

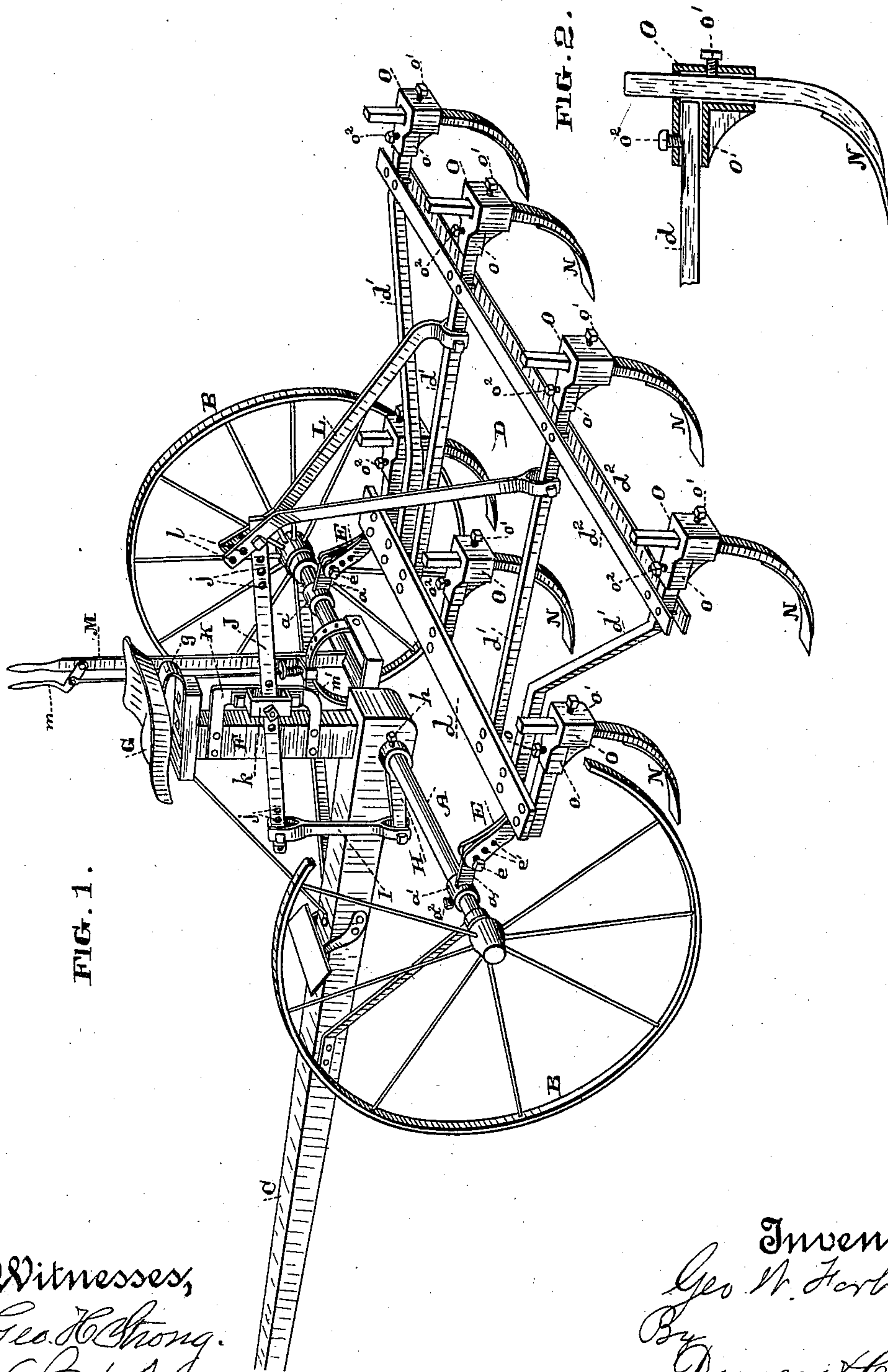
(No Model.)

G. W. FORBES.

CULTIVATOR.

No. 326,208.

Patented Sept. 15, 1885.



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UNITED STATES PATENT OFFICE.

GEORGE W. FORBES, OF GUBSERVILLE, CALIFORNIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 326,208, dated September 15, 1885.

Application filed April 16, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. FORBES, of Gubserville, Santa Clara county, State of California, have invented an Improvement in Cultivators; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of cultivators, and to certain new and useful improvements in wheeled cultivators.

My invention consists in the novel mechanism by which the tooth-frame is connected with and raised and lowered by the crank-axle, in the location of the seat in the independent removable and adjustable tooth-sockets, and in various details of construction, all of which I shall hereinafter fully explain.

The object of my invention is to provide a cultivator which can be easily and readily adjusted to throw its teeth into or out of the ground, and which is adapted to receive substitute teeth or blades either of the same or a different pattern.

Referring to the accompanying drawings, Figure 1 is a perspective view of my cultivator. Fig. 2 is a detail showing the independent tooth-sockets.

A is the axle, B the wheels, and C is the tongue or draft-bar. D is the tooth-frame. This consists of an iron cross-head, *d*, to which are bolted the longitudinal and bent bars *d'*, the rear ends of the longer bars being clamped between a two-part transverse bar, *d''*, as shown.

The frame is connected with the axle by means of the links E, secured to the cross-head *d*, and pivoted by bolts *e* to crank-arms *a* on the axle. These crank-arms are provided with sleeve-heads *a'*, which fit upon the axle, and are set wherever adjusted by means of screws *a''*, whereby they can always be in line with the frame, and thus insure a straight draft. The axle passes through the rear end of the tongue C, from which rises a standard, F, in the vertical plane of the axle, and which supports a seat, G, resting on a spring, *g*.

Set by a screw, *h*, upon the axle is a forwardly-extending crank, H, to the forward end of which is pivoted a link, I, in the upper end of which is pivoted the forward end of a lever, J. This lever is pivoted in a bearing, *k*, on a bracket, K, bolted to the seat-

standard. To its rear end is pivoted the upper end of a yoke, L, the lower end of the arms of which are secured to the rear portion of the tooth-frame D.

The lever J is provided at its ends and center with a series of holes, *j*, whereby it may be adjustably pivoted to its several connections, in order to vary the limits of the movements transmitted through it. For a like purpose the upper end of yoke L is provided with a series of holes, *l*. The connection between the front of the frame D and the axle is also made adjustable by providing the links E with a series of holes, *e'*.

Secured to the axle is a hand-lever, M, which is provided with a spring-pawl, *m*, adapted to engage with a curved rack, *m'*.

N are the teeth, and O are sockets, in which their shanks are secured by set-screws *o'*. These sockets have forwardly-extending socketed arms *o*, which slip upon the ends of the bars *d'* of frame D, and are fixed by screws *o''*.

The operation of the cultivator is as follows: The location of the seat being over the axle, and the driver's weight being thereby wholly sustained by said axle and wheels, independent of the frame D, enables the operator to lift or adjust said frame without having to lift his own weight either wholly or partially. He has therefore to exercise but little power in adjusting the frame. By throwing lever M forward he rocks the axle forward, thereby throwing the end cranks, *a*, up and raising the front of frame D, and the center crank, H, down, which, through the link I, lever J, and yoke L, raises the rear of the frame D, whereby said frame may be carried, with its teeth, clear of the ground. A reverse movement lowers them again.

The advantage of the tooth-sockets O is, that they are adapted to be readily secured to the frame, and also to receive and secure the teeth, thereby rendering it easy to replace a broken or worn tooth, or to substitute a different form of tooth or cutting-blade, according to the nature of the work required. In this way I can use either a chisel-point or a shovel-tooth or a blade adapted for a weed-cutter.

The whole implement is simple in construction, easily handled, and effective in operation.

Having thus described my invention, what

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

1. In a cultivator, a wheeled axle having rearwardly and forwardly extending cranks, and a tooth-carrying frame behind, in combination with pivoted connections between the front of the frame and the rearwardly-extending cranks, and pivoted connections between the rear of said frame and the forwardly-extending crank, whereby the oscillation of the axle raises or lowers the frame, substantially as herein described.

2. In a cultivator, the wheeled axle A, having cranks *a* H, the tongue C, and seat G, supported by said tongue over the axle, in combination with the tooth-frame D behind the axle, and devices connecting the front and rear of said frame with the cranks of the axle, whereby said frame is adapted to be raised and lowered, substantially as herein described.

3. In a cultivator, the wheeled axle A, having rearwardly-extending end cranks, *a*, and forwardly-extending middle crank, H, and a lever, M, in combination with the tooth-frame D, the links E, connecting the front of the frame with cranks *a*, and the link I, lever J, and yoke L, connecting the rear of the frame with crank H, substantially as and for the purpose herein described.

4. In a cultivator, the wheeled axle A, having cranks *a* and H and a lever, M, in combination with the tooth-frame D, teeth N, the links E, having a series of holes, *e'*, whereby the front of the frame may be adjustably connected with the cranks *a*, and mechanism connecting the rear of said frame with the crank H, substantially as and for the purpose herein described.

5. In a cultivator, the wheeled axle A, having cranks *a* and H and a lever, M, in combination with the links E, connecting the front of the frame with the cranks *a*, and the means for adjustably connecting the rear of said

frame with the crank H, consisting of the link I, yoke L, having holes *l* in its top, and the intervening lever J, having a series of holes, *j*, whereby it may be adjustably pivoted to its several connections, substantially as herein described.

6. In a cultivator, the wheeled axle A, having cranks *a* and H and lever M, the tongue C, the standard F on said tongue, and the seat G on the standard, in combination with the tooth-frame D, the links E, connecting the front with the cranks *a*, and the mechanism for connecting its rear with the crank H, consisting of the link I, yoke L, and lever J, pivoted to a bearing on the seat-standard and connected at either end with the link and yoke, all arranged and adapted to operate substantially as herein described.

7. In a cultivator, the independent removable sockets provided with horizontal and vertical slots O, adapted to be adjusted and fixed on the bars of the frame and to receive and secure the teeth, substantially as herein described.

8. The independent tooth-sockets O, having set-screws *o'*, for fixing the teeth, and socketed arms *o*, fitting on the bars of the frame, and adapted to be fixed by set-screws *o''*, substantially as herein described.

9. In a cultivator, the frame having bars *d'*, in combination with the teeth and the means for securing them to the bars, consisting of the independent removable sockets O, and having socketed arms *o*, fitting on the bars, and the set-screws *o'* *o''*, fixing the teeth in the sockets on the bars, substantially as herein described.

In witness whereof I have hereunto set my hand.

GEORGE W. FORBES.

Witnesses:

C. D. COLE,
J. H. BLOOD.