED STATES PATENT OFFICE.

EMORY MERRILL, OF WAVERLY, NEBRASKA, ASSIGNOR OF ONE-HALF TO
PEARL JEWETT, OF WAVERLY, NEBRASKA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 731,591, dated June 23, 1903.

Application filed November 12, 1902. Serial No. 131,028. (No model.)

To all whom it may concern:

Be it known that I, EMORY MERRILL, a citizen of the United States, residing at Waverly, in the county of Lancaster and State of Nebraska, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to cultivators; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

The special objects to be attained by my invention may be stated to consist in the providing of improved means whereby the operative parts of the device may be adjusted and controlled in a convenient and satisfactory manner.

With these and other ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is side elevation of a cultivator constructed in accordance with the principles of my invention, the near wheel having been removed. Fig. 2 is a top plan view of the device. Fig. 3 is a transverse sectional view taken on the plane indicated by the line 3 3 in Fig. 2.

Corresponding parts in the several figures are indicated by similar characters of reference.

The frame of my improved cultivator is composed of forwardly-converging side pieces 1 1, connected at their front ends with the tongue 2. Said side pieces are supported upon the axle 4, having the transporting-wheels 5. The side pieces 1 1 are provided on their under sides with blocks or hangers 6, which are longitudinally perforated, as indicated at 7, to receive the forwardly-extending arms 8 of the seat-support, upon which the seat 11 is adjustably mounted by a bolt and nut 12 13.

18 18 designate a pair of vertically-perforated blocks, each provided with laterally-extending arms 19, whereby they are supported upon pulleys 20, which are mounted in suitable boxes or bearings 21 upon the under sides of the side pieces 1 of the frame and upon the underside of that portion of the tongue 2 which

extends rearward between said side pieces. The boxing upon the under side of the tongue contains two pulleys, one disposed in rear of the other. It will thus be seen that the blocks 18 are so supported as to be capable of independent movement with relation to each other, one being set slightly in advance of the other. Through the vertically-perforated blocks 18 extend the stems or shanks 22 of a pair of uprights 23, which thus have a swiveled connection with said blocks. The upper ends of said uprights have ears or lugs 24 to receive the fulcrum-pins of the hand-levers 25, which are pivoted upon pins 26, connecting said ears or lugs. Upon the shanks 22, below the blocks 18, are adjustably mounted a pair of bracket members 27, which are retained in position by means of set-screws 28, enabling them to be raised or lowered for the purpose of raising or lowering the front ends of the plow-beams, as will be hereinafter described. The lower ends of the bracket members 27 have laterally and outwardly extending bifurcated arms 29, forming housings 29^a for a pair of longitudinally-movable slides to be presently more fully described.

The beams 30, carrying the plows or cultivator-blades 31, which are mounted in the usual manner upon standards 32, connected by braces 33 with said plow-beams, are connected at their front ends by universal joints 34 with the slidable members 35, which are supported in the housings 29^a, where they are retained movably by means of vertical pins or bolts 36, engaged in slots 37 in the said slides, whereby the latter, while held securely, are enabled to move longitudinally without restraint, except that imposed by the limits of the slots 37. The front ends of the slides 35 are provided with brackets 38, curved upwardly and forwardly, as shown, over and in front of the hooks 39, which are provided for the attachment of the draft, swingletrees for this purpose being shown at 40. The front ends of the brackets 38 of slides 35 have loose pivotal connection with the ends of an equalizer 41, which is pivotally mounted by means of a pin or pulley 42 in a supporting strap or clevis 43 upon the under side of the tongue. It will be readily understood that this "equal-

izer," as I have chosen to call it, is practically for the sole purpose of spacing the front ends of the slides 35 the proper distance apart. The draft being attached directly to the slides, which are connected at their rear ends with the plow-beams, it is evident that the said plow-beams are operated or drawn independently of each other by each draft-animal.

10 A pair of levers 44, hingedly connected with the axle by means of clips 45 or in any other suitable manner, are suitably curved and extended forwardly and rearwardly from their points of connection with the said axle. The rear ends of said levers 44 are connected by means of chains 46 or other connecting means, not necessarily flexible, with the rear ends of the plow-beams 30. The front ends of the levers 44 are hingedly connected with uprights 47, the upper ends of which have stems 48 extending through suitable bearings 49 in a cross-bar 50, supported upon a bracket or standard 51, rising from the tongue. The stems or shanks 48 extend through slots 52 in the hand-levers 25, as will be best seen in Fig. 1 of the drawings.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation of my invention will be readily understood. It will be seen that the beams carrying the plows or cultivator-blades are longitudinally movable independently of each other, whereby each draft-animal is compelled to do its share of the work, and I have also found that the work may be more evenly and accurately performed, inasmuch as there will be no swing or lateral movement, as is apt to be the case when one of the draft-animals is sluggish in starting. It will be further seen that by means of the levers 25 the operator occupying the seat 11 has entire control of the machine. By moving the handle ends of said levers laterally the blocks 18, having the brackets 27, with which the front ends of the beams are connected by means of the slides 35, may be adjusted laterally, thus spacing the plows any desired distance apart, each plow being operated independently of the other. By a vertical manipulation of the hand-levers the intermediate levers 44, which are hinged to the axle, will be operated, thus gaging the depth to which the plows or cultivator-blades shall be permitted to enter the soil, or, if necessary, raising them from the ground entirely.

It is obvious that means of any kind known in this class of implements may be utilized, if desired, for retaining the hand-levers 25 at their adjusted position, thus consequently securing the related parts actuated by said levers in the desired position for operation.

I desire it to be understood that while I have in the foregoing described a simple and preferable form of my invention I do not limit myself with regard to the detailed construction of the same, but reserve the right

to any changes, alterations, and modifications which may be resorted to without sacrificing the utility or departing from the spirit and scope of my invention.

Having thus fully described my invention, what I claim is—

1. In a machine of the class described, the combination of a frame, a pair of vertically-perforated blocks having laterally-extending arms supported by, and laterally adjustable with relation to said frame, uprights having stems extending through said perforated blocks, brackets connected adjustably with said stems, plow-beams having sliding and flexible connection with said brackets and means for effecting lateral adjustment of the blocks.

2. In a machine of the class described, the combination of a frame comprising forwardly-converging side pieces, a tongue secured between the same, and an axle supporting said side pieces, of boxings secured upon the under side of the side pieces and the rear end of the tongue, pulleys in said boxings and vertically-perforated blocks having laterally-extending arms supported upon said pulleys.

3. In a machine of the class described, the vertically-perforated laterally-adjustable blocks supported upon pulleys journaled in boxings upon the frame, the uprights having stems extending through said blocks, levers connected hingedly with the axle, uprights hinged at the front ends of said levers and having upwardly-extending stems, a guide for said stems, hand-levers having slots engaging said stems and fulcrumed to the upper ends of the uprights mounted upon the vertically-perforated blocks, plow-beams, means for connecting the front ends of the latter flexibly and slidingly with suitable housings, means for supporting said housings upon the stems extending through the vertically-perforated blocks, and connecting means between the rear ends of the plow-beams and the levers hinged to the axle.

4. In a machine of the class described, supporting means laterally and independently adjustable, slides connected with and longitudinally movable with relation to said supporting means, said slides being provided at their front ends with draft attachments, upwardly and forwardly extending brackets upon said slides overhanging the draft attachments, an equalizer having pivotal connection with said brackets and plow-beams flexibly connected with the rear ends of said slides.

5. In a machine of the class described, supporting means laterally and independently adjustable, brackets connected with and vertically adjustable with relation to said supporting means, slides connected with and longitudinally movable with relation to said brackets, plow-beams flexibly connected with the rear ends of the said slides, and means

for vertically adjusting the rear ends of said beams.

6. In a machine of the class described, vertically-perforated supporting-blocks independently and laterally adjustable, uprights having stems swiveled in said blocks, brackets vertically adjustable in said stems, slides longitudinally movable with relation to said brackets, plow-beams flexibly connected with the rear ends of said slides, levers connected hingedly with the axle of the machine, connections between the rear ends of said levers and the plow-beams, uprights hinged at the front ends of said levers and having upwardly-extending stems, a guide for said stems, and hand-levers having slots for the passage of said stems, said hand-levers being fulcrumed at the upper ends of the uprights rising from and having swiveled connection with the laterally-movable supports whereby, by the said hand-levers, the front ends of the

plow-beams may be laterally, and their rear ends vertically adjusted.

7. In a machine of the class described, the plow-beams, means for effecting vertical adjustment of the front ends of said beams and for securing them at said adjustment, means for effecting the lateral adjustment of the front ends and vertical adjustment of the rear ends of said beams independently of each other, hand-levers, one for each beam, whereby such independent adjustment may be effected, and intermediate connecting means.

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

EMORY MERRILL.

Witnesses:

JOSEPH WONG,
U. J. MARTZ.