No. 833,731. PATENTED OCT. 23, 1906.

J. CLARE.

CULTIVATOR.

APPLICATION FILED JAN. 22, 1906.

2 SHEETS—SHEET 1.

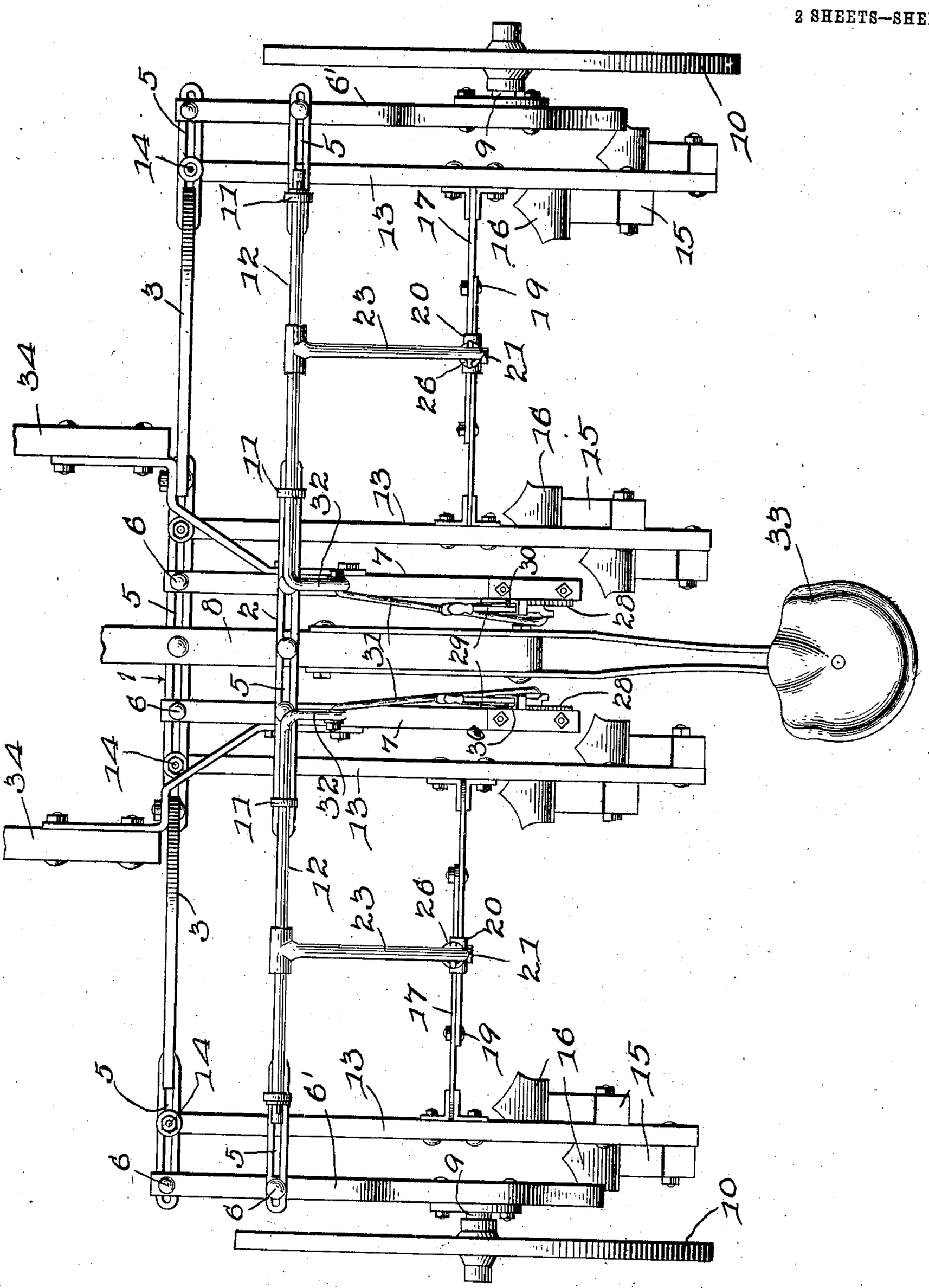

Fig. 1.

WITNESSES:

E. C. Stewart

Wm. Bagger

John Clare,

INVENTOR.

By Church & Co

ATTORNEYS

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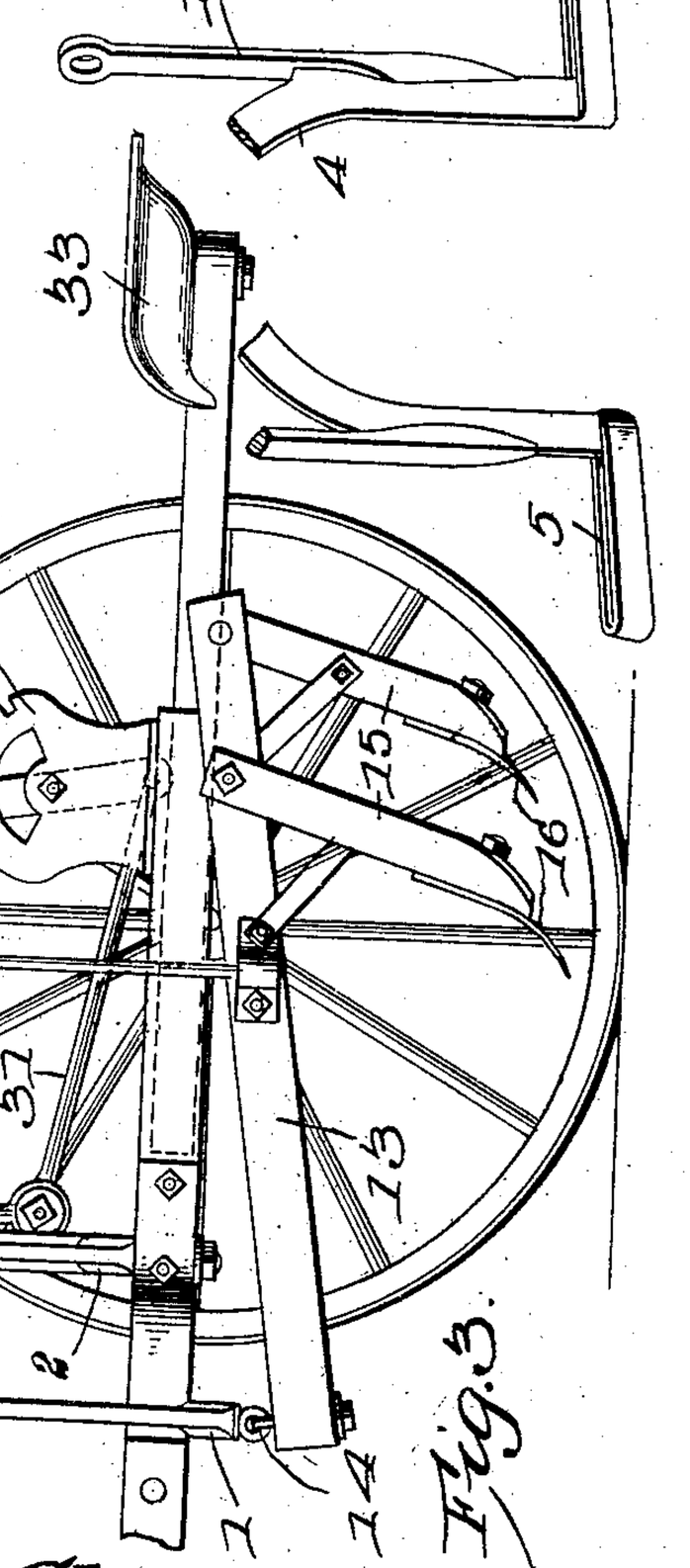

Fig. 4.

Fig. 2.

Fig. 5.

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN CLARE, OF IMOGENE, IOWA.

CULTIVATOR.

No. 833,731. Specification of Letters Patent. Patented Oct. 23, 1906.

Application filed January 22, 1906. Serial No. 297,320.

To all whom it may concern:

Be it known that I, JOHN CLARE, a citizen of the United States, residing at Imogene, in the county of Fremont and State of Iowa, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to cultivators; and it has particular reference to riding-cultivators adapted to operate simultaneously upon two rows of plants.

The objects of the invention are to simplify and improve the construction and operation of this class of devices and to provide improved means whereby the parts of the machine may be adjusted so as to operate successfully upon rows of plants growing at different distances apart.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited; but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a top plan view of a culitvator constructed in accordance with the principles of the invention. Fig. 2 is a rear elevation of a portion of the machine. Fig. 3 is a longitudinal sectional view taken on the plane indicated by the line 3 3 in Fig. 2. Fig. 4 is a perspective detail view of one of the frame members. Fig. 5 is a perspective detail view of a portion of the adjustable arch connecting the members of one of the cultivator-gangs.

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

In the construction of the frame of the improved cultivator there are employed two principal transverse frame bars or members 1 and 2, each of which is constructed with a pair of arches, (designtaed, respectively, 3 3 and 4 4,) said arches being suitably spaced and of suitable dimensions to straddle two rows of plants growing at various distances apart within conventional limits—say from three to four feet. The arches 4 of the rear frame-bar 2 are in constant alinement with the arches 3 of the front frame-bar. Each of said frame-bars is provided adjacent to and intermediate the arches with vertical slots 5 for the passage of connecting members, such as bolts 6, whereby the frame-bars 1 and 2 are mounted upon and connected with the longitudinal members of the frame, which include the outer wheel-carrying bars 6′ 6′, the inner bars 7 7, and the centrally-disposed tongue bar or beam 8. The frame-bars 6′ are provided with suitably-supported spindles 9, upon which the carrying-wheels 10 are supported for rotation. The frame members 6′, 7, and 8 are inserted between the frame-bars 1 and 2, the frame-bar 1 being placed beneath and the frame-bar 2 above said frame members. When the parts are bolted together, a frame structure of great lightness and strength is produced, which is capable of adjustment to rows growing at various distances apart by simply moving the wheel-carrying bars in an outward or an inward direction, as may be required, the frame members 7 being likewise capable of adjustment when necessary.

The rear frame-bar 2 is provided with upwardly-extending brackets 11 adjacent to the arches 4, and said brackets afford bearings for rock-shafts 12, whereby the cultivator-gangs are supported and adjusted, as will be presently more fully described.

Each gang includes a pair of cultivator-beams 13, the front ends of which are hingedly and adjustably connected, as by means of eyebolts 14, with the front frame-beam 1, the eyebolts extending through the slots 5, as will be readily seen by reference to the drawings. The beams 13 are provided with standards 15, carrying earth-engaging blades 16, and the beams of each gang are provided with overlapping slotted arch members 17, the slots of which, 18, are for the passage of connecting-bolts 19, whereby the arches may be adjusted to various widths, so as to adapt the gangs to operate upon plants at various stages of growth and development. The arch members 17 of each gang have also been shown as being connected by a sleeve or cuff 20, having a transverse connecting-bolt 21, extending through the slots 18 and provided with an eye 22. Each of the rock-shafts is provided with a rearward-extending arm or crank 23, having a terminal eye 24, which is connected with the eye 22 of the corresponding gang by means preferably including a

link 25 and a spring 26, the arms or cranks 23 being preferably secured upon the rock-shafts 12 adjustably, as by means of set-screws 27, although within the scope of the invention said arms may be rigidly secured upon or formed intergally with the rock-shafts.

Upon the frame-beams 7 are mounted quadrants 28, upon which are pivoted adjusting-levers 29, having stop members 30, adapted to engage the rack-teeth of the quadrants for the purpose of retaining the levers securely at various adjustments. Said levers are connected, by means of links 31, with arms or cranks 32, depending from the rock-shafts 12, which latter may be thereby rocked or oscillated in their bearings for the purpose of effecting vertical adjustment of the beams of the cultivator-gangs.

Draft is preferably applied to the front end of the tongue-bar 8 by means of an evener or equalizer of ordinary construction, (not shown,) enabling three or four draft-animals to be used. The tongue-bar 8 supports at its rear end a seat 33 for the operator. Tongues or shafts, as 34, are also suitably connected with the frame for the purpose of enabling the machine to be properly guided. Shields or fenders may be connected with the cultivator-gangs for the purpose of protecting the growing plants from rolling stones, clods of earth, and the like.

By the construction of the improved cultivator-frame, as herein described, it will be seen that the front cross-bar is disposed beneath the longitudinal frame-beams and that consequently the hitching-points of the cultivator-beams are brought down quite low, the advantage of which in enhancing the efficiency of the operation is well understood. The construction of the improved cultivator is simple, the parts are capable of being readily adjusted to suit various conditions, and the device is in every respect efficient for the purposes for which it is constructed.

Having thus described the invention, what is claimed is—

1. In a cultivator, a frame-bar including a plurality of arches and having vertical slots between and adjacent to said arches, said frame-bar being provided with pairs of uprights or brackets adjacent to the arches.

2. In a cultivator-frame, a plurality of longitudinal frame-bars and a pair of transverse frame-bars, the latter being provided each with a plurality of arches and with vertical slots between and adjacent to said arches; one of said transverse frame-bars being disposed adjacent to the under sides of the front ends of the longitudinal frame-bars and the other transverse frame-bar being disposed adjacent to the upper sides of said longitudinal frame-bars; and bolts extending through the slots of the transverse frame-bars and adjustably connecting the frame members.

3. In a cultivator, a front and a rear transverse frame member, each having a plurality of arches and vertical slots between and adjacent to said arches and the rear member being provided with pairs of uprights adjacent to the arches, longitudinal frame members disposed between the transverse frame members and spacing the latter apart, vertically, the front transverse member being disposed adjacent to the under sides of the longitudinal frame members, I-bolts extending through the slots of the front transverse frame member, cultivator-gangs including beams hingedly connected with said I-bolts, arch members connected with said beams and having slotted portions overlapping each other, connecting-bolts extending through said slotted portions, sleeves mounted adjustably upon the latter and having eyes, rock-shafts supported in the uprights adjacent to the arches of one of the transverse frame members said rock-shafts having arms or cranks, means connecting said cranks with the sleeves upon the arch members of the cultivator-gangs, and means for adjusting the rock-shafts and for retaining them at various adjustments.

4. In a cultivator, front and rear transverse frame members having arches and disposed in various horizontal planes the front member being below the rear member, longitudinal wheel-carrying frame-bars inserted between and connected adjustably with the transverse members, pairs of uprights upon the upper rear transverse frame member, rock-shafts journaled in said uprights and having rearward-extending cranks and downward-extending arms, cultivator-gangs including beams adjustably connected with the under side of the front transverse frame member and having adjustably-connected arch members, sleeves upon said arch members, connecting means between said sleeves and the rearward extending cranks of the rock-shafts, longitudinal frame members secured between the transverse frame members between the arches of the latter, quadrants upon said longitudinal frame members, levers pivoted upon said quadrants and having stop members engaging the latter, and links connecting said levers with the downward-extending arms of the rock-shafts.

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

JOHN CLARE.

Witnesses:
A. C. McGORGILL,
L. S. McCRACKEN.