

(No Model.)

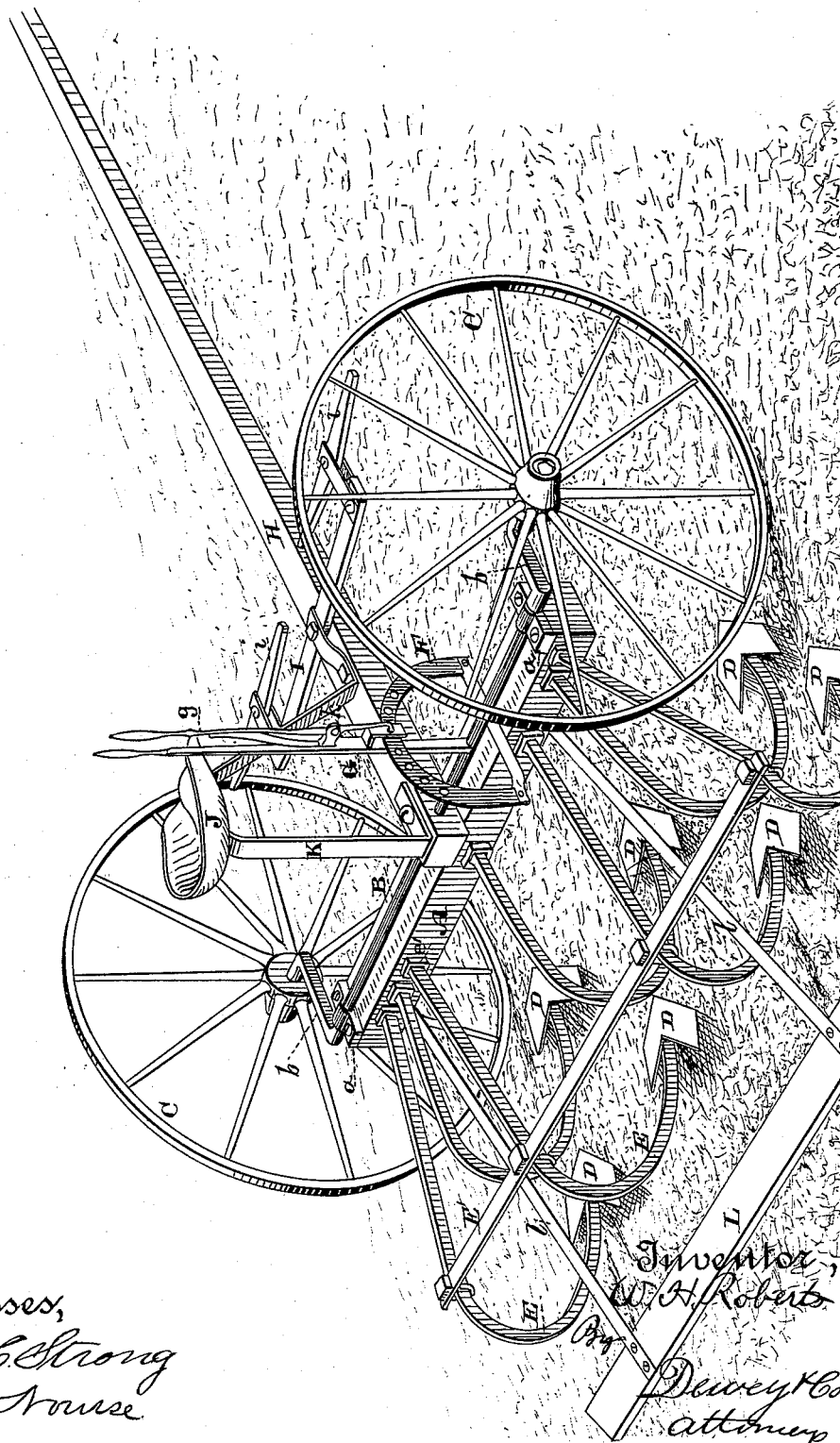
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W. H. ROBERTS.
SULKY CULTIVATOR.

No. 304,861.

Patented Sept. 9, 1884.

FIG. 1.



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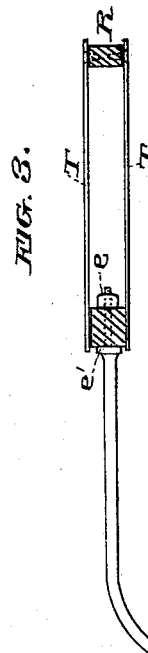
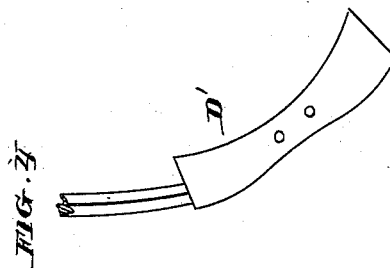
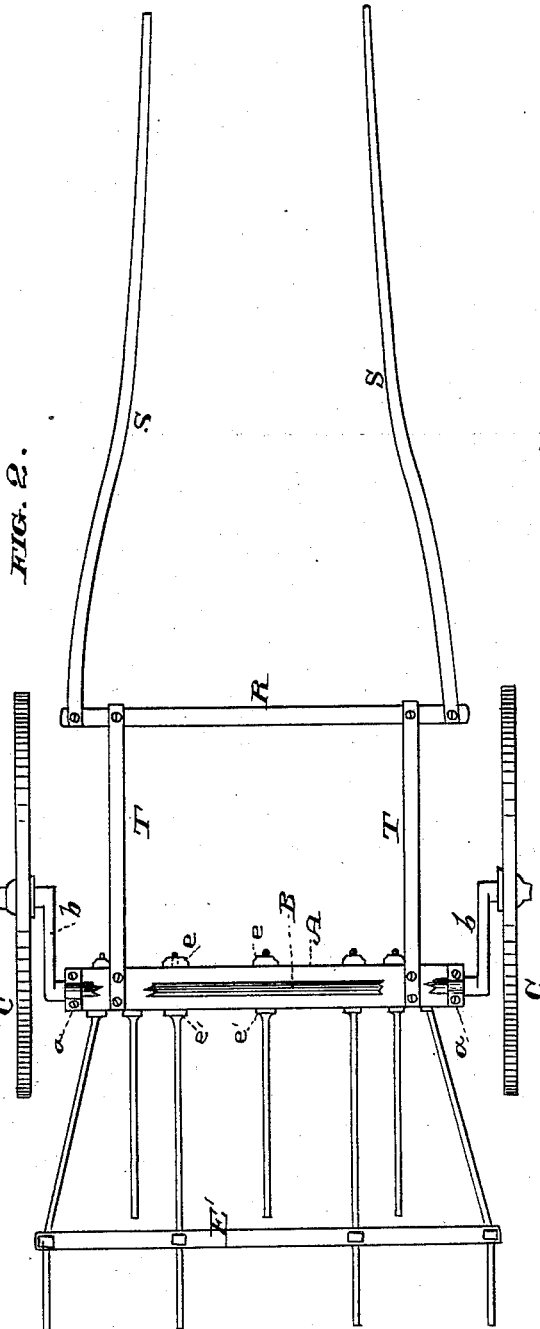
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UNITED STATES PATENT OFFICE.

WILLIAM HENRY ROBERTS, OF SANTA CLARA, CALIFORNIA.

SULKY-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 304,861, dated September 9, 1884.

Application filed April 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY ROBERTS, of Santa Clara, county of Santa Clara, and State of California, have invented an Improvement in Sulky-Cultivators; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of cultivators, and more especially to those mounted on two wheels and known as "sulky-cultivators."

My invention consists in a single head or bar, to which the goose-necks or stems of the teeth and the pole or shafts are secured; in the rigid connection between it and said parts; in the arrangement in connection therewith of a crank-axle and the seat, and in a smoothing drag-board attached to the head, all of which I shall hereinafter fully explain by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my cultivator. Fig. 2 is a plan of same, showing the attachment of shafts thereto. Fig. 3 is a detail view of the bars T. Fig. 4 is a detail view of the chisel-tooth.

The object of my invention is to provide a simple, effective, and easily-handled cultivator, adapted to be operated by one or two horses, and to be fitted readily with various forms of teeth.

A is the head, consisting of a single straight bar.

B is an axle having cranks *b*, and journaled in bearings *a* on the ends of the head.

C are wheels on the cranks.

D are the teeth, and E their stems or goose-necks. These are curved, as shown, and are secured rigidly to the head by means of an end of each passing through the head from back to front, and held therein by a nut, *e*, Fig. 2. They are provided with shoulders *e'*, which, by reason of tightening up the nuts, bear closely against the back of the head, and thus hold the necks rigidly to place. A cross-bar, E', holds the longer stems together.

F is a rack on the head, and G is a lever on the axle, provided with a spring-pawl, *g*, for engagement with the rack. By the movement of this lever the axle is oscillated to throw the teeth into or out of the ground, and to regulate their depth.

H is a pole bolted rigidly on top of and at

the center of the head, and the axle passes through and is journaled in the rear end of the pole.

I is the double-tree, and *i* the single-trees, of the pole.

J is the seat, supported by a standard, K, directly above the head, and braced by a strip, *k*.

L is a drag board or bar, secured to the head by spring-strips *l*. Its object is to smooth the earth, and by being attached directly to the cultivator the whole operation is performed at once, instead of making the operations of cultivating and smoothing separate work in point of time.

It will be observed that the cranks of the axle extend forwardly, and therefore that the head A and the seat J are back of the pivotal center upon which the machine acts in throwing the teeth into or out of the ground. The advantage of this is that the weight of the rider can be exerted fully to hold the teeth well in the ground, and, in furtherance of this object, the goose-necks or stems of the teeth are all rigidly connected with the head, instead of being pivoted thereto, as is usually the construction in this class of implements. The pole, in being attached rigidly to the head, is also an advantage in this connection, for the reason that, being held by the harness, it prevents the teeth from going too deep into the ground, and preserves the equilibrium of the machine.

In Figs. 2, 3, 4 I show the machine changed as to its teeth and means for drawing it. The teeth D, with their stems, have been removed, and stems having different-shaped teeth D', commonly known as "chisel-teeth," inserted, Fig. 4. The pole is removed and the shafts S put in its place, thus adapting it for a single horse. This is done by means of spaced bars T, bolted rigidly to the head A, and carrying at their forward ends the cross-bar R, to which the shafts are rigidly connected.

The stems E in Fig. 1 are long and short, arranged alternately and somewhat diverging toward the rear. This divergence may be carried to such an extent as to throw the outer teeth to planes beyond the wheels, whereby the implement may be adapted for use in vineyards and orchards.

In having but a single bar or head constituting the frame of the implement, I am enabled to make a shorter and more convenient

cultivator, bringing the teeth up close under it, instead of having them extend far back from an elongated frame.

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

1. In a sulky-cultivator, the single head or bar A, and the stems or goose-necks E of the teeth, passing through and secured rigidly to said head, in combination with the oscillating axle B, mounted on said bar, and having forwardly-extending cranks *b*, and the wheels C on said cranks, substantially as herein described.

2. In a sulky-cultivator, the single head or bar A, arranged back of the center of its supporting-wheels, the stems or goose-necks E of the teeth passing through and secured rigidly to said head, the pole or shafts secured rigidly

to said head, and the seat J in a line over the head, in combination with the oscillating axle B, having cranks *b* extending in front of said head, and the wheels C on the cranks, substantially as and for the purpose herein described.

3. In a sulky-cultivator, the single head or bar A, having the stems of the teeth secured rigidly to it, and the seat J, mounted in a vertical plane over said head, in combination with the oscillating axle B, having cranks *b* extending forward of said head, and the wheels C on the cranks, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM HENRY ROBERTS.

Witnesses:

EDWARD E. GOODRICH,

J. F. PAYNE.