

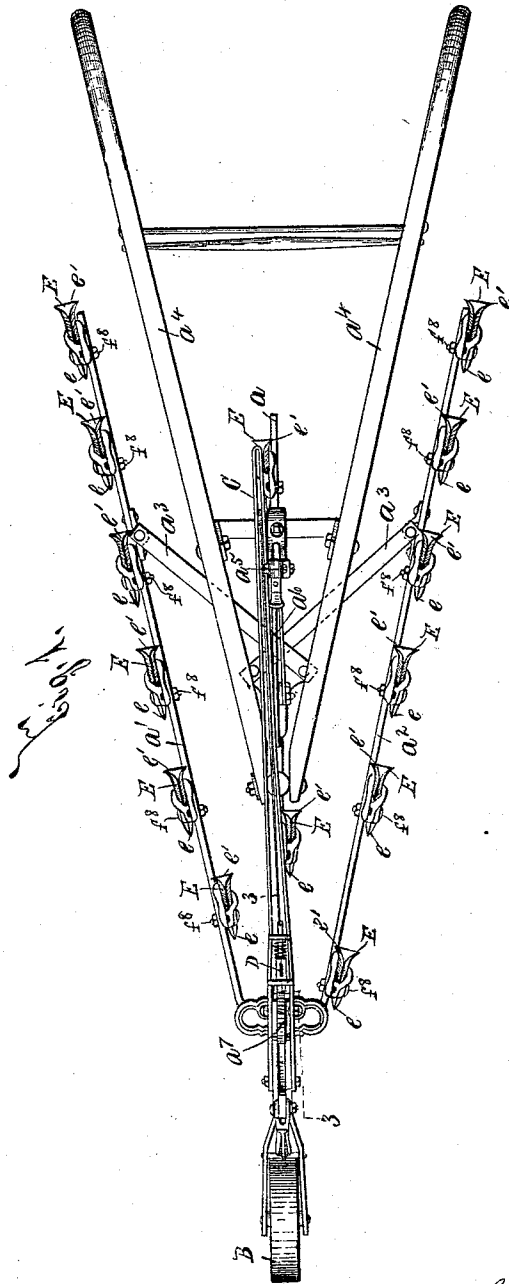
(No Model.)

3 Sheets—Sheet 1.

H. M. BURDICK.  
CULTIVATOR.

No. 553,837.

Patented Feb. 4, 1896.



WITNESSES:

*H. C. Chase*  
*H. A. Theobald*

INVENTOR

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BY

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ATTORNEYS,

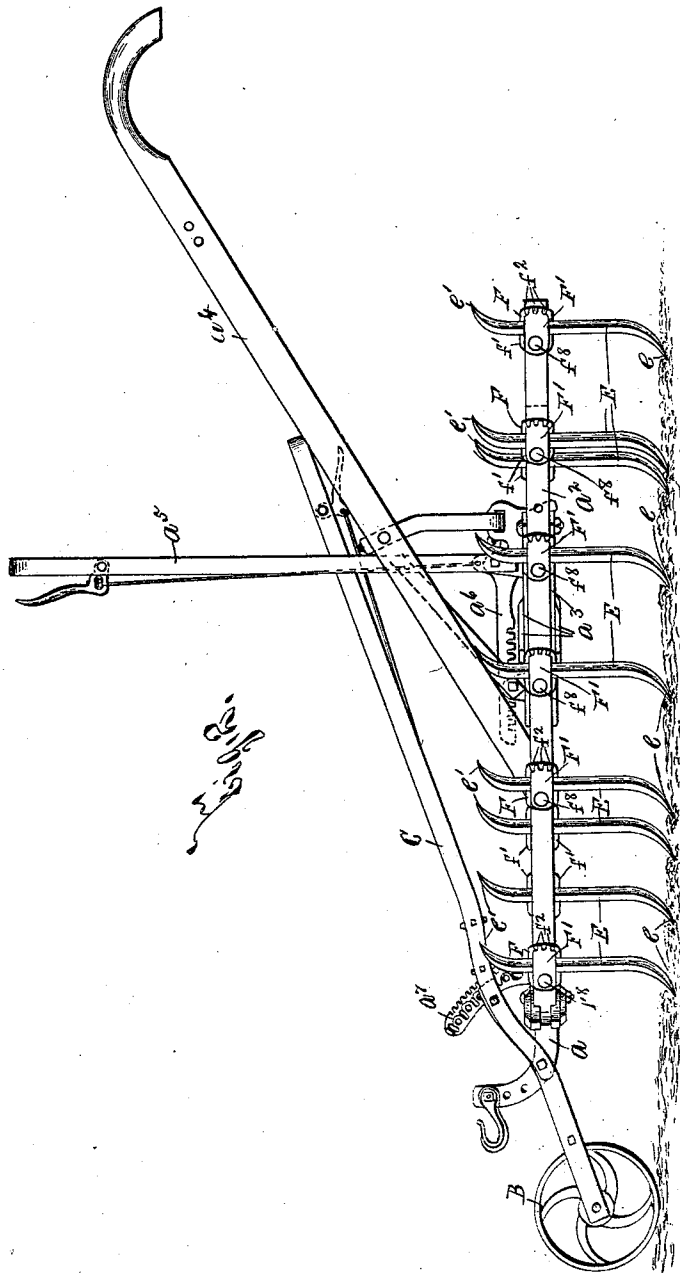
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WITNESSES:

*H. C. Chase*  
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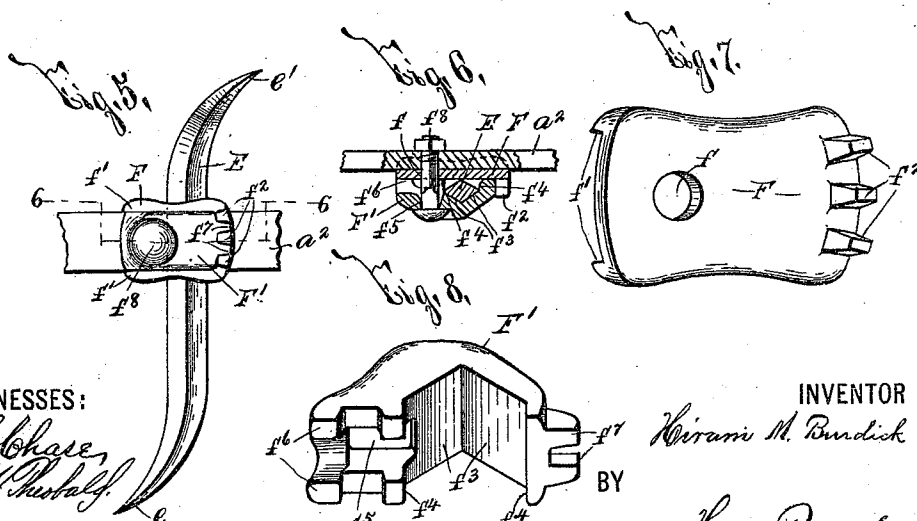
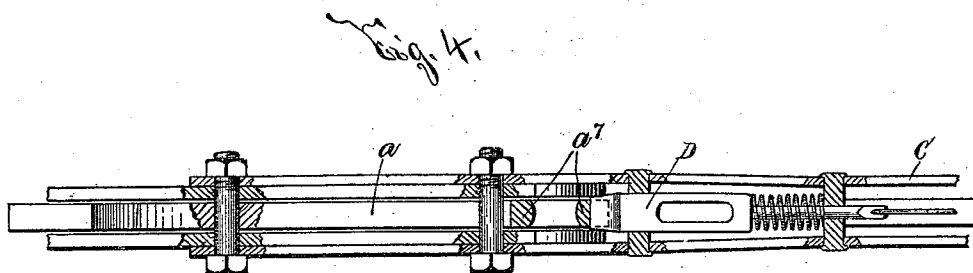
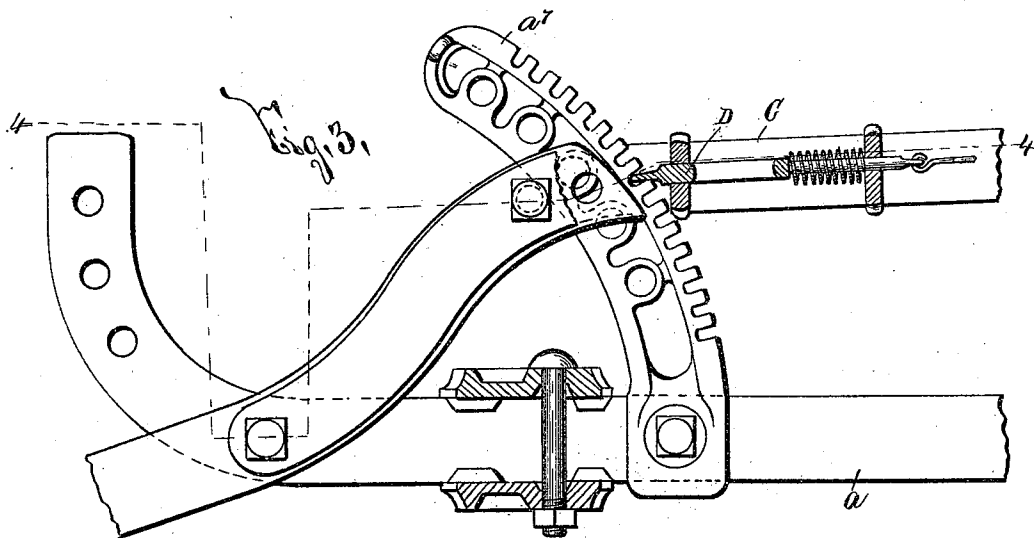
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3 Sheets—Sheet 3.

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WITNESSES:

*H. C. Chase,*  
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INVENTOR

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# UNITED STATES PATENT OFFICE.

HIRAM M. BURDICK, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE SYRACUSE CHILLED PLOW COMPANY, OF SAME PLACE.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 553,837, dated February 4, 1896.

Application filed October 8, 1895. Serial No. 565,015. (No model.)

*To all whom it may concern:*

Be it known that I, HIRAM M. BURDICK, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Cultivators, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in cultivators, and has for its object the production of a device which is particularly simple in construction and durable in operation; and to this end it consists, essentially, in the construction of the means for supporting and adjusting the cultivator-teeth.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figures 1 and 2 are respectively top plan and side elevation of my improved cultivator. Fig. 3 is a detail section taken on line 3 3, Fig. 1. Fig. 4 is a horizontal detail section taken on line 4 4, Fig. 3. Fig. 5 is an elevation of one of the cultivator-teeth, a portion of the supporting frame-bar, and the clip-plates for securing said tooth to the frame-bar. Fig. 6 is a horizontal section taken on line 6 6, Fig. 5; and Figs. 7 and 8 are isometric views of the detached clip-plates for securing the cultivator-teeth to the frame-bars.

The frame is of any desirable form, size, and construction, but preferably consists of a longitudinal central bar, *a*, adjustable side bars, *a'* *a''*, and spreader-bars *a'''*. Suitable handles *a<sup>4</sup>* are secured to the bar *a*. A lever *a<sup>5</sup>* is connected to the spreader-bars for actuating the same, and a locking-lever *a<sup>6</sup>* is utilized to hold the bars *a'''* in their adjusted position. A land-wheel B is movably supported by an actuating-lever C which is pivoted to the cultivator-frame and is provided with a locking-bolt D engaged with a toothed segment *a<sup>7</sup>* projecting upwardly from the bar *a*. The frame, its handles and the actuating and locking levers for the spreader-bars and land-wheel are, however, not herein specifically described, as they form no part of my invention.

E E are the digging-teeth of my cultivator,

and F' F' are clip-plates for securing said teeth to the frame-bars. The teeth E are preferably formed angular in cross-section, and are provided with oppositely-extending pointed and flat digging ends *e e'*, Fig. 1, in order that said teeth may be readily reversed, if desired, for varying the action of the cultivator. The clip-plates F are formed with apertures *f*, and corresponding faces thereof are provided with shoulders *f'* for engaging the upper and lower edges of the adjacent frame-bars, and their opposite faces are substantially flat and are provided at their rear ends with projecting engaging teeth *f<sup>2</sup>*, arranged concentric with the apertures *f*. The clip-plates F' are provided with engaging faces *f<sup>3</sup>*, arranged at an angle with each other for engaging the intermediate portion of the teeth E, and shoulders *f<sup>4</sup>* arranged in front and at the rear of said teeth. Said clip-plates F' are also provided with apertures *f<sup>5</sup>* arranged in front of the digging-teeth E, and corresponding ends thereof are formed with separated shoulders *f<sup>6</sup>* for engaging the adjacent faces of the clip-plates F, and their opposite ends are provided with projecting engaging teeth *f<sup>7</sup>* for interlocking with the teeth *f<sup>2</sup>*. A suitable clamping-bolt *f<sup>8</sup>* is passed through the frame-bars and the apertures *f f<sup>5</sup>* of the clip-plates F F', and operates to firmly secure together said parts and the teeth E.

It will be particularly noted that the digging-teeth are readily adjusted by loosening the nuts of the bolts *f<sup>8</sup>* and swinging the clip-plates F' thereon as pivots, and are firmly held in their adjusted position by again interlocking the engaging teeth *f<sup>7</sup> f<sup>2</sup>* and tightening the nuts of the clamping-bolts against the frame-bars normally engaged therewith.

The operation of my invention will be readily understood upon reference to the foregoing description and the accompanying drawings.

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

1. In a cultivator, the combination of a frame-bar, a digging-tooth, a clip-plate secured to the frame-bar and provided with engaging teeth, a second clip-plate engaged

with the digging-tooth and having one end hinged and its opposite end provided with an engaging tooth for interlocking with the teeth of the former clip-plate, and a clamping-bolt for securing said clip-plates together, substantially as and for the purpose described.

2. In a cultivator, the combination of a frame-bar, a digging-tooth, a clip-plate secured to the frame-bar and provided with engaging teeth, a second clip-plate engaged with the digging-tooth and formed with an aperture arranged at one side of said tooth and having one end provided with a shoulder for engaging the former clip-plate and its opposite end provided with an engaging tooth for interlocking with the teeth of the former clip-plate, and a clamping-bolt secured to the frame-bar and passed through said aperture, substantially as and for the purpose specified.

3. In a cultivator, the combination of a frame-bar, a digging-tooth of angular cross-section, a clip-plate  $F$  formed with an aperture  $f$  arranged at one side of said tooth and having one face provided with shoulders  $f'$  for engaging the frame-bar and one end of its opposite face provided with projecting en-

gaging teeth  $f^2$  arranged concentric with the aperture  $f$ , a second clip-plate  $F'$  provided with angularly-arranged faces  $f^3$  for engaging the digging-tooth and shoulders  $f^4$  arranged in front and at the rear of said tooth, said clip-plate  $F'$  being provided with an aperture  $f^5$  aligned with the aperture  $f$  and having one end provided with separated shoulders  $f^6$  arranged adjacent to the aperture  $f^5$  and its opposite end provided with engaging teeth  $f^7$  arranged concentric with the aperture  $f^5$  and interlocking with the teeth  $f^2$ , and a clamping-bolt passed through the apertures  $f^5$  and the frame-bar for securing together said frame-bar, tooth, and clip-plates, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 5th day of July, 1895.

HIRAM M. BURDICK.

Witnesses:

W. J. SANFORD,  
M. J. LEE.