

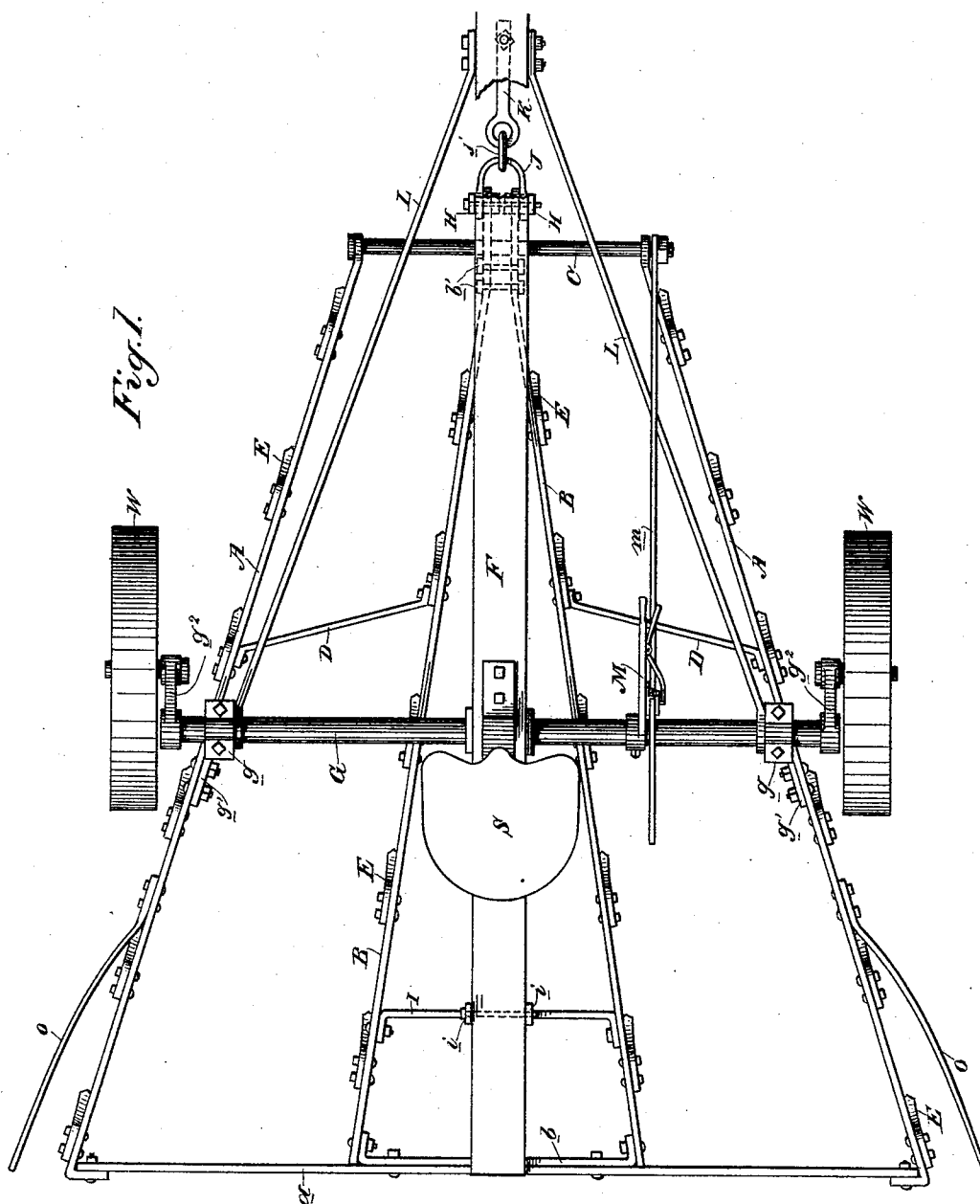
(No Model.)

2 Sheets—Sheet 1.

C. JOHNSON & O. OLSON.
CULTIVATOR.

No. 479,281.

Patented July 19, 1892.



Witnesses,
J. A. Morse
H. F. Aschbeck

Inventors,
Charles Johnson
Otto Olson
By *Dewey & Co.* attys.

(No Model.)

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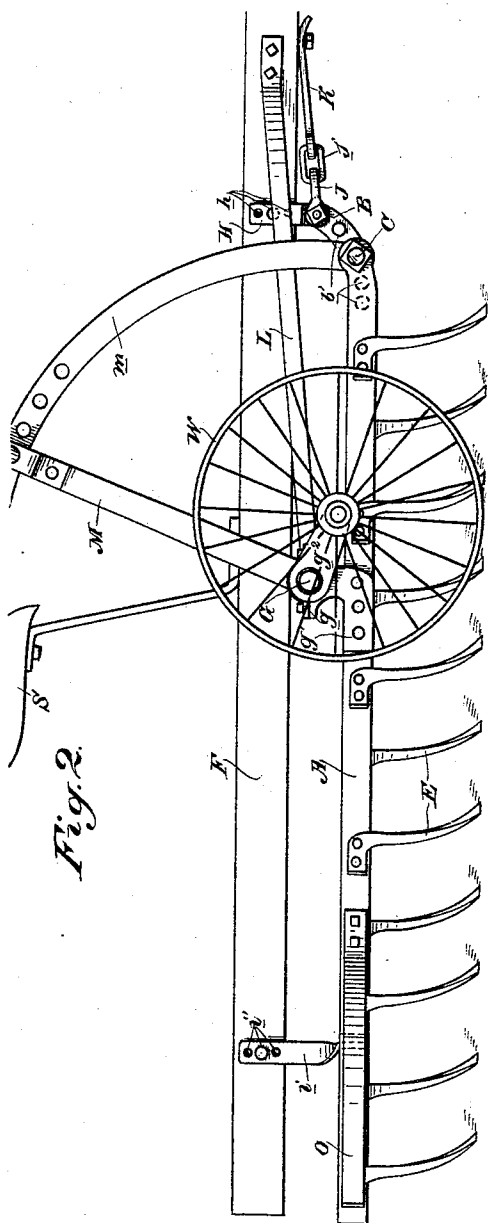


Fig. 2.

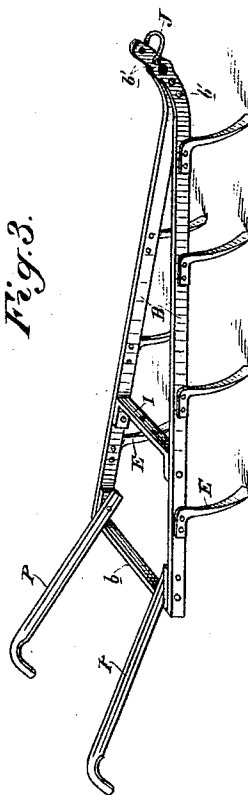


Fig. 3.

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UNITED STATES PATENT OFFICE.

CHARLES JOHNSON AND OTTO OLSON, OF SAN JOSÉ, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 479,281, dated July 19, 1892.

Application filed February 27, 1892. Serial No. 423,084. (No model.)

To all whom it may concern:

Be it known that we, CHARLES JOHNSON, a citizen of the United States, and OTTO OLSON, a citizen of Sweden, residing at San José, county of Santa Clara, State of California, have invented an Improvement in Cultivators; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to the class of cultivators; and it consists in the novel construction of the frame, the adjustable attachment of the pole thereto, and other details of construction and arrangement, all of which we shall hereinafter fully describe, and specifically point out in the claims.

The main object of our invention is to provide a cultivator the frame of which is so constructed that it is adapted to be readily converted from a two-horse cultivator into a single or one-horse cultivator, and vice versa.

Referring to the accompanying drawings for a more complete explanation of our invention, Figure 1 is a plan of our cultivator. Fig. 2 is a side elevation. Fig. 3 is a perspective view of our cultivator converted into a one-horse cultivator.

The frame of the double or two-horse cultivator consists of the following parts: longitudinal outer bars A, converging forwardly, longitudinal inner bars B, also converging forwardly, a back bar *b*, uniting the rear ends of the inner bars B, a main back bar *a*, uniting the rear ends of all the bars A and B, and a removable tie-bolt C, uniting the forward ends of all the bars. In addition to these bars there are braces D, uniting the adjacent bars A and B. The back bars *b* and *a* are connected with the longitudinal bars by means of suitable bolts. The forward ends of the inner bars B, after ceasing to converge, extend forwardly in parallel lines and are secured together by bolts *b'*. The tie-bolt C passes through the ends of the outer bars A and through the parallel ends of the inner bars B.

E are the teeth secured to the bars A and B.

F is the pole or tongue. This is supported adjustably by means of parallel standards H, which rise from the forward ends of the bars B and are provided with the series of holes *h*. The tongue or pole F lies between these and is supported therein at different heights, as desired, by passing a bolt through any of the

series of holes *h*. The tongue extends backwardly, resting on the axle G, and is further supported by means of standards *i*, extending upwardly from horizontal braces I, secured to the inner bars B. These vertical braces have a series of bolts *i'*, in any of which the tongue may be set. The tongue is therefore adapted to be raised and lowered to suit different sizes of horses. The tongue is further connected with the frame by the draft connection, as follows: Pivoted in the forward ends of the inner bars B is a bail J, with which a link *j* engages, said link having connected with it a rod K, the other end of which is connected with the tongue or pole. A further connection of said tongue or pole with the frame consists of the braces L, secured at their forward ends to the sides of the tongue and attached at their rear ends to the axle. The axle G is mounted in bearings *g*, formed in the top of arms *g'*, bolted to the outer bars A, and said axle has cranks *g''*, upon the journals of which the wheels W are mounted. The whole cultivator-frame is raised and lowered by means of the lever M, secured to and adapted to turn the axle, said lever engaging a rack *m*, which rises from the tie-bolt C at the forward end of the frame.

S is the cultivator-seat, which is supported from the tongue or pole.

O are guard-springs, which are secured to the rear portions of the outer bars A and have their free ends extending outwardly therefrom. They are for the purpose of preventing injurious contact of the frame with the trees.

Observing now the construction of the frame of the cultivator, it will be seen that it is a double or two-horse cultivator. It is light, strong, and durable. It can be easily adjusted with regard to the depth of the teeth in the ground and its pole or tongue can be vertically adjusted to suit different horses. It is not liable to bark or chafe the trees, and thereby injure them, because of the cushion-contact of its springs O.

Now when it is desired to convert the cultivator into a single or one-horse cultivator it is readily accomplished as follows: The tie-bolt C in front, the bolts connecting the main back bar *a* with the rear of the inner bars B, the bolts connecting the braces D with the

inner bars B, and the connections of the tongue or pole with the inner bars are all removed. This will permit the removal of the outer bars A with all the attached parts—
 5 namely, the back bar *a*, the axle G, the wheels, the braces L, the braces D, the springs O and lever M, and the tongue or pole, leaving, as shown in Fig. 3, the inner bars B. To these bars B may then be bolted suitable handles
 10 P, like plow-handles, and we thus have the single or one-horse cultivator.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

15 1. In a cultivator, the convertible frame thereof consisting of the outer bars A, the inner bars B, the main back bar *a*, connecting the rear ends of said bars A and B, the back-bar *b*, connecting the rear ends of the
 20 bars B, and the removable tie-bolt C, connecting the front ends of the bars A and B, substantially as herein described.

2. A cultivator consisting of the convertible tooth-carrying frame composed of the outer
 25 bars A, the inner bars B, the main back bar *a*, connecting the rear ends of said bars A and B, the back bar *b*, connecting the rear ends of the bars B, and the removable tie-bolt C, connecting the front ends of the bars A and B,
 30 and the pole or tongue F, secured to and carried by the inner bars B of the frame, substantially as herein described.

3. A cultivator consisting of the convertible tooth-carrying frame composed of the outer
 35 bars A, the inner bars B, the main back bar *a*, connecting the rear ends of said bars A and B, the back bar *b*, connecting the rear ends of the bars B, and the removable tie-bolt C, connecting the front ends of the bars A and B,
 40 the pole or tongue F, secured to and carried by the inner bars B of the frame, and the wheeled axle G, carried by the outer bars A of said frame, substantially as herein described.

45 4. A cultivator consisting of the convertible tooth-carrying frame composed of the outer bars A, inner bars B, back bar *a*, connecting the rear ends of bars A and B, back bar *b*, connecting the rear ends of the bars B, and
 50 the removable tie-bolt C, connecting the forward ends of said bars A and B, the wheeled axle carried by the outer bars A of the frame, the tongue or pole F, carried by the inner bars B of said frame, and the draft connec-

tion between said inner bars and pole consisting of the pivoted bail and the link-rod K, substantially as herein described. 55

5. A cultivator consisting of the convertible tooth-carrying frame composed of the outer bars A, the inner bars B, the main back bar *a*,
 60 connecting the rear ends of said bars A and B, the back bar *b*, connecting the rear ends of the bars B, and the removable tie-bolt C, connecting the front ends of the bars A and B, the pole or tongue F, secured to and carried
 65 by the inner bars B of the frame, the wheeled crank-axle G, carried by the outer bars A of said frame, the lever for operating the crank-axle, and the rack-bar carried by the tie-bolt C for engaging the lever, substantially as
 70 herein described.

6. In a cultivator, the combination of the forwardly-converging frame-bars B, the tongue or pole carried thereby and adapted to be vertically adjusted, and the draft connection
 75 between said bars and pole consisting of the bail pivoted in the forward ends of the bars, and the link-rod connecting said bail and pole, substantially as herein described. 80

7. In a cultivator, the forwardly-converging frame-bars B, having the parallel forward ends bolted together and the vertical perforated standards rising from said forward ends,
 85 in combination with the tongue or pole fitted between said standards and vertically adjustable therein, and the draft connection between said forward ends, and the pole consisting of the pivoted bail and link-rod, substantially as herein described. 90

8. A cultivator having an inner frame consisting of the converging bars B, secured together at their ends, an outer frame consisting of the converging bars A, removably secured at their ends to the ends of the bars B,
 95 the wheeled crank-axle, the adjusting lever and rack, and guard-springs carried by said outer frame, and the tongue or pole carried by the inner frame, substantially as herein described. 100

In witness whereof we have hereunto set our hands.

CHARLES JOHNSON.
 OTTO OLSON.

Witnesses:

ARVIE KJELLMAN,
 FRITZ GUSSANDER.