2 Sheets--Sheet 1.

C. H. WATSON.

Improvement in Cultivators.

No. 128,685. Patented July 2, 1872.

Fig. 1.

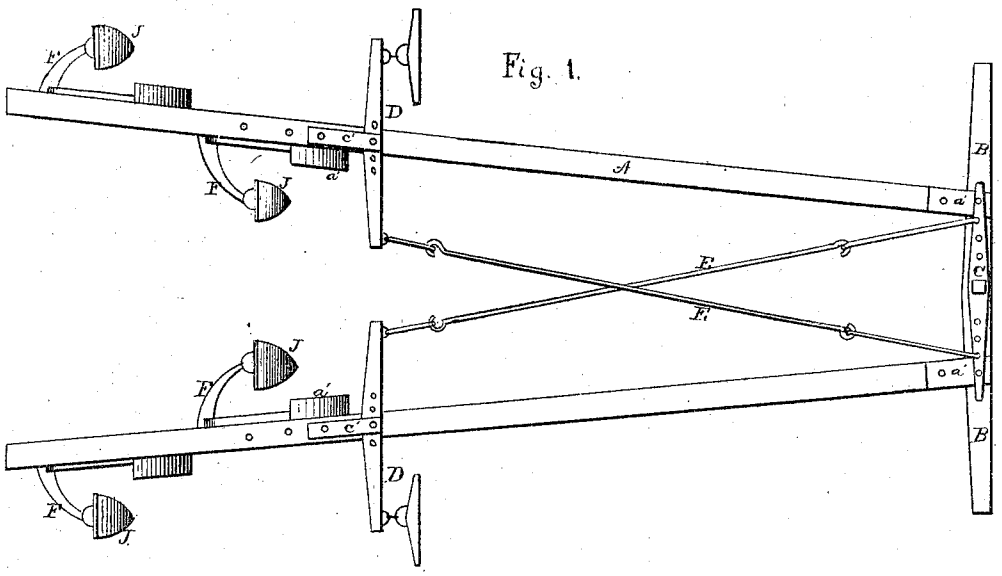
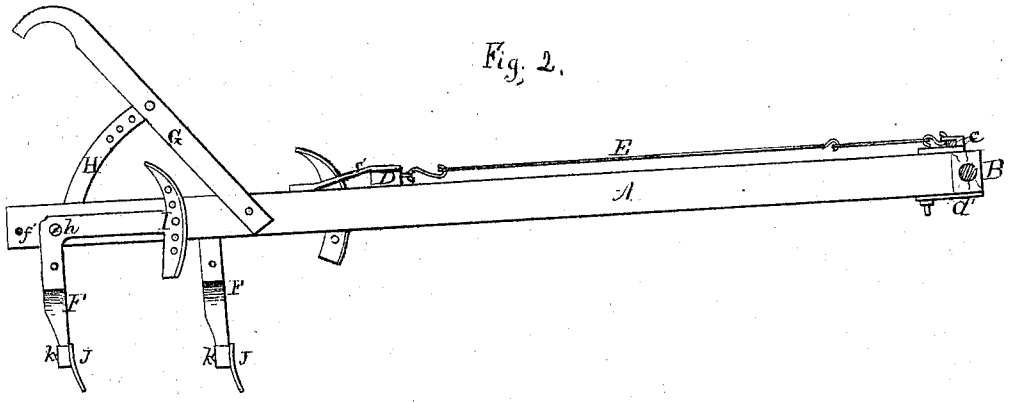


Fig. 2.



Witnesses:

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2 Sheets--Sheet 2.

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Fig. 3.

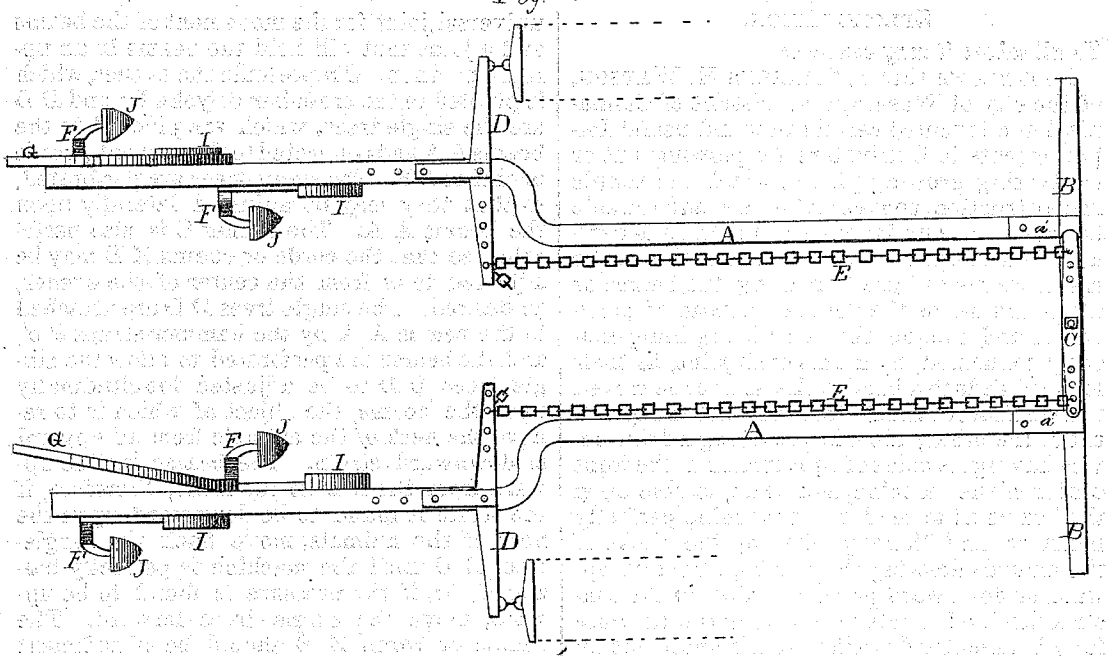
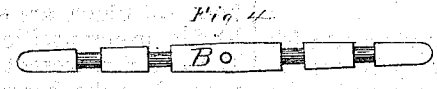


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES H. WATSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 128,685, dated July 2, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, CHARLES H. WATSON, of the city of Washington, District of Columbia, have invented certain new and useful Improvements in Cultivators for plowing out or cultivating growing plants, which are simple in construction, convenient in use, and reliable in operation; and it consists in a "new departure" from the principle and construction of the machines now in use in making the beams or drag-bars serve the double purpose of plow-beams and tongue, the same being independently connected, by a universal joint, at their forward ends to a bar or yoke, so as to be moved in a vertical or lateral direction, each independent of the other; also, in providing a draft device having its point of equilibrium at the front center of the machine, and so adjustable upon the beams as to render the machine perfectly balanced, and thereby relieving the necks of the animals drawing the machine from all upward or downward pressure; also, in the construction and combination of parts, as more fully hereinafter described and pointed out by the claims; and I do hereby declare that the following is a full, clear, and exact description of the same, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a plan view of an implement with the handles removed embodying my invention. Fig. 2 is a side elevation of the same with the handles attached. Fig. 3 is a plan view, showing a modification of Fig. 1; and Fig. 4 is a view of the front bar or neck-yoke detached from the implement.

Like letters indicate like parts.

A A represent the beams, which may be of wood, iron piping, or other suitable material, and may be straight, or bent in the form shown in Fig. 3, as desired. These beams are attached to a cross-bar or yoke, B, in front by straps a' a', said straps turning freely upon suitable bearings formed upon the cross-bar or yoke, which allows the beams to be moved in a vertical direction, and the beams being pivoted to the straps by a single pin in each beam and strap affords means by which the beams may be moved in a lateral direction, thus providing a universal joint for the movement of the beams and a joint that will hold the beams in an upright position. C represents the evener, which is pivoted to the cross-bar or yoke B; and D D are the single-trees, which are pivoted to the beams A A and connected to the evener by cords or chains E E. The single-trees are perforated, so that they may be adjusted laterally upon the beams A A. The evener C is also perforated, so that the cords or chains E E may be adjusted to or from the center of the evener, as desired. The single-trees D D are attached to the beams A A by the hammer-straps c' c', and the beams are perforated to allow the single-trees D D to be adjusted longitudinally upon the beams, the object of which is to relieve the neck of the animals from all upward or downward strain. The beams incline upward from the rear to the front; therefore, if the strain is found to be downward upon the neck of the animals, move back the single-trees D D until the machine is perfectly balanced; or, if the pressure is found to be upward, move the single-trees forward. The chains or cords E E should be of sufficient length to allow the single-trees to admit of the adjustment by being taken up or lengthened, as required. The cross-bar or yoke B is provided with a series of bearings for the straps a' a', so that the beams may be adjusted to or from each other, as desired. G G represent handles, which are secured to the beams and held in proper position by the adjustable braces H H. F F represent the standards, which are pivoted to the beams by bolt *h*. One end of each of said standards is provided with heads or runners I I, which are perforated to allow the inclination of the shovels to be adjusted. Said standards are made to be reversed, so as to bring the heads or runners upon the ground when moving the implement to or from the field. Said standards are also of my invention, but not claimed in this application. The form of beams shown in Fig. 3 may be found the most desirable, as the draft is in straight lines at all times with the shovels or plows, and as the beams occupy a parallel position to the line of direction and the animals the draft will be lighter than with the diverging beams shown in Fig. 1; and the cords or chains occupy such a position as not to come in contact with the growing plants; nor will the beams be as lia-

ble to touch the animals drawing the implement.

The advantage of my invention over all other implements in use is: More simple in construction; lighter draft; fewer parts and less liable to get out of repair; less expensive. The beams being long the leverage is greater; therefore the operator can move them more easily at their rear ends by the handles and by a slight movement of the forward ends of the beams. The rear ends thereof inscribe a larger arc than can be done by short beams. The draft is from a lower point than upon wheeled implements, making it easier for the team, and by bending the outer ends of the single-trees downward the draft may be from as low a point as desired, and having no wheels nor heavy frame the operator can readily raise the rear ends of the beams by the handles and swing the implement around in the corners of fences and at the ends of the rows of plants without injury to the plants.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The bent beams A A, as shown in Fig. 3, as and for the purpose set forth.

2. The beams A A, when forming both beams and tongue, whether bent or straight, having an independent vertical and lateral movement, being hinged or jointed at their forward ends so as to maintain an upright position, for the purpose set forth.

3. The beams A A, hinged or pivoted so as to have a free independent vertical and lateral movement upon the bar or yoke B, and supported in position without wheels or frame, as and for the purpose described.

4. The beams A A, hinged or pivoted to the bar or yoke B, and made adjustable upon the bar or yoke, as and for the purpose specified.

5. The evener C, pivoted to the bar or yoke at the extreme front of the implement, so as to leave the beams A A free to be operated, substantially as and for the purpose specified.

6. The single-trees D D, when made longitudinally adjustable upon the beams A A, for the purpose set forth.

7. The combination of the adjustable evener C, adjustable single-trees D D, beams A A, and chains E E, substantially as and for the purpose described.

CHAS. H. WATSON.

Witnesses:
J. T. C. ALLEN,
H. S. ABBOT.