

No. 885,983.

PATENTED APR. 28, 1908.

W. A. DEWBERRY.
CULTIVATOR.

APPLICATION FILED APR. 25, 1907.

3 SHEETS—SHEET 1.

FIG. 1.

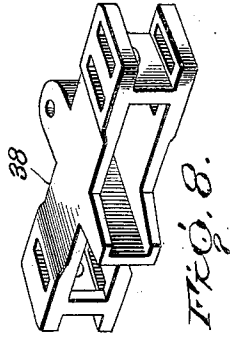
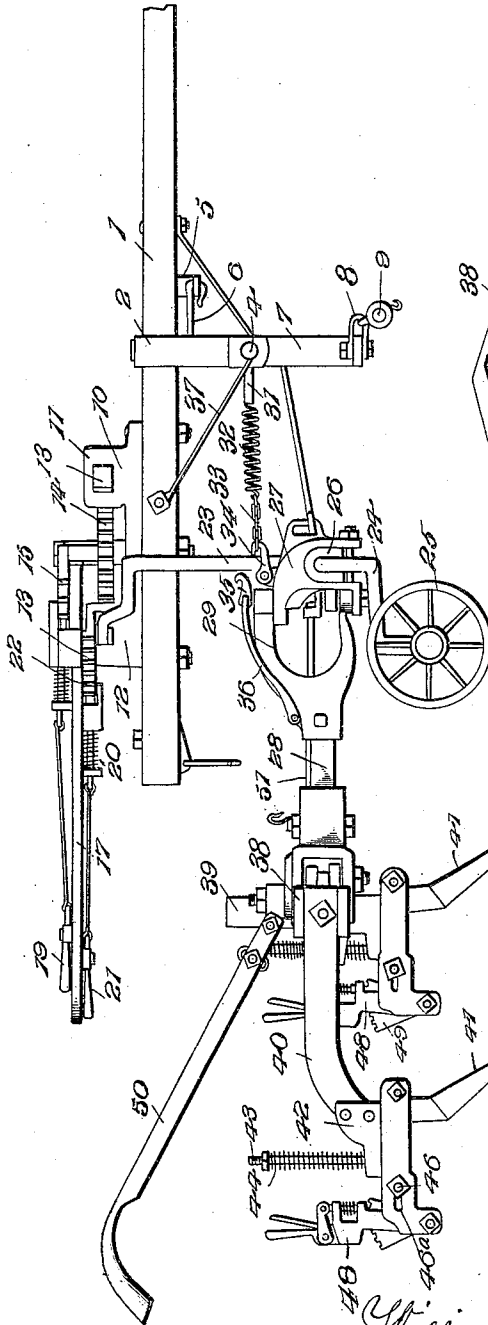


FIG. 8.

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3 SHEETS—SHEET 2.

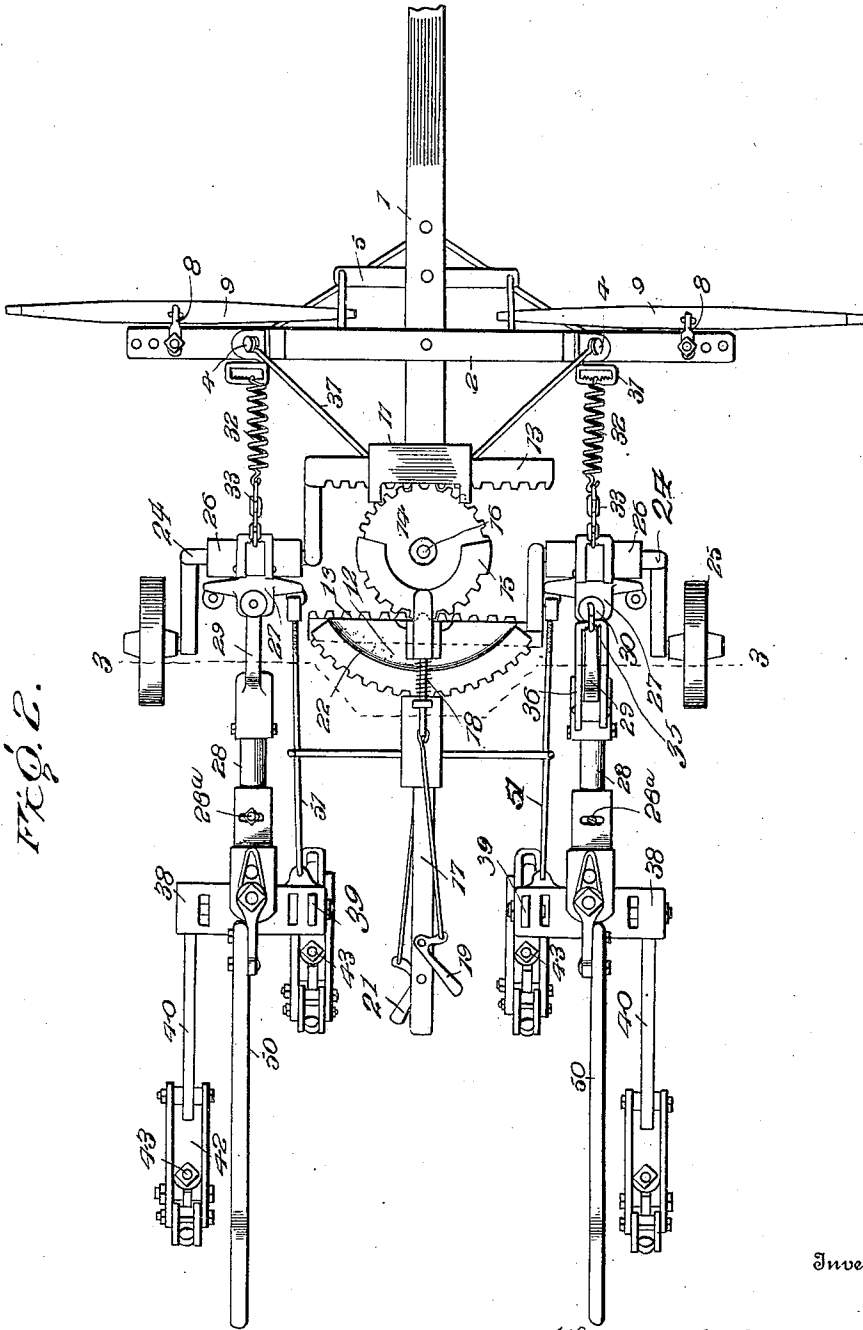


FIG. 2.

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3 SHEETS—SHEET 3.

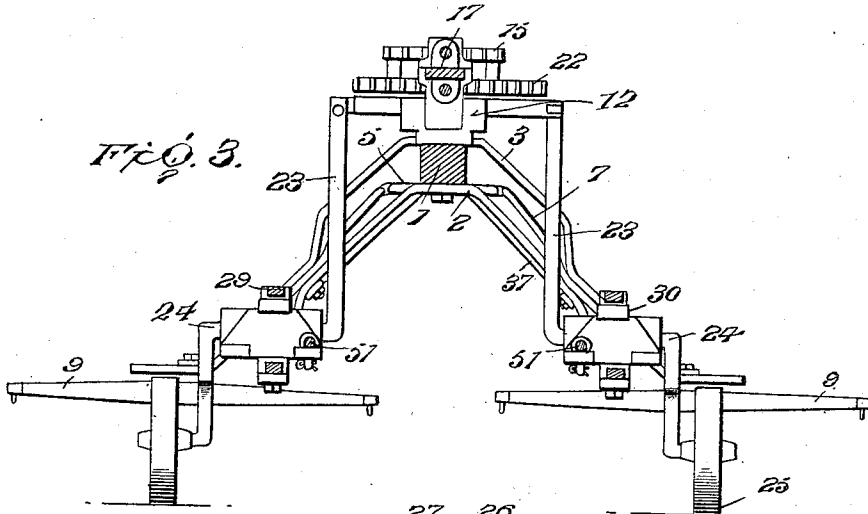


FIG. 3.

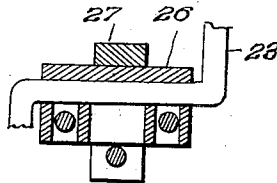


FIG. 6.

FIG. 4.

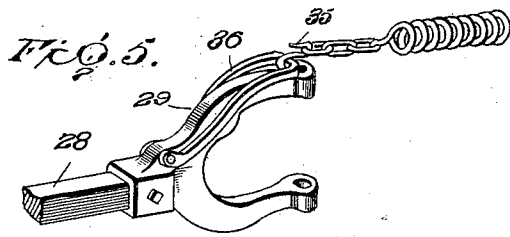
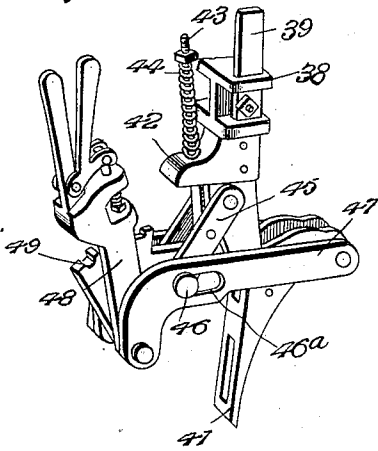


FIG. 5.

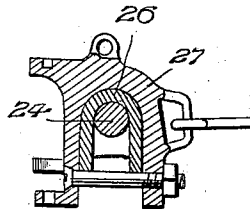


FIG. 7.

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UNITED STATES PATENT OFFICE.

WILLIAM A. DEWBERRY, OF CENTER HILL, ARKANSAS.

CULTIVATOR.

No. 885,983.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed April 25, 1907. Serial No. 370,252.

To all whom it may concern:

Be it known that I, WILLIAM A. DEWBERRY, a citizen of the United States, residing at Center Hill, in the county of White and State of Arkansas, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention embodies novel improvements in that type of agricultural implements commonly called walking cultivators.

The invention involves a peculiar arrangement of the parts of the implement, including a plurality of beams to which are attached the plows or cultivating shovels, special mechanism being employed to admit of adjustment of said beams relatively to one another, admit of movement of the beams and the plow elements carried thereby in such a manner that the latter will readily follow a crooked furrow, and various other mechanically advantageous features are included in the invention as will appear more fully as this description proceeds.

For a detailed description of the parts of the invention, reference is to be had to the accompanying drawings in which:

Figure 1 is a side elevation of a cultivator embodying the invention; Fig. 2 is a top plan view; Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 2 looking forwardly; Fig. 4 is a detail perspective view showing one of the plows or cultivating shovels and the adjusting mechanism therefor; Fig. 5 is a fragmentary view showing the front end portion of one of the longitudinal beams and the elastic draft connection therewith; Fig. 6 is a detail vertical sectional view bringing out more clearly the connecting means between the vertical standards or supporting members and the saddles with which the front ends of the beams are attached; Fig. 7 is a view in section of the members shown in Fig. 6, the section being taken at a right angle to that illustrated in Fig. 6; and Fig. 8 is a detail view bringing out more clearly the construction of the head block carried at the rear end of each beam.

In the following description and the accompanying drawings, like reference characters refer to like parts throughout.

In general features of construction, the

present invention is somewhat similar to cultivators now commonly in use, including in its organization a suitable draft tongue 1 to which is attached a transverse draft bar 2 of arch form, said draft bar being secured to the tongue at its central portion and underneath the same, a reinforcing strap 3 passing over the tongue and having its ends secured to the arch bar 2 by bolts 4. Pivoted between its ends to the tongue 1 in front of the bar 2 is an equalizing lever 5 the ends of which are connected by links 6 with draft levers 7 pivoted between the ends thereof to the members 2 and 3 by means of the bolts or fastenings 4. The outer end portions of the levers 7 are formed with a plurality of openings to admit of adjustable connection of suitable clevises 8 which are used to connect swingle-trees 9 with the implement.

Attached rigidly to the rear end portion of the tongue 1 is a plate 10 which is provided with transverse boxings 11 and 12. The boxings 11 and 12 receive transversely slidable rack bars 13 which bars are formed with teeth upon adjacent sides, a horizontally arranged gear or pinion 14 having its teeth in mesh with those of the bars 13. The pinion 14 is formed with an integral toothed segment 15 and said pinion is mounted upon a suitable attaching bolt or member 16 which constitutes its axis.

It will be apparent that by rotating the pinion 14, the bars 13 will be moved inwardly or outwardly relative to the tongue 1. To effect said movement or rotation of the pinion 14 a lever 17 is employed, said lever being pivoted to the member 16 and being provided with a suitable hand operable latch 18 of common form adapted to engage the segment 15 to connect the lever operably with the pinion 14 for actuation of the latter. A small hand piece 19 connects with the latch member 18. To lock the pinion 14 from movement, and thereby hold the bars 13 at a desired adjustment, the lever 17 is provided with an auxiliary latch member 20 operable by hand piece 21 and adapted to engage a toothed segment plate 22 formed with the rear end portion of the plate 10. When the member 20 is in engagement with the member 22, the lever 17 is locked from movement in either direction.

Attached to the outer end of each bar 13 is a depending vertical supporting member or standard 23, the lower extremity of which

is provided with a lateral arm 24, the outer end of which arm is bent downwardly and rearwardly and formed with a stub axle upon which a ground wheel 25 is mounted. A saddle member 26 straddles the offstanding arm 24 of each standard 23 and is substantially attached thereto by suitable fastenings. Coupling members 27 embodying spaced sides receiving the saddle member 26 are mounted on the latter. Each coupling member 27 constitutes an element of a coupling by which a longitudinal beam 28 is connected with the standard 23 adjacent. To the front end of each beam 28 is secured a bifurcated coupling member 29, the bifurcate portions of the member 29 being pivotally connected at 30 with rearwardly projecting portions of the member 27. The pivotal fastenings 30 may be of any suitable type.

Attached by the members 4 to the strap 3 and bar 2 are the plates 31 formed with transverse slots the rear sides of which are toothed. The toothed sides of the slots of the plates 31 permit of lateral adjustment of the front extremities of springs 32 to the rear ends of which are attached chains 33, the parts 32 and 33 comprising an elastic connection between the draft bar 2 and the coupling including the members 29 and 27. The chain 33 may be connected with the hook 34 on the member 27, or with a hook 35 adjustable laterally of the front extremity of a pivoted stirrup 36 which is attached to the member 29, as shown clearly in Fig. 5 of the drawing. Suitable brace rods 37 connect the tongue 1 with the bar 2 and strap 3.

At the rear end of each beam 28 is pivotally mounted a head block 38 to which are attached vertical bars 39 and horizontal bars 40, which carry the plows or shovels 41. The specific construction of the head blocks 38 is not set forth herein as the same may be modified in various ways. The lower end of each bar 39 and the rear end of each bar 40 is curved and upon the curved portion is pivoted the plow or shovel 41. Projecting rearwardly from each of the members 39 and 40 is an extension 42 through which passes a vertical bolt 43 upon the upper portion of which is mounted a coiled spring 44 which bears at its lower end against the top of the extension. The lower portion of each member 43 passes through the extension 42 and is connected with spaced links 45, the upper ends of which are pivoted to the bar 39, and the lower ends of which are similarly connected by a transverse member 46 with spaced plates 47 embracing the curved portion of the bar 39 or 40 at opposite sides of the latter. The ends of the member 46 are mounted for sliding movement in the slots 46^a of the plates 47. By suitable adjustment of a lever 48 pivoted to the rear ends of the plate 47, the member 46 may be moved forwardly or rearwardly

in the slots 46^a and such movement will change the pitch of the shovel or plow 41 so that the latter may be adjusted according to the necessities arising under actual conditions of service. The lever 48 is operably connected with the member 46 by a plate 49 notched at its rear portion so as to be engaged by suitable latch mechanism on the said lever 48. The provision of the spring connection 44 permits the shovel or plow 41 to yield to a certain extent should it strike an obstruction, as the implement is advanced over a field. To the top portion of each head block 38 is pivotally attached a suitable handle 50 which may be adjusted laterally and vertically in any preferred manner and by suitable means illustrated.

From the foregoing, it will be observed that the plows or shovels 41 are carried by beams which are free to swing laterally, by reason of the pivotal connection 30, and said plows will therefore readily follow a crooked furrow, various other advantages being secured by the arrangement and construction of the above mentioned parts, together with the connections applied thereto.

The mounting of the supporting members 23 admits of lateral adjustment of the beams to vary the relative arrangement of the cultivating shovels according to the desires of the operator of the implement.

The elastic connections 32 may be adjusted furthermore, transversely of the implement, to accommodate for the lateral adjustment of the members 23. The said connections 32 may be also connected with the beams 28 so that said connections will receive a greater or less amount of the draft and will tend to direct the movement of the shovels or plows.

The provision of the equalizing mechanism including the lever 5 and the levers 7 is obviously advantageous, making the draft on the implement constant though one of the draft animals attached to the tongue 1 may walk slower than the other.

Suitable rods 51 pivotally connect the members 27 with the head blocks 38 and prevent the head blocks from assuming any other than transverse positions relatively to the beams 28, though admitting of the desired pivotal movement of the said head blocks.

It is to be understood that I am not limited to the exact construction of parts described and illustrated as hereinbefore set forth and that the construction of said parts as well as the arrangement thereof may be modified in accordance with the broad scope of the invention as defined in the following claims.

The head-block 38 is so connected with the beam 28, at the point indicated 28^a, as to admit of adjustment of said head-block in a vertical plane, by loosening the bolt at the

rear end of the beam 28, whereby the shovels or plows carried by the head-block may be adjusted at any desired angle, either to the right or left. This permits of variation in the throw of the shovels, in an evident manner.

It will be apparent that the provision of the spaced plates 47, lever 48, and the co-operating plate 49 is very advantageous, as these parts may be actuated or adjusted to vary the pitch or depth of cutting action of the shovels 41, the adjusting operation being accomplished without the necessity of use of a wrench or any tool. The adjustment of the lever 48 rigidly holds the several parts in proper position. This feature of my invention is of course applicable to riding or walking cultivators referring more particularly to the adjusting mechanism for the shovels 41.

One feature of construction of the head-blocks 38 is important, each containing an extra vertical slot by means of which the vertical bar 39 may be changed to either of opposite ends of the block for plowing middles without having to change beams.

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

1. In an implement of the class described, and in combination with supporting means, laterally adjustable standards mounted thereon, said standards being formed with lateral arms near the lower ends thereof and being provided with stub axles, at the lower extremities, ground wheels mounted upon stub axles spaced longitudinal beams, saddle members straddling the arms of the standards, couplings attached to said saddle members and pivotally connecting the longitudinal beams thereto for lateral movement and admitting of vertical movement of said beams, and shovels carried by the beams.

2. In an implement of the character described, the combination of supporting means, transversely adjustable rack bars, standards on said bars, each standard having its lower end extending outwardly to form an arm and thence downwardly and provided with a stub axle, ground wheels mounted upon the stub axles, longitudinal beams, shovels carried by said beams, saddle members straddling the arms of the standards, couplings connecting the beams with the standards and comprising a coupling member receiving the saddle member, means securing said coupling member to the saddle member and preventing displacement of these members from the standard, and a second coupling member secured to the front end of each beam and having a vertical pivotal connection with the first mentioned coupling member of the coupling, said coupling permitting both lateral and vertical movement of the beam substantially as described.

3. In an implement of the class described,

the combination of a supporting framework, spaced vertical standards mounted thereon, means for adjusting said standards lateral, ground wheels applied to the lower ends of the standards, spaced longitudinal beams, shovels carried by said beams, couplings connecting the beams with the standards intermediate of the ends of the latter, and permitting vertical and lateral movement of the beams, a tongue, a draft bar mounted thereon, and yielding connections between said draft bar and the couplings whereby the beams are attached to the bar.

4. In an implement of the class described, the combination of a tongue, laterally adjustable depending standards mounted thereon, beams pivotally connected at their front ends with said standards for free lateral movement, cultivating shovels applied to said beams, handles connected with the beams as specified, a transverse draft bar applied to the tongue, and elastic connections between said draft bar and the beams.

5. In an implement of the class described, the combination of a supporting framework, spaced vertical standards mounted thereon, means for adjusting said standards, ground wheels applied to the lower ends of the standards, spaced longitudinal beams, shovels carried by said beams, couplings connecting the beams with the standards intermediate of the ends of the latter, and permitting vertical and lateral movement of the beams, a tongue, a draft bar mounted thereon, yielding connections between said draft bar and the couplings whereby the beams are attached to the bar, means for adjustably connecting the rear ends of the yielding connections with the couplings aforesaid, and means admitting of lateral adjustment of the points of connection of the yielding elements above mentioned with the draft member.

6. In an implement of the class described, the combination of a tongue, a draft bar attached transversely thereof, swingle-trees having laterally adjustable connections with the draft bar, spaced beams, means connecting said beams to the tongue and admitting of lateral adjustment thereof relative to one another, shovels carried by said beams, and laterally adjustable connections between the beams and the draft bar.

7. In an implement of the class described, the combination of a supporting framework, spaced vertical standards mounted thereon, spaced longitudinal beams pivotally connected at the front ends thereof with the standards, head blocks pivoted to the rear ends of the beams, shovels carried by said head blocks, and independent pin and slot connections between the head blocks and the beams permitting of pivotal movement of said head blocks, and means connecting the blocks with the standards

for holding said blocks at a predetermined adjustment.

8. In an implement of the class described, cultivating means including a supporting bar embodying an extension, spaced plates at the lower end of said bar, a shovel pivoted to the forward extremities of said plates, a pivotal connection between the intermediate portion of said shovel and the supporting bar, links slidably connected at the lower ends thereof with the spaced plates, and pivotally connected with the upper ends thereof with the supporting bar, and a yielding connection between said links and the extension aforesaid.

9. In an implement of the class described, cultivating means including a supporting bar embodying an extension, spaced plates at the lower end of said bar, a shovel pivoted to the forward extremities of said plates, a pivotal connection between the intermediate portion of said shovel and the supporting bar, links, a member mounted transversely relative to the plates and slidably longitudinally thereof and connected with the lower ends of the links, a pivotal connection between the upper ends of the links and the supporting bar, a yielding connection between the extension and the intermediate portions of the links, and means for

adjusting the position of the transverse slidable member carried by the plates.

10. In an implement of the class described, cultivating means including a supporting bar embodying an extension, spaced plates at the lower end of said bar, a shovel pivoted to the forward extremities of said plates, a pivotal connection between the intermediate portion of said shovel and the supporting bar, links pivotally connected at the upper ends thereof with the supporting bar, a rod connected with the intermediate portions of said links, a spring connected with said rod and engaging the extension aforesaid to permit yielding movement of the shovel, a transverse member extending across the space between the plates and having sliding connection with the latter, a lever pivotally mounted upon the plates and operable to adjust the position of the shovel, and means for holding said lever at a predetermined adjustment.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. DEWBERRY.

Witnesses:

OLIVER MITCHELL,
FRANK F. DEWBERRY.