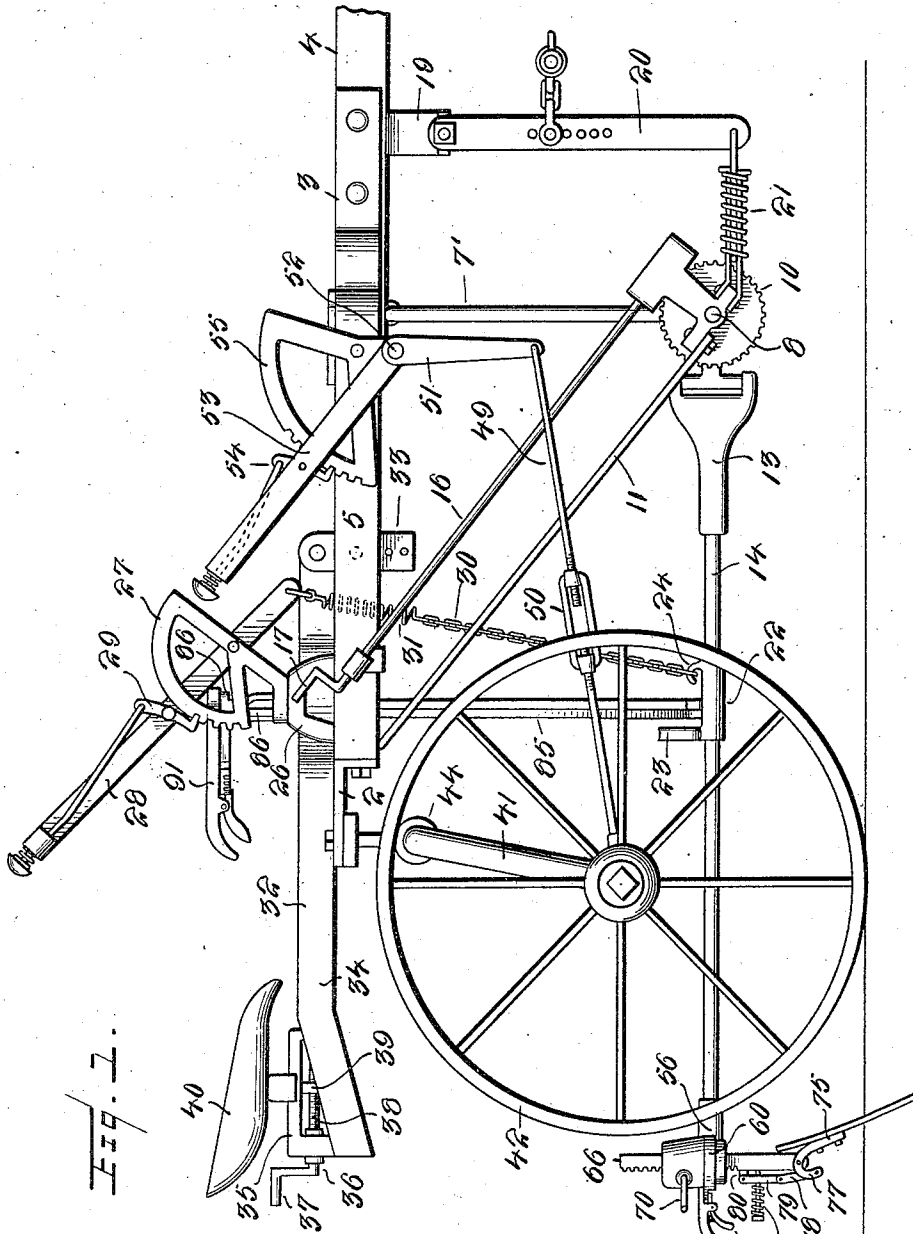


J. O. KENNEMER.
RIDING CULTIVATOR.
APPLICATION FILED JAN. 10, 1911.

1,066,284.

Patented July 1, 1913.

3 SHEETS-SHEET 1.



Witnesses
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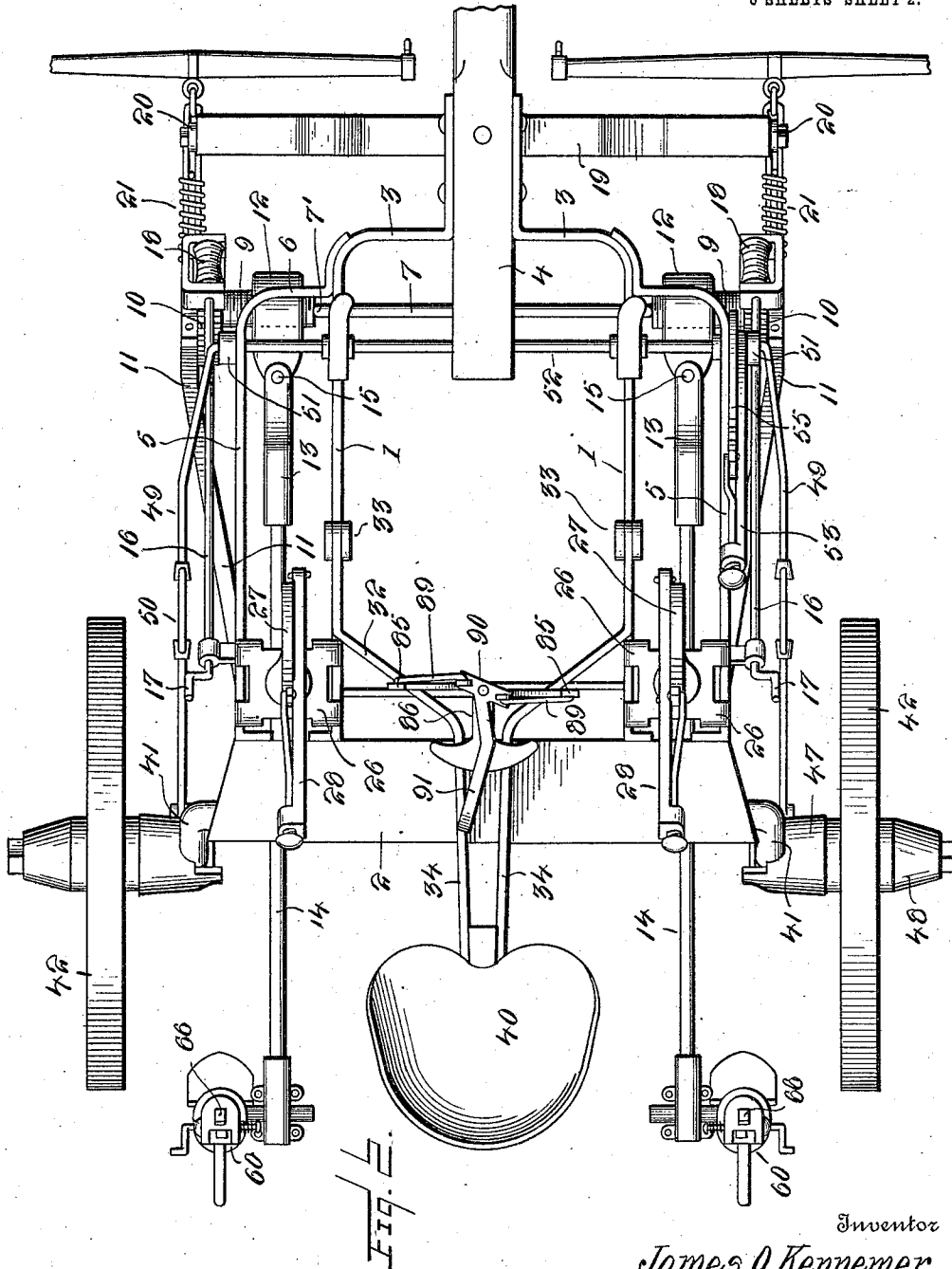
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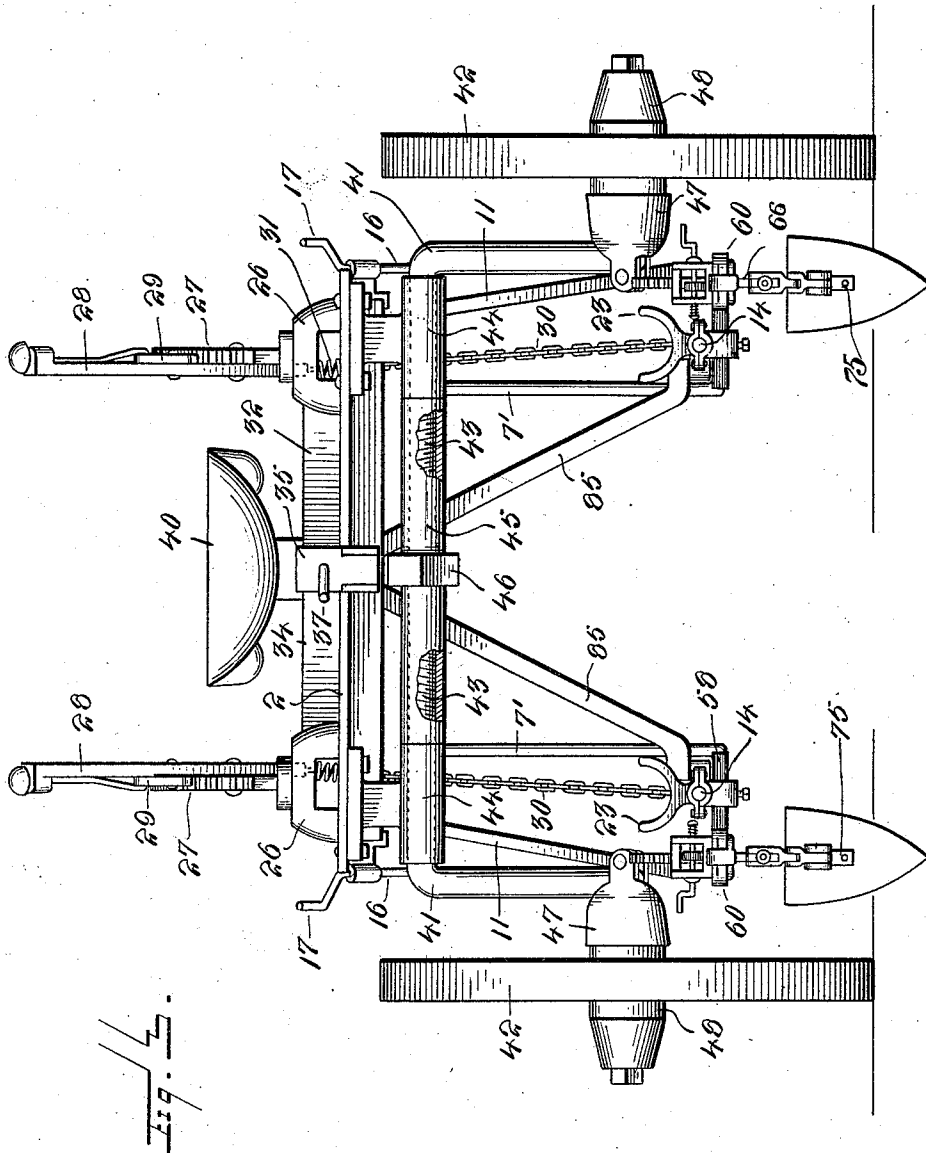
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UNITED STATES PATENT OFFICE.

JAMES O. KENNEMER, OF MULLIN, TEXAS.

RIDING-CULTIVATOR.

1,066,284.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed January 10, 1911. Serial No. 601,785.

To all whom it may concern:

Be it known that I, JAMES O. KENNEMER, a citizen of the United States of America, residing at Mullin, in the county of Mills and State of Texas, have invented new and useful Improvements in Riding-Cultivators, of which the following is a specification.

This invention relates to riding cultivators, and it has for its objects to simplify and improve the construction and operation of this class of machines.

In order that a riding cultivator may be successfully used for the cultivation of various crops, the parts of the device shall be capable of ample adjustment in order that each part may be placed independently of other parts in position for most thorough service.

To enable such adjustments to be effected easily, quickly and conveniently is another object of the invention.

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 resorted to when desired.

In the drawings, Figure 1 is a side elevation of a cultivator constructed in accordance with the invention. Fig. 2 is a top plan view of the same. Fig. 3 is a rear elevation.

Corresponding parts in the several figures are denoted by like characters of reference.

The frame of the machine includes side bars 1, 1, the rear ends of which are connected with a broad cross bar 2 which may be described as constituting a platform. The front ends of the side bars are offset laterally to form brackets 3, 3 which are secured upon the sides of the tongue or draft member 4. The side bars 1, 1 will be hereinafter described as the "inner" side bars to distinguish from the "outer" side bars 5, 5, the rear ends of which are secured upon the front side of the cross bar or platform 2 and the front ends of which are offset lat-

erally to form brackets 6 secured upon the inner side bars adjacent to the front ends of the latter. The outer side bars 5 are thus kept suitably spaced from the inner side bars of the frame, as will be most clearly seen in Fig. 2 of the drawings.

The forward end of the frame rests upon and is suitably connected with the front arch 7, the legs of which 7' are provided at their lower ends with outwardly extending spindles 8 upon which externally screw threaded sleeves 9 are supported for rotation, said revolving screws being equipped each with a worm gear 10, as best seen in Figs. 1 and 2. The outer ends of the spindles 8 are connected by means including inclined braces 11 with the rear part of the frame. Mounted upon the revolving screws 9 in engagement therewith are nuts 12 constituting boxes with which the bifurcated heads 13 at the front ends of the cultivator beams 14 are connected by vertically disposed pivots 15 to enable said beams to swing laterally in an approximately horizontal plane. Shafts 16, which are suitably supported adjacent to the sides of the frame, are provided adjacent to their rear ends with cranks 17 which are within convenient reach of the operator and whereby said shafts may be rotated. The shafts 16 are equipped with worms 18 meshing with the gears 10, which latter, by turning the shafts may be rotated, thus revolving the screws 9 and effecting lateral adjustment of the nuts or boxes 12 with which the front ends of the cultivator beams are connected. The screws 9 may be of any desired length to afford sufficient scope of adjustment, and the parts will be safely retained in adjusted position owing to the employment of worm gear, as described.

A bar or evener 19 is pivotally supported upon the underside of the tongue 4, and said evener is provided at the ends thereof with depending draft bars 20 the lower ends of which are connected with the ends of the spindles 8 by means including resilient draft links 21 of suitable well known construction which, when draft is applied to the bars 20, will yield to some extent so as to cause the draft to be transmitted to the cultivator gradually instead of with a sudden jerky motion.

The cultivator beams 14 are preferably of metallic tubular construction, and in their manufacture ordinary iron pipe of suitable

dimensions may be advantageously employed. Said beams are provided intermediate their ends with sleeves or castings 22 which are firmly secured thereon, said sleeves being formed with foot rests 23, and with hooks 24. The inner and outer side bars 1 and 5 at each side of the frame serve to support a longitudinally adjustable or movable base block 26 carrying a segment rack 27 upon which is fulcrumed a hand lever 28 having a stop member 29 engaging said rack. Said levers, there being one at each side of the machine, are connected with the hooks 24 of the sleeves 22 upon the beams 14 by means including flexible elements, such as chains 30 and springs 31, thus causing the beams to be supported from the levers 28 with some degree of resiliency, enabling the said cultivator beams to be tilted or adjusted in approximately vertical planes by means of the levers, the beams being capable of swinging vertically about the axes of the screws 9.

A seat supporting frame 32 is pivotally connected with clips or clamping devices 33 which are adjustably mounted upon the side bars 1 of the cultivator frame, said seat supporting frame including rearwardly extending side bars 34 carrying a housing 35 in which a shaft 36 having an operating crank 37 is supported for rotation, said shaft having a threaded portion 38 engaging a nut 39 extending downwardly from the seat 40 which is mounted slidably upon the housing 35 where it will be seen that said seat may be shifted or moved forwardly or rearwardly by simply turning the screw threaded shaft, thus disposing the seat at the most advantageous point for the operator. The operator in practice places his feet upon the foot rests 23, thus enabling him when occasion shall demand to depress the cultivator beams against the tension of the supporting springs 31 and also enabling the beams to be moved laterally if it shall be desired to do so while the machine is in operation.

The axle of the machine is composed of the cranks 41 provided at their lower ends with spindles upon which the wheels 42 are supported for rotation. The upper ends or arms 43 of the axle cranks are externally threaded, as clearly seen in Fig. 3, said threaded arms being revolubly supported in sleeves or bearings 44 upon the underside of the platform portion of the frame where said bearing members may be secured and mounted in any suitable and convenient manner. A sleeve 45 interposed between the bearing members 44 is right and left threaded internally for engagement with the screw threaded arms 43, and said sleeve is provided with an external wrench seat 46 to enable it to be conveniently rotated, thus moving the axle cranks inwardly or outwardly according to the direction of rotation, and

thereby regulating the distance between the supporting wheels 42, which latter may thus be spaced apart to suit the kind as well as the condition of growth of the crop that is to be operated upon. The axle cranks are provided with sand boxes or sleeves 47 to receive the inner ends of the hubs 48 of the transporting wheels, thus excluding sand and dirt; said sand boxes are connected by links or connecting rods 49 including turn buckles 50 with the downwardly extending arms 51 of a rock shaft 52 which is supported for oscillation in suitable bearings upon the frame of the machine. Said rock shaft is provided with a hand lever 53 having a stop member 54 adapted to engage a segment rack 55 which is suitably supported upon the frame of the machine for the purpose of retaining the axle cranks in any position to which they may be adjusted by the devices just described, thereby enabling the entire frame of the machine to be raised and lowered relatively to the supporting wheels.

Each plow beam carries at its rear end a frame or casing 60 wherein a standard 66 having a plow carrying foot 75 is vertically adjustable by simple means provided for the purpose. Means are also provided to permit the foot to swing rearwardly when obstructions are encountered, but as these parts are not herein claimed, they will not be described in detail. Beam spacing members 85 are also provided, the same being fulcrumed on a supporting member 86 and connected by links 89 with the T-head 90 of an adjusting lever 91.

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. It will be seen that the front ends of the cultivator beams are capable of independent adjustment laterally and that the intermediate portions of said cultivator beams may be spaced apart as may be desired. The entire frame of the machine may be raised or lowered with reference to the supporting wheels, and the latter may be spaced at various distances apart. The plow carrying standards may be adjusted axially so as to present the blades in such a manner as to throw the dirt in various directions. Vertical adjustment of the plow carrying standards may also be readily effected. The entire construction is simple, inexpensive and eminently suitable for the purposes for which it is intended.

Having thus described the invention, what is claimed as new, is:—

1. In a cultivator, a carrying frame, sleeves connected with the frame and constituting bearings, crank axles having screw threaded arms supported in the sleeves, said arms being respectively left and right

threaded, a left and right threaded sleeve disposed intermediate the bearing sleeves and engaging the threaded arms of the axle cranks, said sleeve having a wrench seat, transporting wheels upon the crank axles, and means for adjusting the crank axles and for supporting them in adjusted position to raise or lower the frame with relation to the transporting wheels.

2. In a cultivator, a carrying frame having bearing sleeves, crank axles having right and left threaded arms journaled in said sleeves, a threaded sleeve engaging the right and left threaded arms and having a wrench seat, a rock shaft supported upon the carrying frame and having arms, members connecting said arms with the crank axles, and means for oscillating the rock shaft and for securing it at various adjustments to adjust the crank axles.

3. In a cultivator, a carrying frame, a front arch connected therewith and having spindles, cultivator beams connected adjustably with the spindles, sleeves mounted upon the cultivator beams intermediate the ends thereof and having foot rests and upwardly extending hooks, base members supported upon the frame of the machine and having segment racks, levers pivoted upon the latter and having rack engaging catches, and flexible connecting members including springs connecting the levers with the hooks extending from the sleeves upon the cultivator beams.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES O. KENNEMER.

Witnesses:

W. F. KENNEMER,
R. H. JONES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."