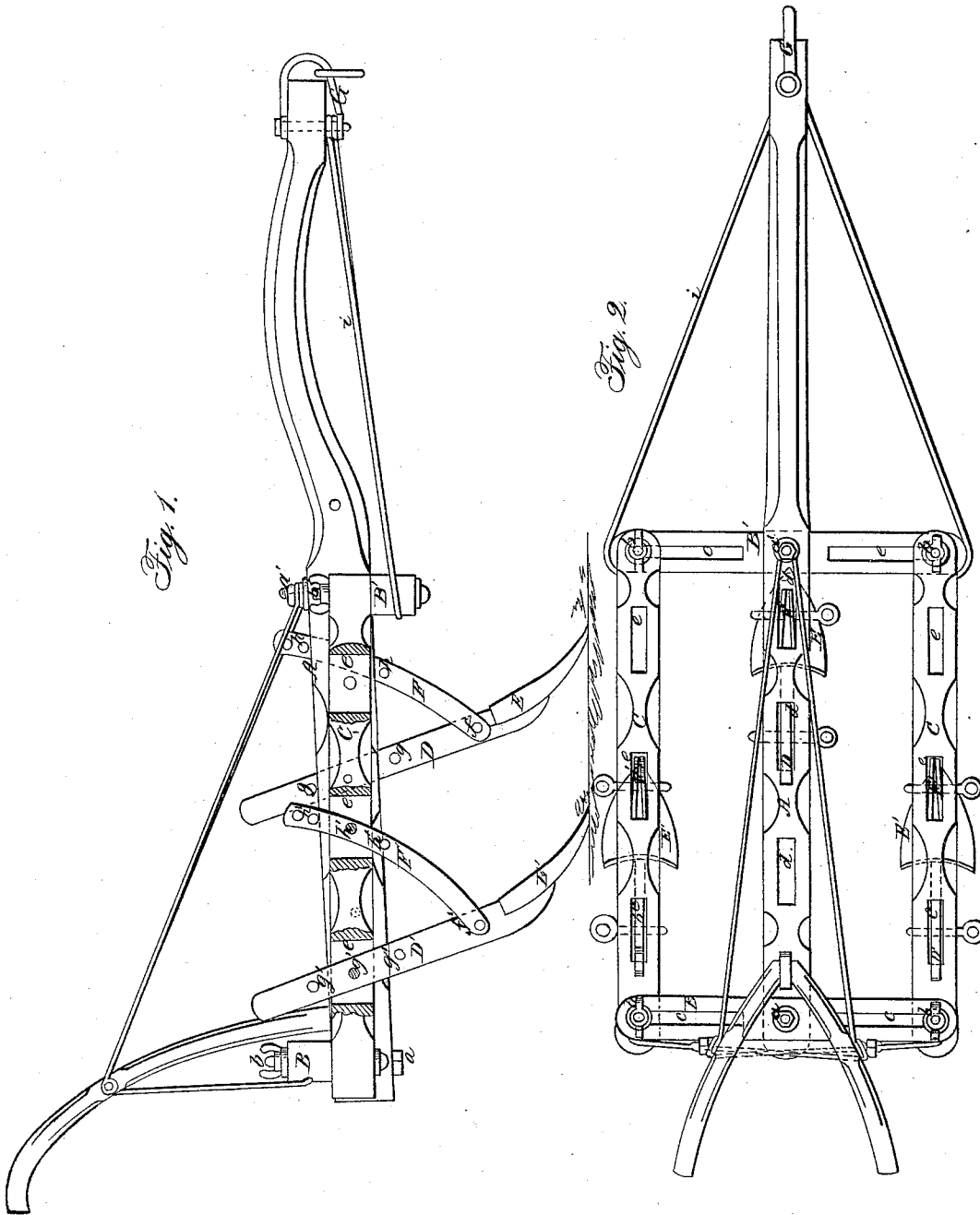


C. W. S. HEATON.

Cultivator.

No. { 661, }
 { 31,665. }

Patented Mar. 12, 1861.



Witnesses:

J. C. Coombs
R. S. Spencer

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UNITED STATES PATENT OFFICE.

C. W. S. HEATON, OF SALEM, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 31,665, dated March 12, 1861.

To all whom it may concern:

Be it known that I, C. W. S. HEATON, of Salem, in the county of Marion and State of Illinois, have invented a new and Improved Cultivator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a side elevation of this invention. Fig. 2 is a plan or top view of the same.

Similar letters of reference in both views indicate corresponding parts.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

The main beam A connects by means of the cross-pieces B B' with the secondary beams C C'. The forward cross-piece, B', is secured to the beam below by means of a screw-bolt, *a'*, and the hind cross-piece, B, is attached to the beam above by a screw-bolt, *a*, and the secondary beams C C' are secured to said cross-pieces by means of screw-bolts *b*, which pass through slots *c* in said cross-pieces, so that the secondary beams can be brought closer to or farther from the main beam, as may be desirable.

By referring to the drawings, it will be noticed that the forward ends of the secondary beams are above and their rear ends below the cross-pieces B B', and if now a strain is exerted on the shovels which are attached to said secondary beams, thereby producing a tendency to turn the forward ends of said beams down and their rear ends up, the entire strain is thrown on the cross-pieces themselves, and the threads of the bolts *b*, which serve to secure the secondary beams to said cross-pieces, are not exposed to any strain whatever from this source, their only function being to prevent said secondary beams moving in a lateral direction. The main beam A is provided with three or more mortises, *d*, and each of the secondary beams with three similar mortises, *e*, to receive the standards D D', to which the shovels E E' are attached, and the braces F F', which serve to steady said standards. Each of the standards D D' is pro-

vided with a series of holes, *g g'*, so as to allow of raising and lowering said standards at pleasure. The braces F F' are secured to the standards by means of pivots *f f'*, and they are provided with a series of holes, *h h'*, which permit of adjusting said braces according to the desired position of the shovels. The braces are so arranged that they can be reversed and that they can be placed before the standards to which they are hinged, or behind the same. In ordinary cases, the braces will be kept before the standards to which they are attached; but if the cultivator is to be used in marshy land, or if it has to encounter much rubbish during its passage through the ground, it is desirable to reverse the braces and to place them behind the standards, thus avoiding the corner between the braces and standards close over the shovels, which would otherwise be liable to cause a choking of the cultivator. The main beam A projects in front to a certain distance beyond the cross-piece B', and secured to its front end is the clevis G, which connects with the two ends of the cross-piece B' by means of rods *i*. These rods serve a double purpose: first, as braces for the cross-piece B'; and, secondly, as deflecting-bars to keep the corn or other plants from getting under the shovels as the cultivator is drawn through between the rows.

This cultivator can be used for different kinds of work by arranging the shovels in various positions and shifting the secondary beams closer to or farther from the main beam. Thus by taking away the middle shovel the two outside shovels can be used as corn-coverers, and by setting them nearer or farther apart the depth of cover can be regulated.

By bringing the two hind shovels close together and placing the middle shovel in the mortise just ahead of them, a very convenient and useful implement is formed for hilling potatoes, &c., and in this position the three shovels answer for one large single shovel.

By arranging the shovels as represented in the drawings, a very good and effective cultivator is produced, which is made to answer for marshy or weedy ground by reversing the braces or by placing the middle shovel still farther ahead and securing the brace of said shovel in the hole *i* in front of the cross-piece B'.

By placing the middle shovel behind those in the secondary beams, the plow is arranged for "laying by" corn.

By inserting two or more shovels into the secondary beams and placing them in an oblique position, a right-and-left-handed shovel-plow is produced; and by arranging two or three shovels triangularly across the frame a plow is produced suitable for turning a furrow in wet and rainy seasons.

Such and other changes render my cultivator a very valuable implement for every farmer, recommending itself by its simplicity, lightness, durability, and by its adaptability to manifold different purposes.

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

The arrangement of the slotted adjustable cross-pieces B B', reversible adjustable braces F F', and adjustable standards D D', with the curved main beam A, deflecting-rod i, and cross-pieces C C, in the manner and for the purposes herein shown and described.

CHAS. W. S. HEATON.

Witnesses:

SAML. HULL,

H. DAY.