

No. 752,746.

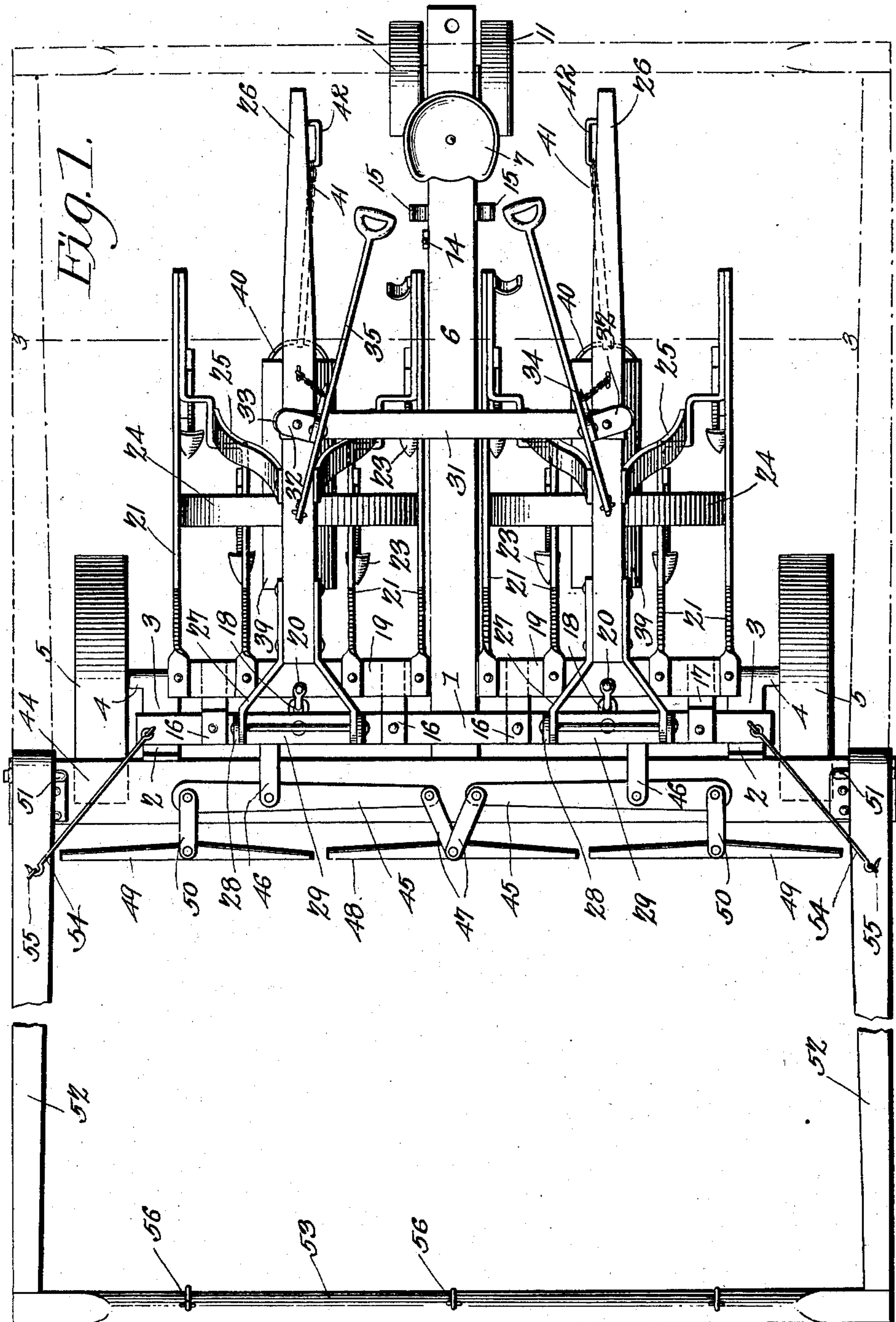
PATENTED FEB. 23, 1904.

S. M. ADAMS.
CULTIVATOR.

APPLICATION FILED APR. 16, 1903

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. C. Stewart
Wm. Baggett

Samuel M. Adams, Inventor:
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Attorneys

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2 SHEETS—SHEET 2

Fig. 2.

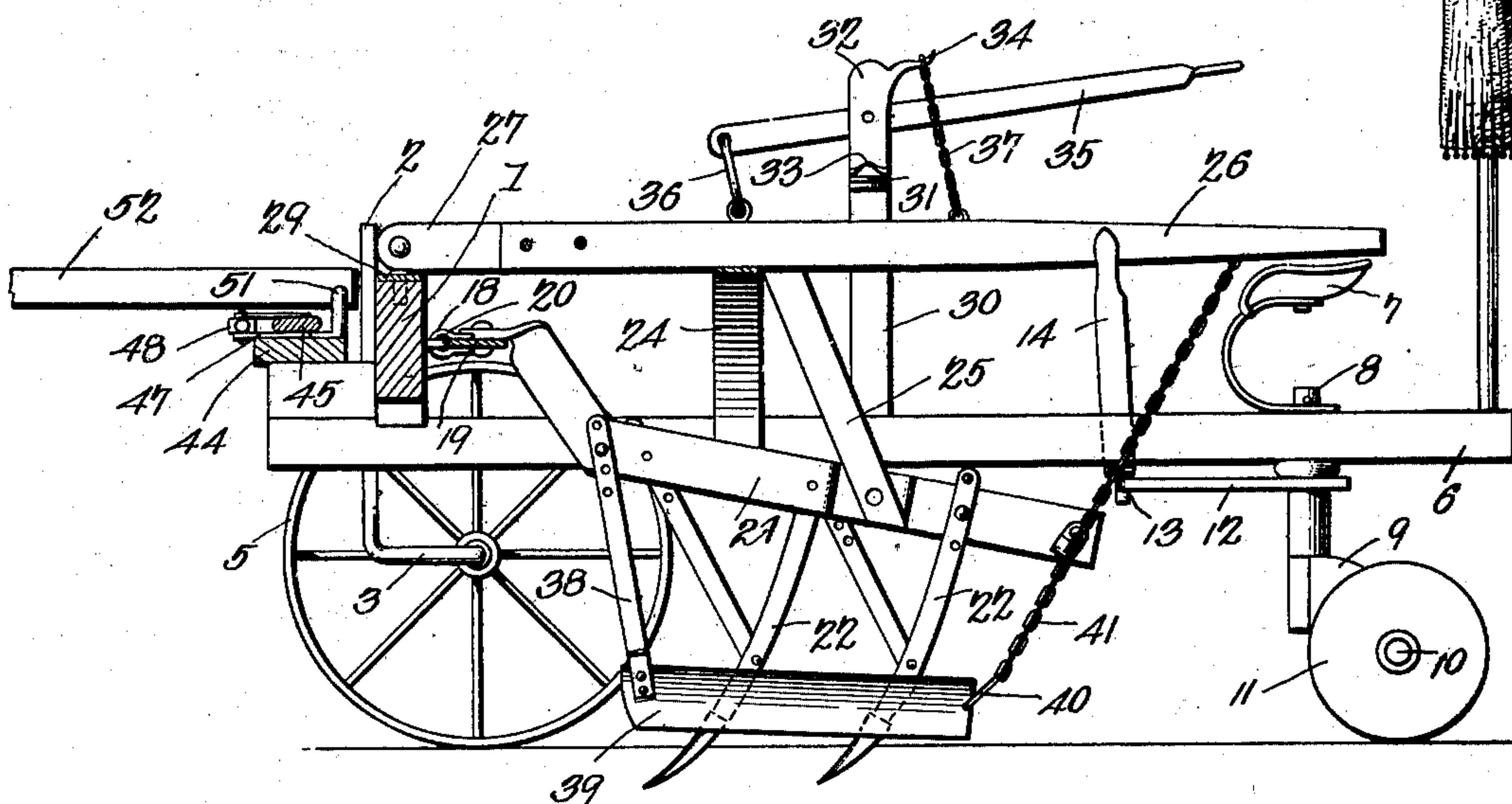
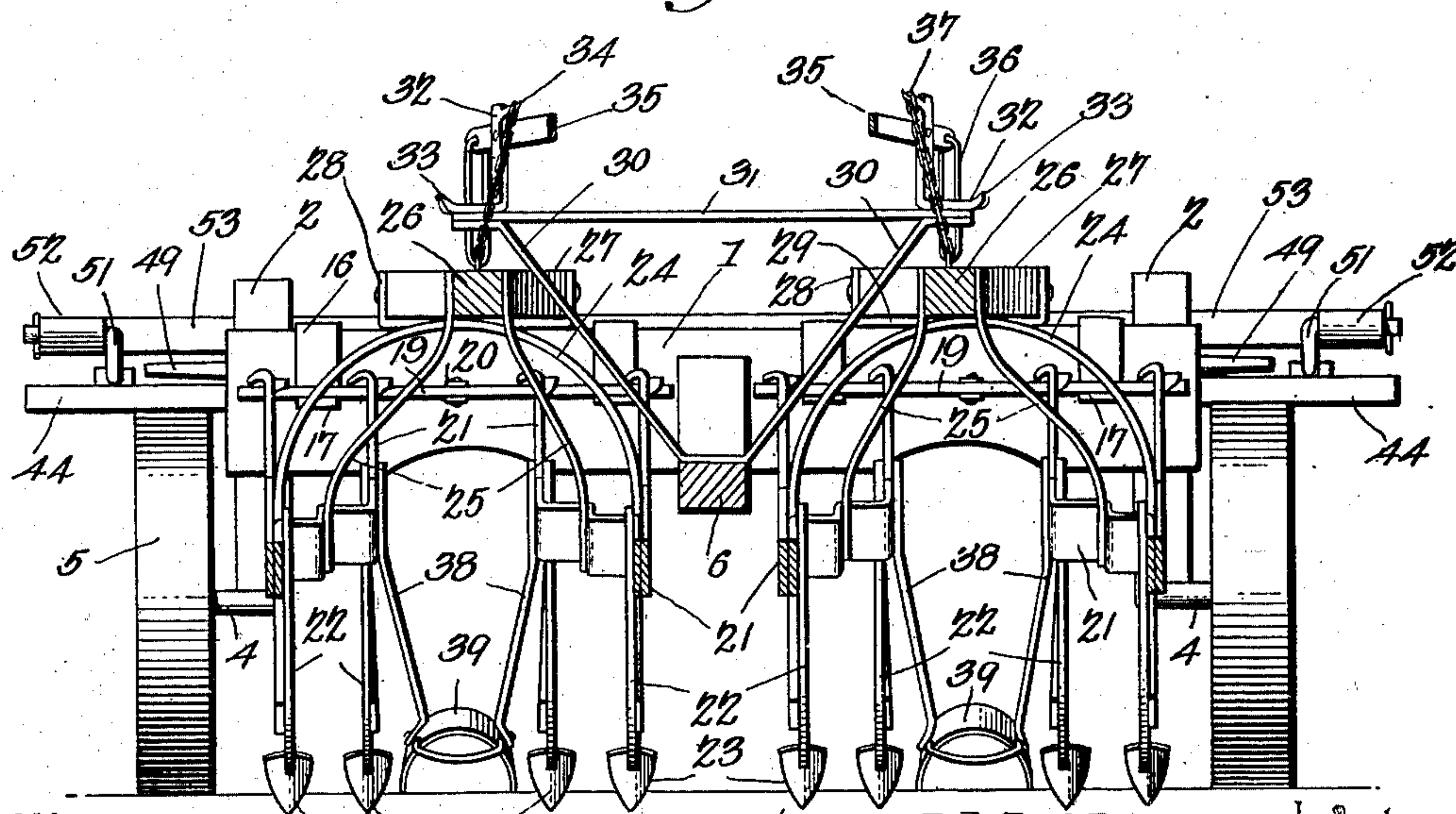


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL M. ADAMS, OF POWHATTAN, KANSAS.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 752,746, dated February 23, 1904.

Application filed April 16, 1903. Serial No. 152,941. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL M. ADAMS, a citizen of the United States, residing at Powhattan, in the county of Brown and State of Kansas, have invented a new and useful Cultivator, of which the following is a specification.

This invention relates to that class of cultivators in which two sets or gangs of cultivating implements are mounted in a single frame, and which consequently are known as "two-row cultivators." My invention contemplates improvements in this class of cultivators whereby draft shall be lessened, which shall enable them to be more conveniently handled, and which shall generally tend to produce a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these 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 a top plan view of a cultivator constructed in accordance with my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse sectional view taken on the line 3 3 in Fig. 1.

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

1 designates the main frame-beam, to the front side of which are secured a pair of vertical bars 2 2, the lower ends of which are bent rearwardly to form brackets 3 3, from which the spindles 4 extend in an outward direction, transporting-wheels 5 being mounted upon said spindles. Centrally to the under side of the main frame-beam is secured the rearwardly-extending longitudinal frame-beam 6, supporting near its rear end the seat 7. The frame-beam 6 is also provided with a vertical bearing for a shank 8, the lower end of which is bifurcated to form a yoke 9, the arms of which afford bearings for a shaft 10, upon the outer ends of which adjacent to the outer sides of the arms of the yoke are journaled trail-wheels or caster-wheels 11, which not only serve to support the rear end of the frame-beam 6, thereby maintaining the entire

frame in an approximately level position, but which also, owing to the swiveled condition of the shank 8, will readily adapt themselves to enable the machine to make a short turn at the end of the row.

Suitably secured upon the shank 8 is a forwardly-extending bracket 12, the front end of which has a notch 13, adapted to be engaged by a lever 14, which is fulcrumed to the side of the frame-beam 6 within reach of the driver. It will be observed that when the lever 14 engages the notches 13 the yoke carrying the caster-wheels may not turn, thus maintaining the said caster-wheels in a position to guide the machine straight in a forward direction. When it is desired to turn at the end of a row, the driver by simply releasing the lever 14 from the notch 13 will release the caster-wheels, enabling them to turn, as will be readily understood. When travel in a straight forward direction is resumed, the caster-wheels will naturally resume their proper position, and the lever may then readily be inserted into the notch 13 in order to retain the said wheels. Foot-rests 15 for the driver are secured to the sides of the beam 6.

Suitably mounted upon the front beam 1 are a plurality of flat hooks 16, provided at their lower ends with rearwardly-extending horizontal brackets 17. Two of these hooks are disposed on each side of the longitudinal beam 6. The main beam 1 is provided upon its rear side intermediately between the hooks of each pair with staples 18, with which draft-bars 19 are hingedly connected by means of clevises 20, the ends of said draft-bars being supported upon the shelves or brackets 17, whereby their ends are supported at the same elevation, while a limited swinging movement in a horizontal plane is permitted to said draft-bars, owing to the fact that the ends of said draft-bars are supported upon the brackets 19, while the side draft-bars 6 are connected by means of clevises to the rear side of the draft-beam. To the ends of the latter are secured the cultivator-beams 21, which are preferably constructed of iron in any suitable approved manner and which are provided with suitably-braced standards 22, carrying the cultivator-blades 23. Each beam may be equipped with

any desired number of these blade-carrying standards, as will be readily understood. The beams of each pair are connected by means of an arch 24 and braces 25 with a longitudinal operating-bar 26, the front end of which is provided with diverging arms 27, pivotally connected with the upwardly-extending arms 28 of the yoke 29, which is mounted pivotally upon the upper side of the main frame-beam 1. It will thus be seen that the operating-bars 26 are capable of swinging in a horizontal plane and that they are thereby enabled to adjust likewise in a horizontal plane the cultivator-beams, which, as described, are connected with the draw-bars 19, which are flexibly connected with the rear side of the main frame-beam. It will be further seen that by means of these operating-bars 26 the cultivator-beams may be raised or elevated out of the ground, the connections between the bars 26 and the main frame-beam, as well as between the latter and the draw-bars carrying the cultivator-beams, being of a nature to admit of such adjustment.

Suitably mounted upon the longitudinal frame-beam 6 are a pair of upwardly-extending divergent brackets 30, supporting at their upper ends a cross-bar 31. The latter supports at the ends thereof a pair of L-shaped brackets 32, the horizontal portions or bases of which have slightly upturned ends 33. These L-shaped brackets are also provided with rearwardly-extending hooks 34, and to the sides of said brackets are fulcrumed a pair of hand-levers 35, the rear ends of which extend within convenient reach of the driver. The L-shaped brackets 32 are connected pivotally with the cross-bar 31 and the front ends of the hand-levers 35 are connected by means of links 36 with the operating-bars 26, which may thus be manipulated by means of said hand-levers. The latter are provided with adjusting-chains 37, adapted to engage the hooks 34, which thereby serve to support the cultivator-gangs at any desired elevation, thereby permitting them to engage the ground at any desired depth. When it is desired to place the cultivator-gangs in inoperative position for the purpose of transporting the machine from one place to another, the operating-bars 26 are bodily raised and supported upon the bases of the L-shaped brackets 32, the upturned ends 33 preventing their accidental displacement from such supported position.

The inner sides of the cultivator-beams 21 are provided near their front ends with downwardly-extending arms or links 38, which are preferably so disposed as to be vertically adjustable and which are connected with the front ends of curved or approximately semi-cylindrical shields 39, which are used as a protection for young plants when necessary, said shields preventing clods or large quantities of earth from being thrown upon such plants

with injurious effect. While these shields are intended to ride upon the surface of the ground, it is evident that more or less of the dirt will adhere to the same, and to provide for the removal of such without the necessity of the driver leaving his seat I provide the rear ends of said shields with bails 40, which are connected by means of chains 41 with eyes or staples 42 near the rear ends of the operating-bars 26. These chains are within convenient reach of the driver, who by simply grasping the said chains and suddenly and forcefully jerking the rear ends of the shields in an upward direction will be enabled to dislodge the dirt adhering to said shields, without dismounting.

The front end of the longitudinal frame-beam 6, in conjunction with the brackets 3, mounted upon the front side of the main frame-beam 1, serves to support a draft-bar 44, upon which is mounted a tripletree comprising levers 45, pivotally mounted upon the draft-bar and connected at their fulcrums with the main frame-beam 1 by means of straps 46, whereby the construction is greatly strengthened. The inner ends of the levers 45 are connected by means of links 47, with the front ends of which the central swingletree 48 is pivotally connected. The outer swingletrees 49 are pivotally connected with the outer ends of the levers 45 by means of links 50 of the usual construction. The draft-bar 44 is provided near the ends thereof with upwardly and outwardly extending hook members 51, upon which are pivotally mounted the side members 52 of a frame composed of said side members and of a cross member 53, connecting the ends of the same. This swinging frame may be supported when the machine is not in operation upon the rear end of the longitudinal beam 6 by swinging it back to the position shown in dotted lines in Fig. 1; but when the machine is in operation it is raised from this position and thrown in a forward direction until the side beams 52 extend forwardly from the machine. In this position the frame is supported by means of hooks 54, connected pivotally with the main frame-beam 1 and adapted to engage staples 55 upon the side frame-beams 52. The cross-bar 53 of this swinging frame is provided with hooks or staples 56, with which the breast-collars of the horses hitched to the machine are to be suitably connected. The front end of the swinging frame being thus upheld there will not only be no strain involved upon the main frame of the machine structure, but the said frame will rather act in the nature of a counterweight, whereby the strain upon the working parts of the machine is very much reduced and the draft consequently lessened.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of my invention will be readily understood. When the ma-

chine progresses over the field, the cultivator gangs may be guided not only by means of the operating-bars and the hand-levers, but also by means of stirrups or foot-pieces shown upon the rear ends of the inner cultivator-beams. The driver is enabled by the means herein described to perfectly control the cultivator-gangs and to guide them as closely as may be desired to the growing plants, while the shields herein described will effectually prevent injury to the young crop. By means of the swinging frame the draft-animals are to some extent guided and uneven or injurious strain, resulting in loss of power, is at all times avoided.

The general construction and arrangement of parts is simple, and a machine of my improved pattern, while capable of doing an increased quantity of work and to perform the same in the best possible manner, is capable of being manufactured at a comparatively moderate expense.

I have in the foregoing described what I consider to be a simple and preferred form of my invention; but I desire it to be understood that I do not limit myself with regard to the structural details of the same, but reserve the right to any changes, alterations, and modifications which may be resorted to within the scope of my invention and without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim--

1. A cultivator-frame comprising a transverse frame-beam, vertical bars mounted upon the front side of the same provided at their lower ends with rearwardly-extending brackets having outwardly-extending spindles, wheels upon said spindles, a longitudinal frame-bar connected directly with and extending rearwardly from the main frame-bar near the center of the latter, and rotary supporting means for the rear end of said longitudinal frame-bar.

2. In a machine of the class described, a wheel-supported main frame-beam, a longitudinal frame-beam extending rearwardly from the latter, hooked supporting elements mounted upon the main frame-beam and having rearwardly-extending brackets, draw-bars connected hingedly with the rear side of the main frame-beam and supported upon said brackets, cultivator-beams connected with said draw-bars, operating-bars connected with the upper side of the main frame-beam, connecting means between said operating-bars and the cultivator-beams, and means for manipulating said operating-bars.

3. In a machine of the class described, a wheel-supported transverse main frame-beam, a longitudinal frame-beam extending rearwardly from said main frame-beam, rotary supporting means for the rear end of said longitudinal beam, cultivator-gangs connected

with the rear side of the main frame-beam, yokes swiveled upon the latter, operating-bars having divergent arms hingedly connected with the arms of said yokes, connecting means between the operating-bars and the cultivator-beams, upwardly-diverging brackets upon the upper side of the longitudinal frame-beam, a cross-bar connecting said brackets, L-shaped brackets swiveled upon said cross-bar, the bases of said L-shaped brackets being provided with upturned outer ends, hand-levers fulcrumed to said L-shaped brackets, and links connecting said hand-levers with the operating-bars.

4. In a machine of the class described, the combination with a frame comprising a transverse front beam and a longitudinal center beam, of cultivator-gangs connected with the front beam on each side of the center beam, operating-bars for said cultivator-gangs, supporting means upon the upper side of the longitudinal frame-beam, L-shaped brackets pivoted upon said supporting means and having rearwardly-extending hooks, hand-levers pivotally connected with said L-shaped brackets, links connecting the front ends of said hand-levers with the operating-bars of the cultivator-gangs, and chains connected with said operating-bars and adapted for adjustable connection with the rearwardly-extending hooks of the L-shaped brackets.

5. In a machine of the class described, the combination of a frame comprising mainly a wheel-supported transverse front beam and a longitudinal rearwardly-extending center beam, rotary supporting means for the rear end of the latter, cultivator-gangs hitched to the front beam on each side of the center beam, means for manipulating said cultivator-gangs, and a frame comprising side pieces hingedly connected at the ends of the draft-bar and a cross-bar firmly connecting the free ends of said side bars and adapted to rest upon the rear end of the longitudinal frame-beam.

6. In a machine of the class described, the combination of a frame comprising mainly a transverse wheel-supported front beam and a longitudinal center beam extending rearwardly from the same, rotary supporting means for the rear end of said center beam, a draft-bar supported upon the front side of the front beam, hooked supporting means at the ends of the draft-bar, a frame comprising side pieces mounted pivotally upon said supporting means, and a cross-bar connecting the free ends of said side pieces, supporting-hooks connected with the ends of the main frame-bar, and staples upon the side bars of the hinged frame adapted to be engaged by the said hooks.

7. In a machine of the class described, the combination with the main frame of an auxiliary frame hingedly connected with the front part of said main frame, and means for sup-

porting said auxiliary frame approximately horizontally in a forwardly-extended position.

8. In a machine of the class described, the combination with the main frame of an auxiliary frame hingedly associated with the front
5 part of said main frame and adapted to be swung rearwardly and to be supported upon the latter.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
the presence of two witnesses. 10

SAMUEL M. ADAMS.

Witnesses:

CHARLES H. SIMMONS,
GEORGE C. RIFE.