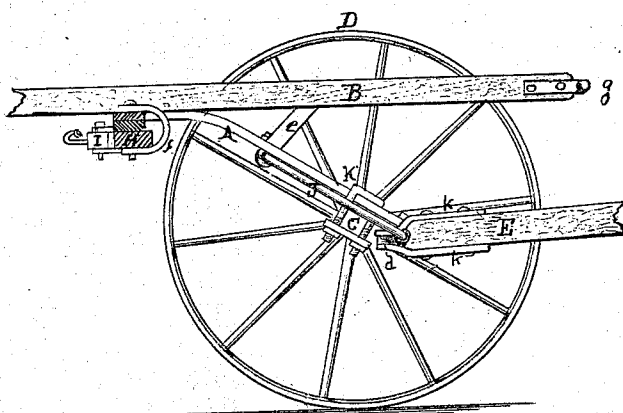
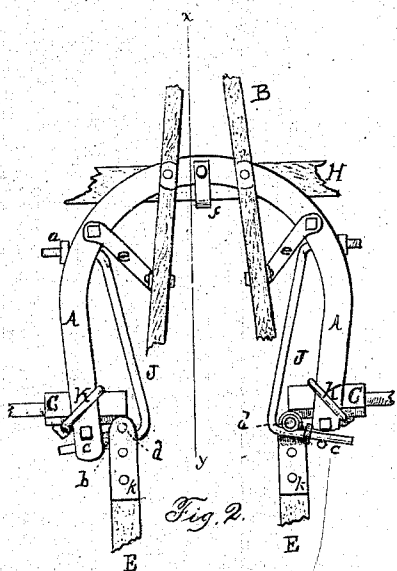
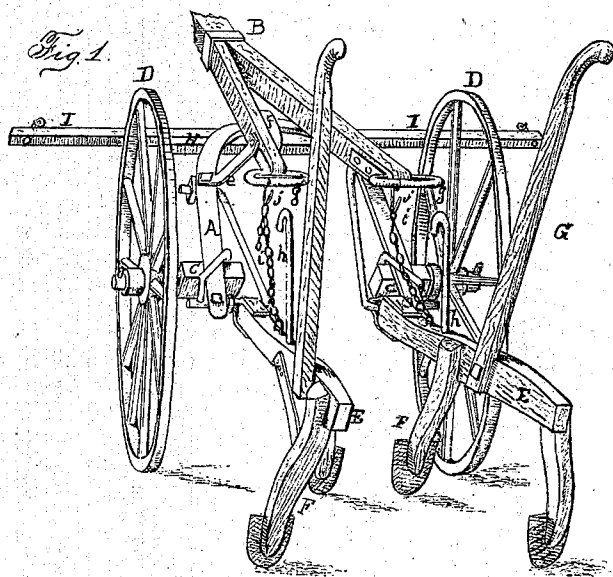


C. FURST.
Improvement in Cultivators.

No. 115,459.

Patented May 30, 1871.



Section on line xy of Fig 2

Witnesses.
L. L. Bond
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Inventor.

UNITED STATES PATENT OFFICE.

CONRAD FURST; OF CHICAGO, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 115,459, dated May 30, 1871.

I, CONRAD FURST, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cultivators, of which the following is a full description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a top view of the frame; and Fig. 3, a longitudinal vertical section on line *xy* of Fig. 2.

The nature of my invention consists in making the draft-rods, to which the plow-beams are attached, adjustable; in so constructing the frame that it also serves the purpose of a bent axle; in extending the frame beyond and back of the axles, and attaching the beams thereto adjustably.

To enable others skilled in the art to make and use my improvements, I will describe the construction and operation of the same.

In the drawing, A represents the curved and bent frame; B, the tongue; C, the axles; D, the wheels; E, F, and G, beams, plows, and handles of ordinary construction; H, the double-tree; I, the whiffletrees; J, bent rods or draw-bars; K, clips for securing the frame to the axles; *a*, screw-nuts for adjusting the upper ends of the rods J; *b*, stops or shoulders; *c*, clips or clamps for adjusting and securing the lower ends of the rods J; *e*, braces; *f*, a bent bar or clevis for attaching a double-tree. The frame A is constructed from a single piece of wrought-iron and bent in the form shown. By making it of this form it answers all the purposes of a bent axle, and does not require bracing. This frame is secured to the short axles C by clips K, and the ends of the frame project behind such short axles. The wheels D are made in the usual form. The tongue B is made of two pieces brought together at the front ends and separated at the rear, as shown at Fig. 1. The whiffletree and double-tree I H are made and attached in any ordinary manner. The rods J J are adjustable, and the beams E are attached to them. The ends of these rods are bent, and these bent ends are fastened to the frame A, both at their upper and lower ends, by means of clips or eyebolts *c* and nuts, or in any other suitable manner. At their upper ends the bolt used to connect the frame and tongue-brace *e* together may be used to hold the bars

J in place. The bent ends of the bars J, to which the beams E are attached, are made longer than the other ends, making the space between the frame A and bars J greater at the lower than at the upper ends, to furnish a place for the attachment of the beams. At their upper ends these bars J are provided with a nut, *a*. By this nut the space between the bars J can be adjusted at any required distance. To the upper and lower sides of the front ends of the beams E plates *k* are fastened. These plates extend beyond the ends of the beams a sufficient distance to allow of the insertion of a small wheel, *d*, between them, leaving space enough between the end of the beam and this wheel to allow the lower end of the bars J to pass through and fasten the beams to the ends of the frame. The ends of the beams should be chamfered off, or the plates bent down, so as to fit the hitching-rods J and prevent the rocking of the beams. This wheel *d* is placed between the plates *k* to allow an easy lateral movement of the beams E upon the bars J. It is important that the beams should not rock, as it is desirable to run close to the plants, and this cannot be done with safety unless the plows are held in their vertical position. The stops or shoulders *b* are made a part of or permanently attached to the rods J, so that, when the space between the beams is adjusted, the space between the rods is also adjusted, as adjusting the space between the hitching-rods adjusts the beams. This is easily done by loosening the eyebolts *c* and placing the hitching-rods J in position, and then tightening said bolts. The upper end may be adjusted to the screw-nut *a*. *g* are bent rods, attached to both sides of the split tongue B at the rear end to receive the hooks *h* fastened in the beams E to hold the beams and shovels clear from the ground when the cultivator is moved from place to place. *j* are hooks made to slide on *g*, so that, when the plows are moved laterally, they shall not be lifted out of the ground. The chains *i* are fastened to the beams E by a staple, and hooked to *j* by any link which will adjust the depth of the plows in the ground. The frame being attached to the axles by means of clips K, the rear projection of the frame A can be changed by sliding the frame on the axle, and

in this way the pitch of the beams can be adjusted.

Cultivators have heretofore been made with the beams so attached to the bars or frame as to be adjustable; but the bars were immovable, and always remained at the same distance apart; and in cultivating large corn the inner ends of these bars are likely to strike the stalks and break them, causing considerable damage; but by making the bars J adjustable this objection is wholly obviated, the bars being movable with the beams.

In the drawing, the bars J and beams E are shown in position for cultivating large corn; but for cultivating small corn the distance between the beams should be less than that

shown, which is readily accomplished by bringing the bars J nearer together.

What I claim as new is—

1. The frame A, constructed as described, and extending back of the axles, when so combined with the short axles C that the ends of the plow-beams may be raised and lowered, substantially as and for the purposes specified.

2. The adjustable bars J, when combined with the frame and plow-beams so as to move with the beams E, substantially as described.

CONRAD FURST.

Witnesses:

L. L. BOND,

O. W. BOND.