

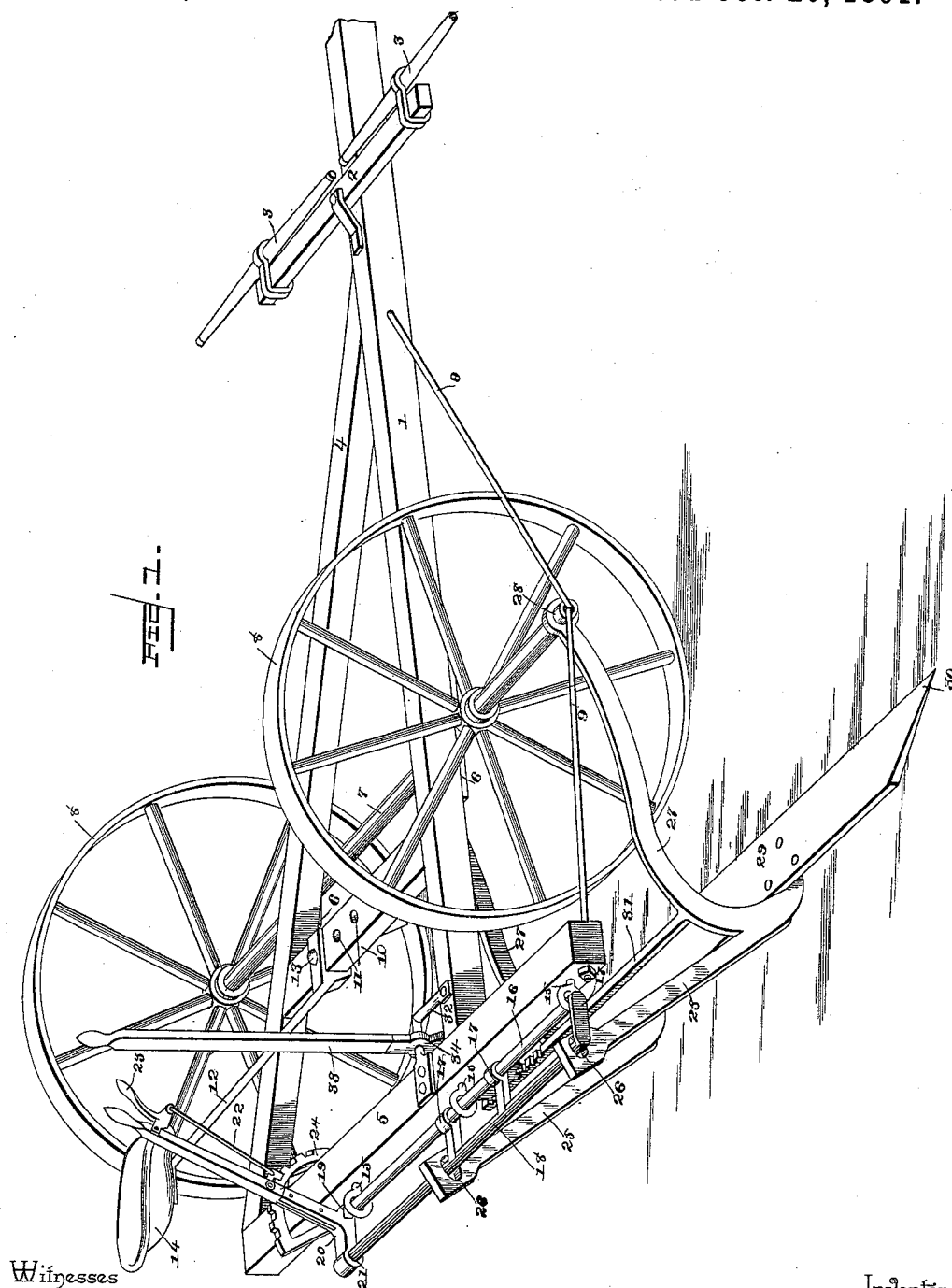
(No Model.)

2 Sheets—Sheet 1.

C. SIMS.
CULTIVATOR.

No. 461,596.

Patented Oct. 20, 1891.



Witnesses

E. S. Duvall
W. S. Duvall

By his Attorneys,

C. A. Snow & Co.

Inventor
Courtland Sims.

(No Model.)

2 Sheets—Sheet 2.

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FIG. 2.

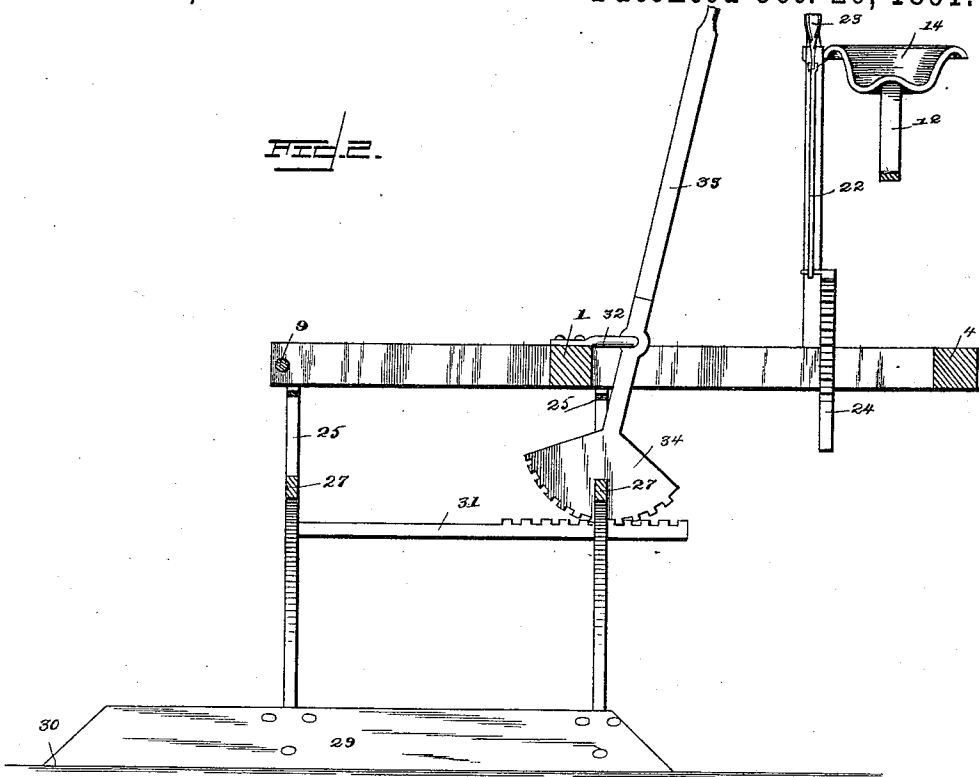
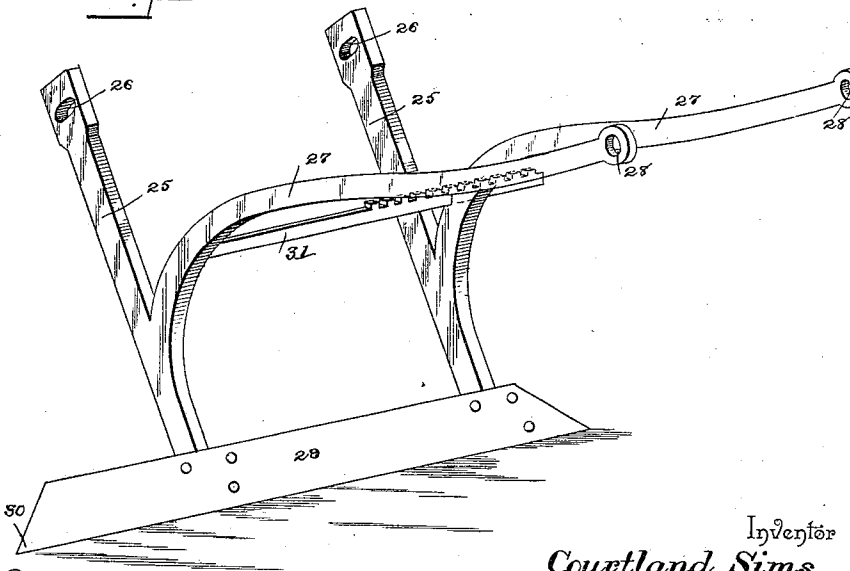


FIG. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

COURTLAND SIMS, OF LOS OLIVOS, ASSIGNOR OF ONE-HALF TO WILLIAM T. MEAD, OF SANTA YNEZ, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 461,596, dated October 20, 1891.

Application filed March 20, 1891. Serial No. 385,766. (No model.)

To all whom it may concern:

Be it known that I, COURTLAND SIMS, a citizen of the United States, residing at Los Olivos, in the county of Santa Barbara and State of California, have invented a new and useful Cultivator, of which the following is a specification.

My invention relates to improvements in cultivators; and the objects in view are to provide a cultivator of simple construction and adapted for cultivation of orchards and ridding the same of small weeds, grass, &c.

A further object of the invention is to so construct the apparatus as to cultivate close to the trees and between the same, as planted in rows, and thereby avoid the loss of time and labor usually expended in cross-cultivating and hoeing.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a cultivator constructed in accordance with my invention. Fig. 2 is a transverse section looking toward the rear. Fig. 3 is a detail in perspective of the cultivating-blade, its standards, and the adjacent parts, together with the mechanism for adjusting said blade.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practice I employ a main central draft-beam 1, near the front of which the same is provided with a doubletree 2 and singletrees 3 of the usual construction. From a point in rear of the doubletree there is secured to and diverges from the beam, at one side thereof, a diagonal beam 4, the rear end of which is connected to the rear end of the beam 1 by a rear transverse beam 5, which is extended some distance beyond the beam 1, as shown. The beams 1 and 4 are provided with axle boxes or bearings 6, in which is mounted an axle 7, the same extending beyond the beams and at one end terminating about flush with the beam 5. Ground-wheels 8 are mounted upon the axle, one wheel being at the end of the same and the other adjacent to the beam 1, though both wheels, it will be observed, are outside of the beams. Thus I provide an ex-

tension of axle at the right side of the machine, or, in other words, beyond the beam 1. A brace 9 is connected with the beam 1 in rear of the doubletree, passes to the end of the axle, and then to the corresponding end of the beam 5.

The two beams 1 and 4 are connected in rear of the axle by a seat-bar 10, having a series of perforations 11. The bar is embraced at its rear edge by the lower bifurcated end of a rearwardly-disposed inclined seat-standard 12, and through the bifurcations and the bar 10 is passed an adjusting-bolt 13. The upper end of the seat-standard carries the usual seat 14 for the driver.

In bearing-eyes 15, extending from the rear face of the beam 5, there is mounted a rock-shaft 16, provided at intervals with rock-arms 17, connected at their free ends by a longitudinal connecting-bar 18. The rock-shaft and bar 18 are of about equal length, and the former has one end squared, as at 19, to receive the lower end of a bell-crank lever 20, the lower branch of which is loosely connected, as at 21, to the end of the rod 18. A locking-pawl 22 is secured to the lever 20 and is operated by a small bell-crank 23, located at the upper end of the lever 20, which latter terminates in a suitable handle, as shown. A toothed locking-sector is mounted on the beam 5, and the pawl 22 engages with the teeth of the same, so that the lever 20 may be locked at any desired inclination, and by means of said lever being fulcrumed upon the rock-shaft 16 the latter may be turned or partially rotated and the rod 18 elevated or depressed.

25 designates a pair of standards, which terminate at their upper ends in heads having elongated slots 26, which loosely receive the rod 18, and upon which rod the standards are adapted to slide longitudinally. Near the lower end the standards 25 are provided with forwardly-diverging branches 27, which terminate in eyes 28, that loosely receive the axle 7, and upon said axle the branches move longitudinally when the standards move upon the rod 18. At their lower ends the standards are secured to a cultivator-blade 29, which extends some distance beyond that standard at the right of the machine and ter-

minates in a point 30, located beyond the end of the axle 7, when the standards are moved as far as permissible to the right of the machine. The two branches 27 of the standards are connected by a rack-bar 31, and above the latter, upon a bearing-bracket 32, located at the intersection of the beams 1 and 5, is a lever 33, terminating at its upper end in a handle adjacent to the driver's seat, and at its lower end below the bracket in a toothed segmental head 34, the teeth of the same engaging with the teeth of the rack-bar 31.

This completes the construction of the cultivator, and the operation of the same, although obvious from the above description, may be briefly stated as follows: The cultivator is drawn along between the rows of trees, and by means of the hand-lever 20 the cultivator-blade is set the required distance, so as to cultivate deep or shallow, as the case may be. In order to elevate the blade over roots that may lie close to the surface or above the same, the lever 20 may be operated. As the cultivator moves from tree to tree the driver manipulates the lever 33 by drawing the same toward and away from him. By drawing the lever toward him the cultivator is thrown outwardly, so as to cultivate between the trees of a row, and when arriving at a tree the lever is thrown away from the driver, so as to draw the cultivator inwardly, and thus pass around but close to the tree.

From the above it will be seen that by my invention I avoid any unnecessary labor in cultivating between the trees and close to the same by means of hoeing by hand or cross-cultivating, thoroughly cultivating the orchard by one operation.

Having described my invention, what I claim is—

1. In a cultivator of the class described, the combination, with the frame-work, a transverse bar supported therein, of cultivator-standards loosely mounted for lateral movement upon the bar, a cultivator carried by the standards, a transversely-disposed tooth-rack bar connecting the standards, a lever terminating in a toothed segmental head and adapted to reciprocate said bar, and standards laterally pivoted to the frame-work and engaging the teeth of the bar, and means for locking the lever in its adjusted position, substantially as specified.

2. In a cultivator of the class described, the combination, with the frame-work, the axle extended beyond the same, wheels mounted

on the axle outside of the frame-work but adjacent thereto, and a rear transverse bar, of cultivator-standards loosely mounted upon the bar and having branches forwardly disposed and terminating in eyes loosely engaging the axle, a cultivator-blade connected to the standards, and means for laterally reciprocating said standards, branches, and blade, substantially as specified.

3. In a cultivator of the class described, the combination, with the frame-work having the extended axle, the rock-shaft having rock-arms, and a rod connecting the rock-arms, of a bell-crank lever fixed upon the rock-shaft, having one branch loosely connected with the rod and its remaining branch terminating in a handle, standards loosely mounted upon and depending from the rod and adapted for lateral and vertical reciprocation, and provided with forwardly-disposed branches terminating in eyes loosely connected with the axle, a cultivator-blade connected to the standards, a toothed rack-bar transversely disposed, and connecting the branches of the standards, and a toothed lever pivoted to the frame-work and engaging the teeth of the rack-bar, substantially as specified.

4. In a machine of the class described, the combination, with the main draft-beam 1, the diverging beam 4, the journal-boxes 6, axle 7, extending beyond the beams, the brace-rod 9, connecting the draft-beam, axle, and a rear beam connecting the draft and diverging beams, of eyes projecting from the rear beam, the rock-shaft journaled in the eyes and provided with rock-arms, a rod connecting said arms, a bell-crank lever fixed upon the shaft and loosely connected with the rod and provided with a locking-pawl, a toothed sector at one side of the lever for engaging the pawl, a pair of standards terminating in slotted heads, mounted on the rod and having forwardly-disposed branches terminating in eyes loosely engaging the axle at each side of the wheel and beam 1, the cultivator-blade 29, the toothed bar 31, connecting the branches, the bracket 32, and the segmentally-toothed lever 33, pivoted on the bracket and engaging the locking-bar, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

COURTLAND SIMS.

Witnesses:

W. BRADY,
A. T. SMITH.