

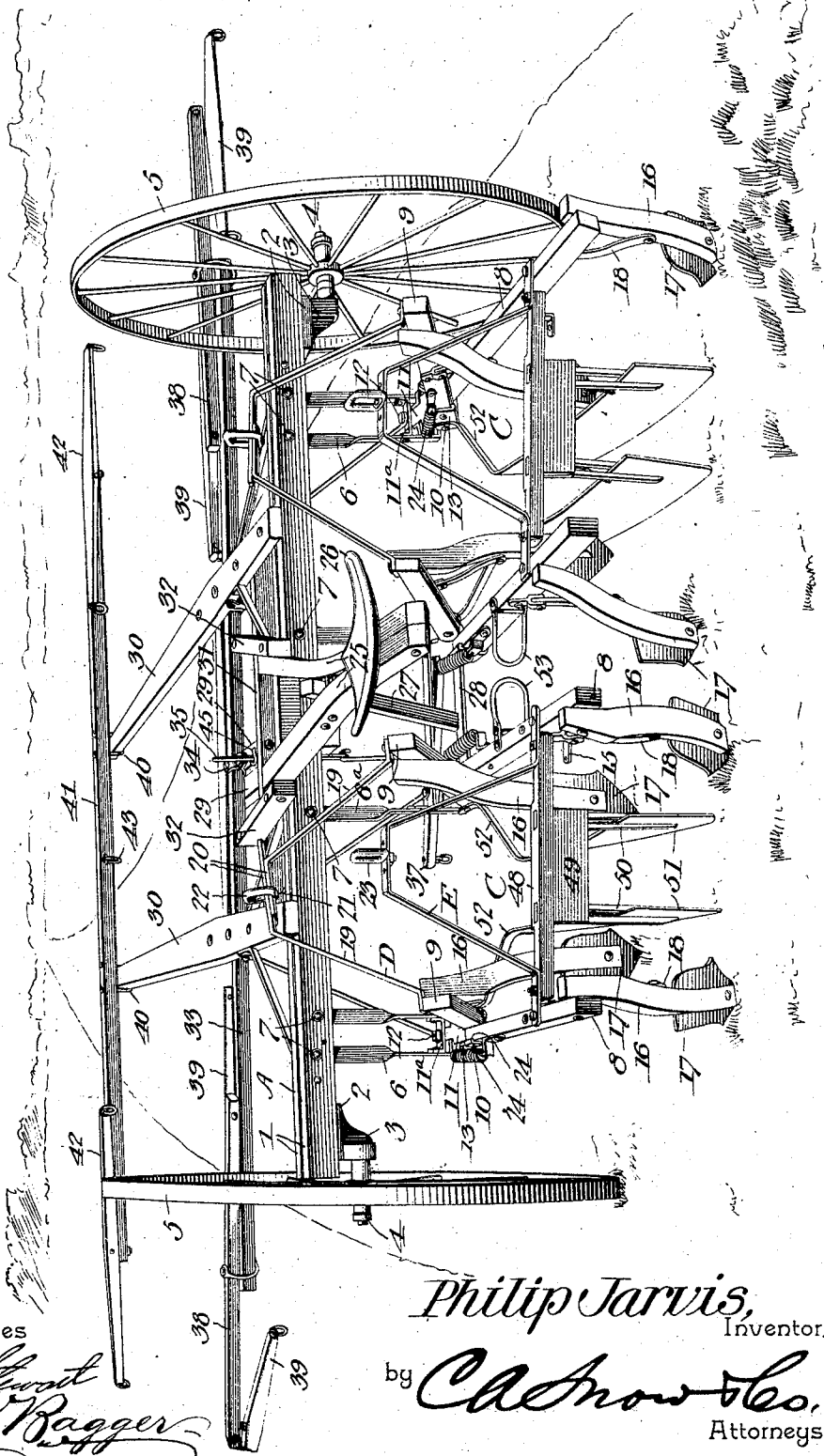
No. 785,041.

PATENTED MAR. 14, 1906.

P. JARVIS.
RIDING CULTIVATOR.
APPLICATION FILED JUNE 28, 1904.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.



Fig. 6.

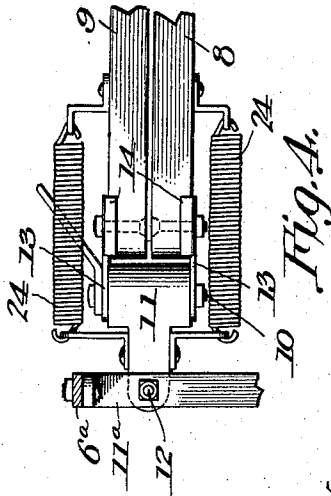
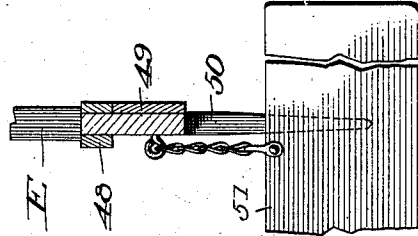


Fig. 4.

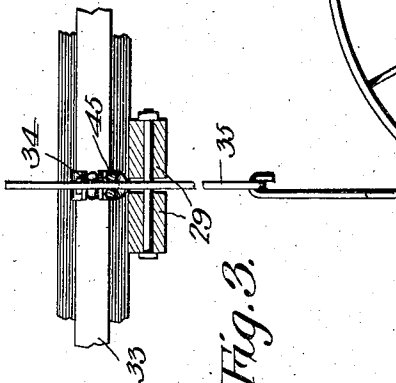


Fig. 3.

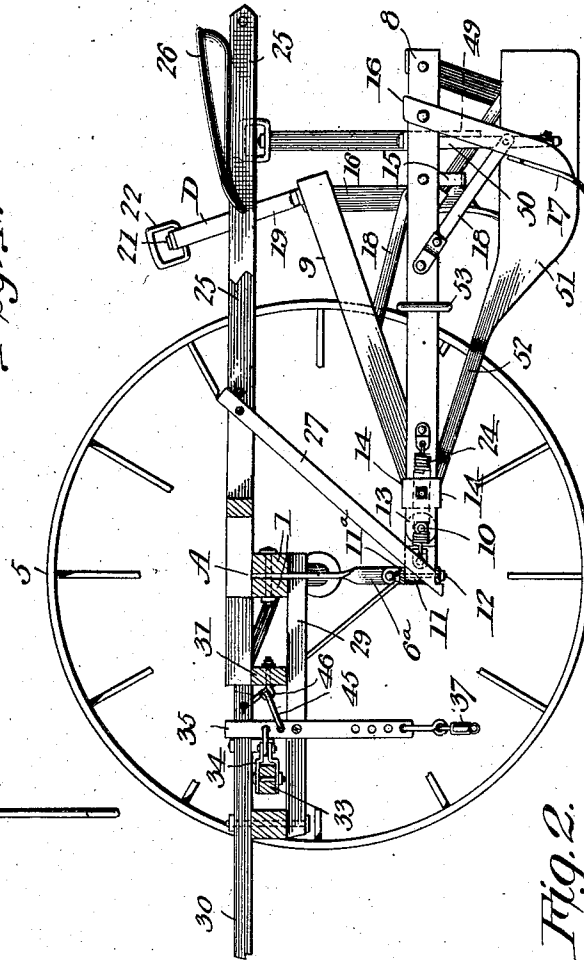


Fig. 2.

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UNITED STATES PATENT OFFICE.

PHILIP JARVIS, OF CEDAR RAPIDS, NEBRASKA.

RIDING-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 785,041, dated March 14, 1905.

Application filed June 28, 1904. Serial No. 214,529.

To all whom it may concern:

Be it known that I, PHILIP JARVIS, a citizen of the United States, residing at Cedar Rapids, in the county of Boone and State of Nebraska, have invented a new and useful Riding-Cultivator, of which the following is a specification.

This invention relates to riding-cultivators, and among its objects is to provide a device of this class which shall be simple in construction, durable, and efficient in operation.

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 embodiment of the invention, it being understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alterations, and modifications which come fairly within the scope of the invention and which may be resorted to without departing from the spirit or sacrificing the advantages of the same.

In said drawings, Figure 1 is a perspective view of a cultivator constructed in accordance with the principles of the invention. Fig. 2 is a longitudinal sectional view of the same. Figs. 3, 4, 5, and 6 are detail views of detached parts of the machine.

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

The axle A of the device is composed of a pair of bars 1 1, spaced apart at the ends by plates 2 2, provided on their under sides with brackets 3 3, having spindles 4, upon which the supporting-wheels 5 are mounted.

6 6^a are yokes or stirrups for the attachment of the cultivator-gangs. These stirrups are formed of strap-iron quarter-twisted at their upper ends, so as to enable the said ends to be inserted between the members 1 1 of the axle, where they are secured by means of bolts 7.

In the accompanying drawings have been

shown two cultivator-gangs, each designated C. Each of these gangs is composed of two relatively long outside beams 8 8 and two relatively short inside beams 9 9, each long beam being connected with a short beam by a connecting pin or bolt 10, disposed near the front ends of said beams, and the short beams being disposed to contact with the inner sides of the long beams. The front ends of the beams are connected with couplings 11, which are connected with the stirrups 6 and 6^a and with cross-pieces 11^a, connected with said stirrups by means of vertically-disposed swivel-bolts 12, thereby enabling the plow-beams to have lateral movement together with each other, while the rear ends of the short inner beams 9 are capable of being adjusted vertically independently of the long outer beams 8. The couplings 11 include pivoted side members 13, having flanges 14 overlapping the adjacent sides of the beams 8 and 9. It will be seen that by this construction the beams of each gang are free to move laterally together with each other, the inner or short beams are capable of moving upon the pivotal pins 10 independently of the beams 8, and the rear ends of the latter are in like manner capable of adjustment in a vertical plane.

The beams 8 are provided with hook members 15, which depend from said beams in such a position as to afford rests for the beams 9 when the latter are lowered below the level of the beams 8. It will be seen that while the beams 9 may thus be lowered when the beams 8 are raised they will necessarily carry with them the beams 9, the latter being supported in the hook members 13.

These several beams of each gang are provided with standards 16, carrying earth-engaging implements, such as shovels 17, said standards being reinforced by means of members 18. The short inner beams of each gang are connected by means of arches D, each of which is preferably composed of two separate members 19 19, having overlapping ends 20, enabling them to be adjustably connected by means of a bolt 21, carrying a handle 22. Arches E likewise connect the rear end of the beams 8 of each gang independently of the beams 9, said arches E being provided with handles 23. It will be seen that the rear ends of the

beams 9 may be raised from the ground independently of the beams 8, while the latter when raised will carry with them the short beams 9, the latter being supported in the hook members 15, connected with the beams 8.

Stout coiled springs 24 connect the couplings 11 with the outer sides of the beams 8 and 9. When the earth-engaging implements carried by said beams are upon the ground, the strain upon said springs will be longitudinal and practically upon a dead-center, so that the action of the beams will not be influenced thereby. When, however, it is desired to elevate or to depress said beams, the tension of the springs will be exerted to render the manipulation easy and convenient.

The axle of the machine supports a pair of rearwardly-extending converging bars 25, supporting at their rear ends a seat 26 for the operator. Provision may be made for raising and lowering said seat, and a brace 27 is provided, which extends between the converging bars 25 to a cross-bar 28 of the central stirrup 6^a.

Extending forwardly from the under side of the axle are a pair of bars 29, spaced apart and connected at their front ends. Likewise extending from the upper side of the axle are the thills 30, between which and the bars 29 is interposed a cross-brace 31, which is connected, by means of short brace-bars 32, with the upper side of the axle adjacent to the outer sides of the converging seat-supporting bars. The bars 29 support an evener 33, having a clevis 34, from which an auxiliary evener extends downwardly between the bars 29, where it is pivoted, carrying at its lower end a swingle-tree 37. The evener 33 is provided at the ends thereof with doubletrees 38, each having swingletrees 39 connected therewith in the usual manner.

Suitably connected with the front ends of the thills, as by means of clips 40, is a bar 41, with the ends of which neck-yokes 42 are suitably connected, said bar being also provided with a ring 43, disposed centrally between the thills. The clips 40 admit of a sliding movement of the bar 41 upon the thills. This construction provides for the attachment to the implement of five horses, one of which is hitched between the thills to the swingle-tree 37 and is connected with the ring 43 of the bar 41, while teams hitched to the swingle-trees 39 outside of the thills are connected with the neck-yokes 42 in the usual manner.

If it is desired to employ only four draft animals, the two teams will be hitched to the draft attachments adjacent to the outer sides of the thills, and the lower end of the auxiliary evener 35 will be connected with the front side of the cross-bar 31 by means of a link 45, connecting a hook 46 on the said cross-bar 31 with the strap or evener 35 above the fulcrum of the latter.

The long beams 8 of the cultivator-gangs

are connected near their rear ends by means of cross-bars 48, having depending brackets 49, provided at each end thereof with a pair of downwardly-extending prongs 50, which serve as guides for the rear ends of fenders 51, the front ends of which are connected by straps 52 with the couplings 11. It will be seen that these fenders, which are for the purpose of protecting the young plants that are being operated upon from dirt, clods, and stones thrown in the direction thereof by the ground-engaging implements, will engage the ground independently of the vertical adjustment of the cultivator-gangs.

The implement-carrying standards connected with the short inner beams 9 of the cultivator-gangs are necessarily secured to the inner sides of said beams. The standards connected with the outer or long beams may be secured either to the inner or to the outer sides of said beams, Fig. 1 illustrating the said standards in both positions, the gang at the left side of the figure having the standards connected with the inner sides of the beams 8, while the gang at the right side of the figure has the standards attached to the outer side of said beams. The former arrangement is deemed preferable and desirable when listed corn is to be operated upon, while the latter arrangement will be preferred when the corn is planted in hills, the earth-engaging implements being conveniently disposed in a staggered relation to each other by setting one standard forward of the other.

The inner beam 8 of each gang is provided with a link, (designated 53,) serving as a foot-rest and enabling the operator by the use of his feet to adjust the gangs laterally in a convenient manner.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. The draft attachment of this device is extremely simple and enables four or five horses to be used, as may be found necessary, according to the condition of the soil that is being worked. The cultivator-gangs are constructed and arranged with a view to the right adjustment of the parts thereof that may be required by the conditions of the soil and the plants that are being operated upon. Thus the inner beams of each gang may be raised independently of the outer beams or together with the latter. Means may obviously be provided for suspending the beams in an elevated position; but such means have not been shown, inasmuch as they do not form a part of the invention. The general construction is simple, inexpensive, and efficient.

Having thus described the invention, what is claimed is—

1. In a cultivator, a plurality of independently-operable gangs, each gang including two

relatively short inner beams and two relatively long outer beams, means for pivotally connecting each long beam with the adjacent short beam to enable said beams to move in a vertical plane, an arch adjustably connecting the inner beams, and an arch independently connecting the outer beams.

2. A cultivator-gang including a pair of relatively short inner beams and a pair of relatively long outer beams, transverse pins pivotally connecting the front ends of the outer beams with the adjacent inner beams, couplings supporting said pins and having pivoted members provided with lateral lips or flanges extending over the outer beams, supporting-stirrups having pivotal connection with the members of the couplings, and springs connecting the latter with the outer beams.

3. In a cultivator, a plurality of gangs, each gang including two relatively long outer beams and two relatively short inner beams, the long beams and the short beams being disposed adjacent to one another, an adjustable arch connecting the inner beams and provided with a handle, an arch connecting the outer beams and having a handle, implement-carrying standards connected with the inner sides of

the end beams, and implement-carrying standards connected with the outer beams in rear of the rear extremities of the short beams.

4. A cultivator-gang including a pair of relatively long outer beams, and a pair of relatively short inner beams, pivotal connecting means connecting the front end of each long beam with the front end of the adjacent short beam, coupling-boxes supporting the connecting means, stirrups supporting the coupling-boxes, straps connected with said couplings, fenders extending rearwardly from said straps, an arch adjustably connecting the inner beams, an arch independently connecting the outer beams, a cross-bar connecting the rear ends of said outer beams, fender-guiding prongs depending from said cross-bar, and implement-carrying standards connected with the several beams.

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

PHILIP JARVIS.

Witnesses:

E. L. SARGENT,
W. S. WEBB.