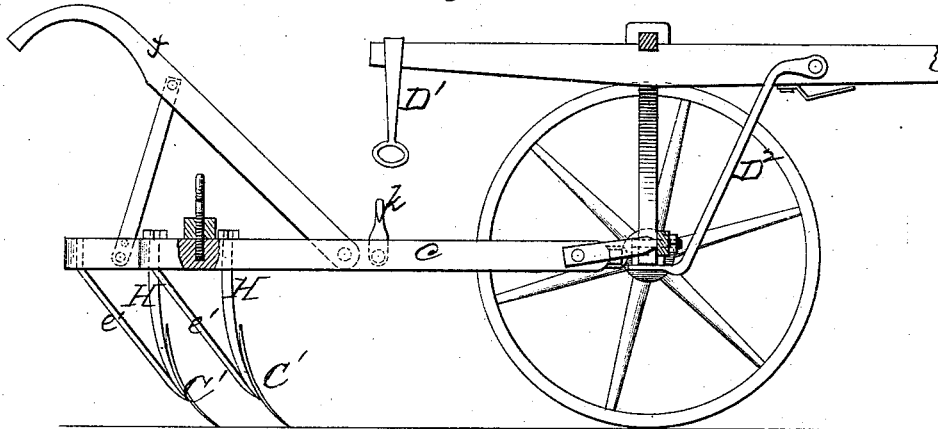


T. T. DANIELS.
 Combined Cultivator and Corn-Plow.

No. 208,377.

Patented Sept. 24, 1878.

Fig. 1.



A Fig. 2.

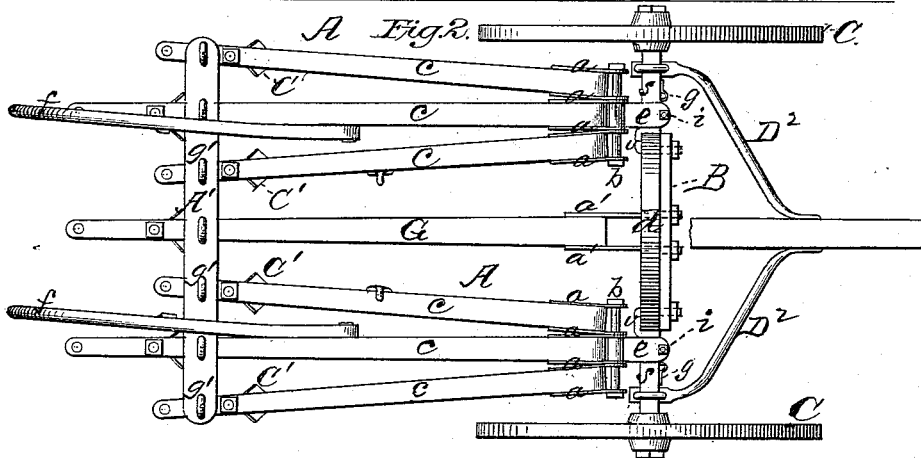
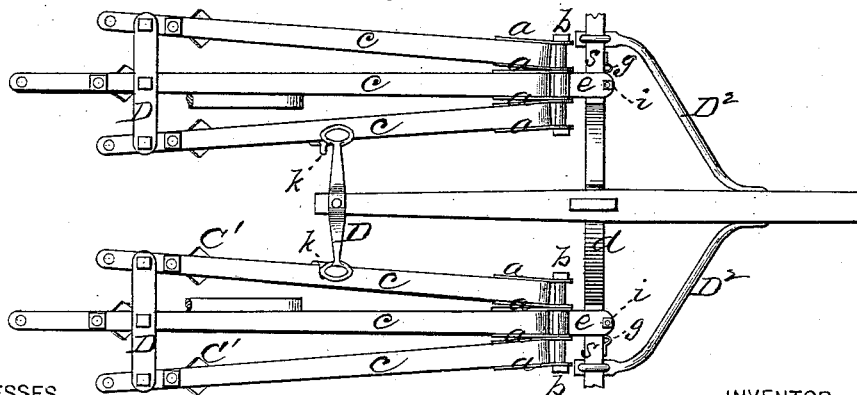


Fig. 3.



WITNESSES

John A. Ellis.
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THEODORE T. DANIELS, OF MORRISON, ILLINOIS.

IMPROVEMENT IN COMBINED CULTIVATOR AND CORN-PLOW.

Specification forming part of Letters Patent No. 208,377, dated September 24, 1878; application filed July 6, 1878.

To all whom it may concern:

Be it known that I, THEODORE T. DANIELS, of Morrison, in the county of Whiteside and State of Illinois, have invented a new and valuable Improvement in Combined Cultivator and Corn-Plow; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal central section of my invention. Fig. 2 is a top view thereof; and Fig. 3 is a top view of the same, with the middle section detached.

This invention relates to cultivators; and it consists in the construction and novel arrangement of a cultivator-frame composed of three distinct sections, two of said sections having a set of shovels each, and the third or middle removable section having one or more plows or shovels, said sections being operated in a special manner with reference to each other, being adjustably and separately jointed by means of a double coupling, which allows a lateral and vertical motion of the plow-beams, and having a bent axle extending upward and over the tongue, and a removable transverse bar connecting the lower ends of the arched center, and having the middle plow-beam pivoted thereto.

It also consists in the perforated bar extending transversely across the plow-beams, in combination with the removable thumb-screws passing loosely through said bar into said beams; in the auxiliary removable braces, serving to secure the side sections when the middle section is removed; in the V-shaped hanger and its rings, attached to the rear end of the tongue, and the diamond-shaped double-pointed and reversible shovels, centrally bolted to the standards and braced in rear, all as hereinafter more fully shown and described.

The object of my invention is to provide by a simple construction a combined cultivator and corn-plow, whose parts are so arranged and distributed that it can be converted into a cultivator or a corn-plow with little time and labor, and at the same time the parts can be

secured in such a manner as to constitute a strong and serviceable instrument.

In the accompanying drawings, the letters A A represent the two side sections of a cultivator, composed each of several distinct beams, *c c c*, attached to the axle *s*, between the wheel C and the angle formed by the bent portion *d* of the said axle, by means of the bars or bolts *b b*, which pass through holes in the metal plates *a*, secured to each of the beams *c c c*, and the laterally-adjustable clips *e*, which extend around these horizontal bars or bolts *b b*, in front of which they are crimped, and then forward over and under the axle a sufficient distance to admit of the passage of fastening bolts or pivots *i*, which pass through the projecting ends of the clips and through the bent portions of the face-plates *g* on the front of the axle, said face-plates having vertical bends or corrugations for the reception of said pivot-pins *i*, which, with the bolts *b*, allow a lateral and vertical motion to the plow-beams.

C' represents the diamond-shaped shovels, which are made concave on their anterior surfaces, and nearly twice as long from above downward as they are broad. They are centrally pivoted to standards H, which extend through the beams forward of their rear ends, and are braced by metallic straps or rods *e'*, which extend from the lower ends of the standards to the rear ends of the plow-beams. The shovels C' are centrally bolted, in order that when the part which engages the soil has worn out the shovel may be turned or reversed and present a new point and surface for use.

s represents a bent or curved axle, the curved bent central portion from the straight ends extending upward and over the tongue, which it supports, and into which its upper portion is recessed and bolted, its straight ends extending outward horizontally to form bearings for the fastenings of the cultivator- and for the wheels C.

B represents a removable bar, which spans the lower portion or base of the arch of the axle, to which it is secured on each side of said bent portion by means of a hook, *v*, threaded at its shank, and which passes around the axle-bar, and thence through the bar B, to

which it is secured by means of a nut. The bar B is provided with two parallel flattened arms, *a'*, of metal, which pass through the same, and are bolted thereto a sufficient distance apart to admit the end of the central plow-beam G, which is pivoted by means of a bolt passing horizontally through the arms and the end of the beam, to allow the necessary vertical play. A' indicates a transverse bar, which spans all the beams near their rear ends, and is perforated for the free passage of a series of headed hanger-rods or screw-bolts, *g'*, each of which extends downward and is fastened to a plow-beam. By removing the nuts which secure the hooked fastenings of the bar B and the adjustable pins *g'* from the transverse bar A', and the beams below said bars B and A', the middle plow-beam G can be removed from the cultivator, which will thereby be converted into a corn-plow, auxiliary connecting braces or bars D being used to space each side set of beams. These removable braces D D are provided with three perforations for the reception of head-pins, which are passed through it and screwed one into each beam *c*, serving to hold the beams together, and at the same time permitting each of the two sections to be operated independently of the other by means of handles *f*, which are attached to the middle plow-beam *c* of each section. The opposite inner beams *c* of the sections are provided with hooks on their inner sides, which serve as points of attachment for suspending the cultivator-sections to the ring ends of hanger D', attached to the rear end of tongue.

The V-shaped hanger or saddle D' is constructed of one piece of metal, recessed in the tongue on its upper surface, near its rear end, and secured thereto by a bolt, and has two arms or stirrups extending downward and outward on each side of the tongue, each extension terminating in a ring, which serves to engage with the hooks *k* of the inner plow-beams in the process of attaching said beams to the tongue, and to prevent accidental upward disconnection, as the wings act in the nature of guards.

D²D² represent two elongated oblique-shaped braces, which are designed to connect the tongue in front of the arch of the axle to the

straight ends thereof and brace it firmly, at the same time assisting in sustaining the strain of the draft. These braces D² are secured at their lower ends to the under side of the axle on each side or straight portion, between the wheels and the bent portion, by means of metallic clips which exactly fit over the axle-arms. From their attachment to the axle the said braces D² extend forward, inward, and upward obliquely to the sides of the tongue, where they are bolted, one on each side, thus forming, with the bent axle, a double brace and draft-connection.

I am aware that it is not new to provide a removable center beam or shovel in a cultivator.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plow-beam coupling consisting of the bolt or rod *b*, extending through the ears of the beams, and the clip *e* around said bolt, crimped in front of the same and extending forward, in combination with the axle-plate *g* and its bolt, substantially as specified.

2. A cultivator having an arched axle, side-beam sections, and detachable center beam, connected to the arch of said axle by means of a transverse bar, the perforated guide-bar A', extending transversely across the rear ends of the beams, and the vertical hanger-rods *g'*, extending through the perforations of said bar into the beam ends, substantially as specified.

3. A cultivator having a squared and centrally-arched axle and a section of several beams, connected to each end of said axle by a single clip engaging a lateral pivot on the axle and a vertical pivot on said clip, a horizontal rod passing through the ears of said clip and connecting the forward ends of said beams, in combination with the cross-bar A', screw-bolts *g'*, and handle *f'*, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THEODORE T. DANIELS.

Witnesses:

FRANK D. RAMSAY,
L. T. STOCKING.