

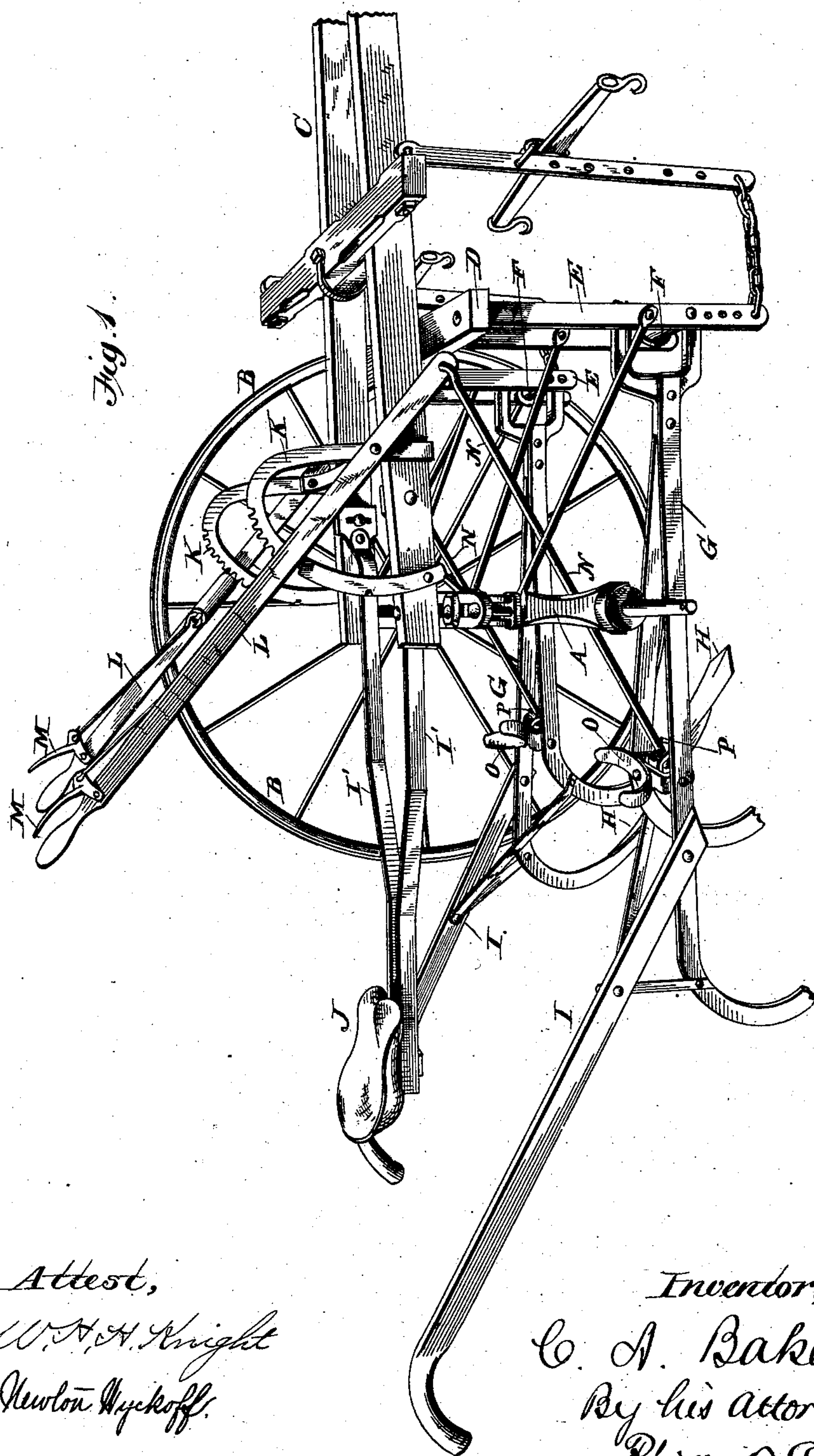
(No Model.)

2 Sheets—Sheet 1.

C. A. BAKER.
WHEEL CULTIVATOR.

No. 293,616.

Patented Feb. 19, 1884.



Attest,
W. H. Knight
Newton Wyckoff.

Inventor,
C. A. Baker.
By his attorney,
Philip T. Dodge.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

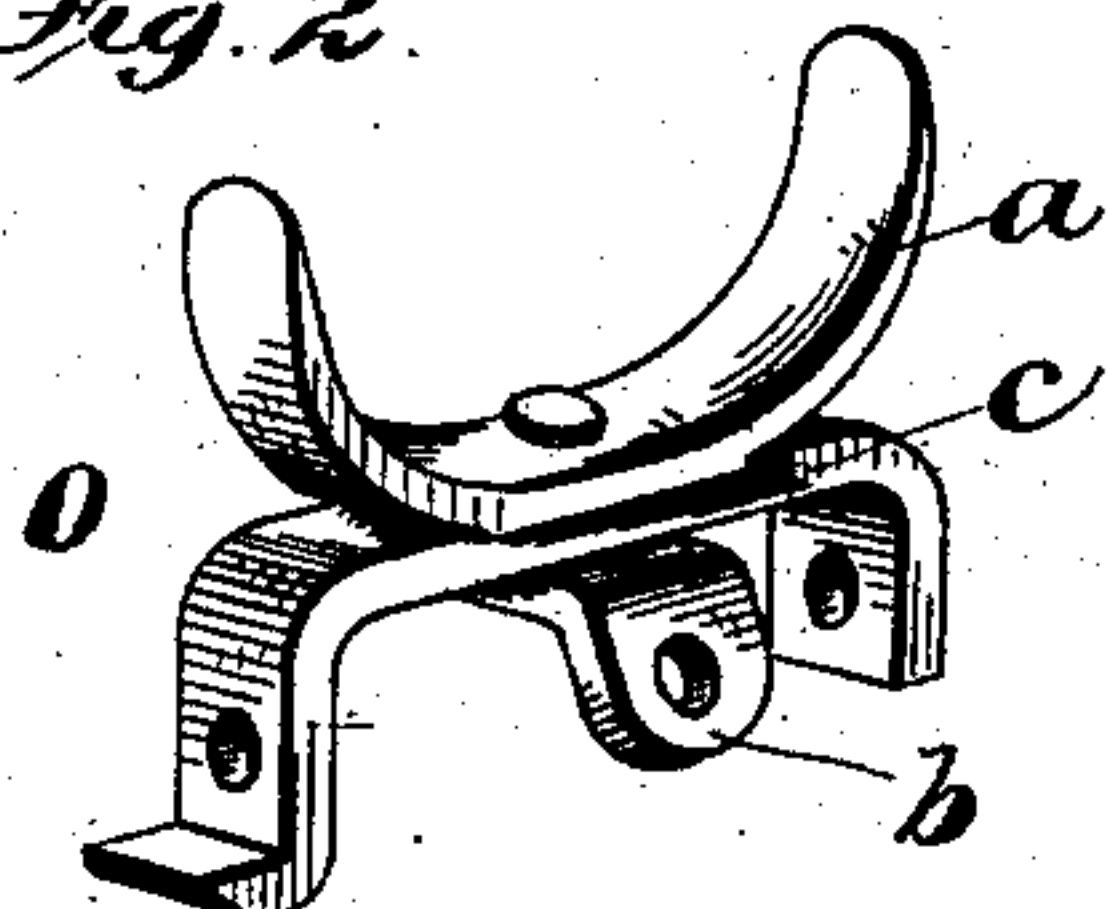


Fig. 3.

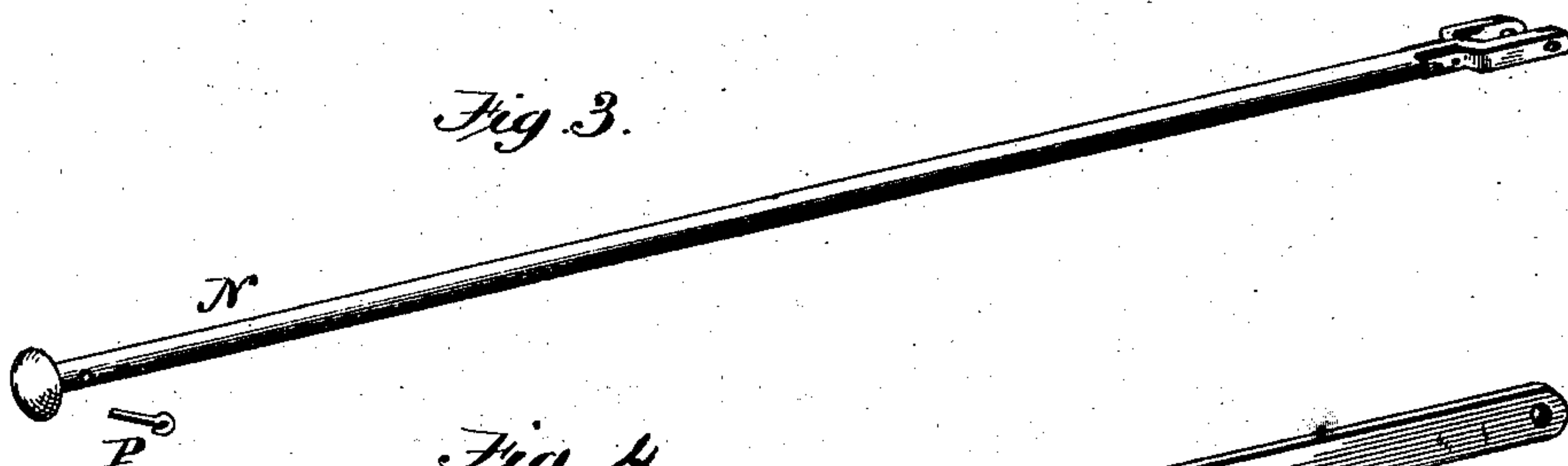


Fig. 4.

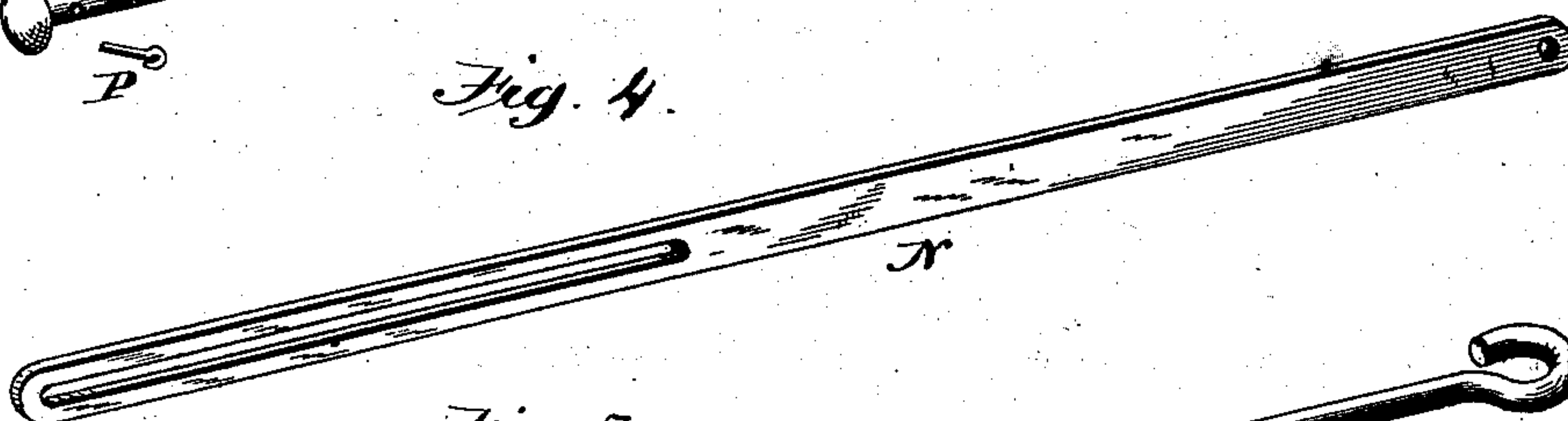


Fig. 5.

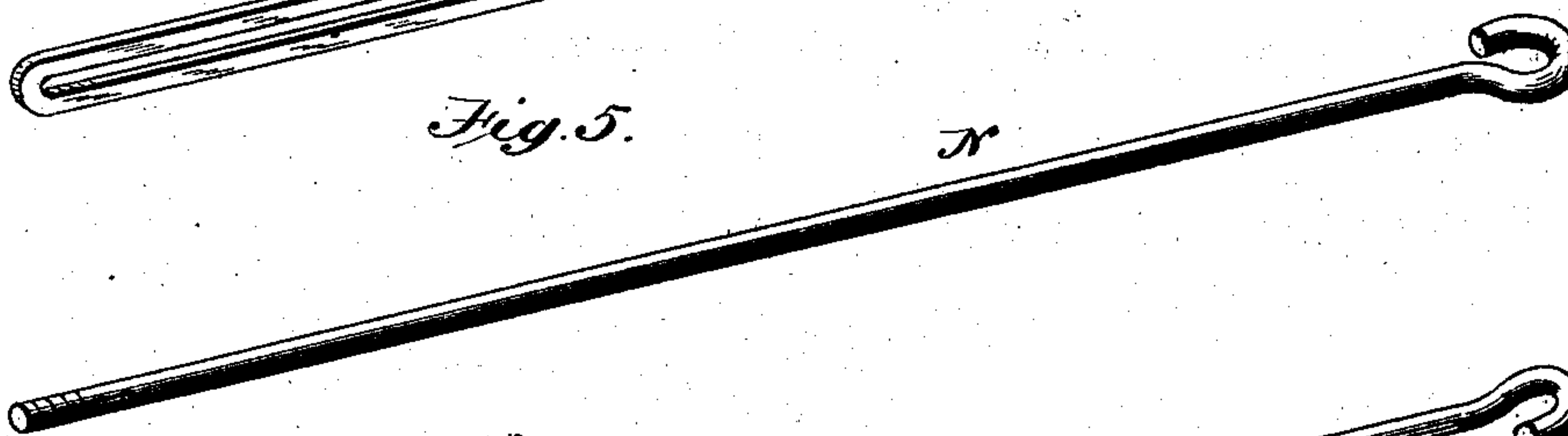


Fig. 6.

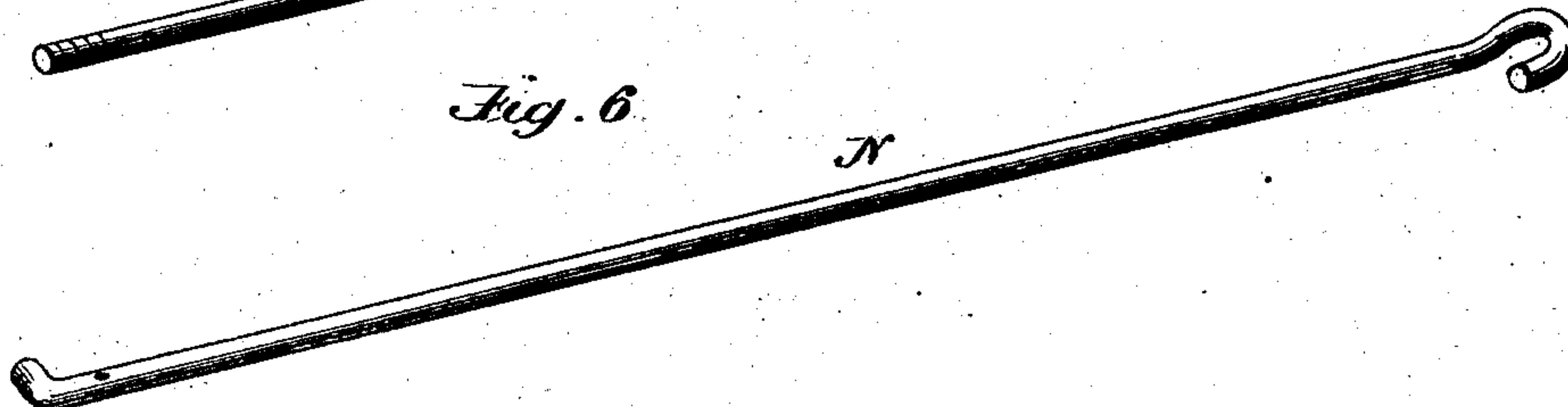
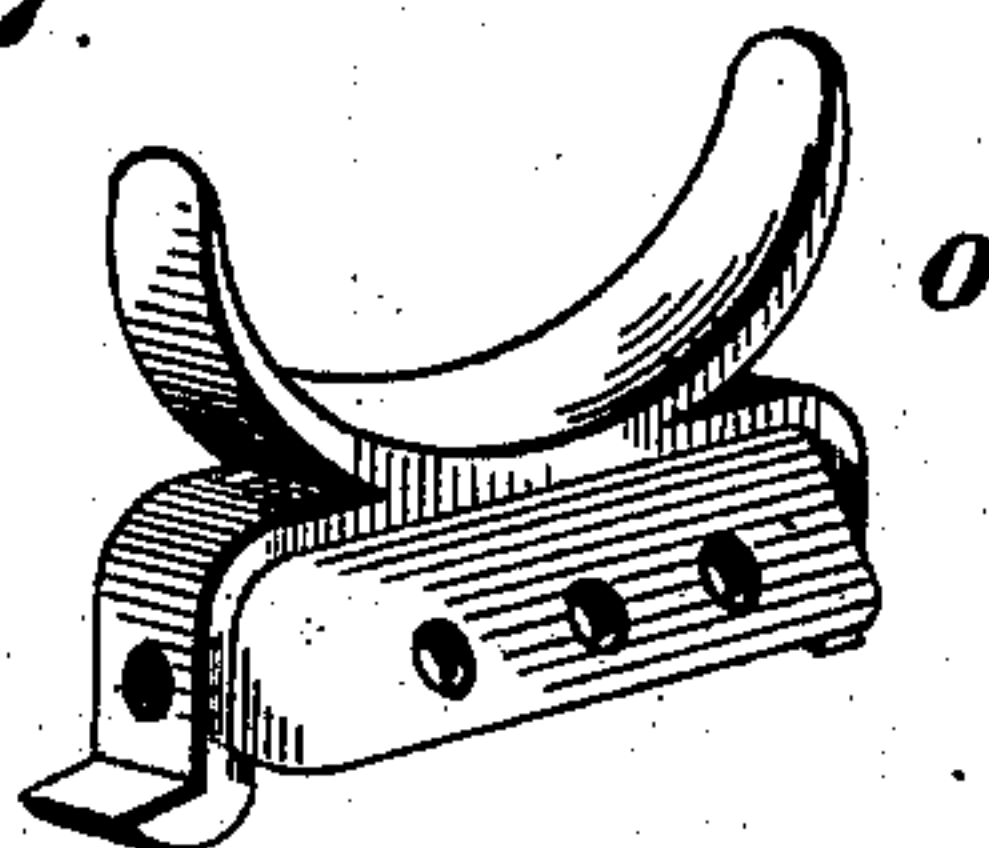


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES A. BAKER, OF MOLINE, ILLINOIS.

WHEEL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 293,616, dated February 19, 1884.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BAKER, of Moline, in the county of Rock Island and State of Illinois, have invented certain Improvements in Wheeled Cultivators, of which the following is a specification.

This invention relates to improvements in that class of wheeled straddle-row cultivators in which independent beams or drag-bars provided with shovels are jointed to the frame in such manner that they may be adjusted vertically, and are at all times free to swing in a lateral direction.

The aim of the invention is to provide a simple and reliable means, whereby the beams may be locked down positively in position, lifted above an operative position, or suspended in action at different heights, while left free to rise above the point of suspension, and this without in any manner interfering with the free lateral motion of the beams.

To this end it consists, essentially, in the combination, with the beams arranged to swing freely in a lateral direction, and also to swing vertically at the will of the operator, of hand-levers and locking devices located upon the main frame, and intermediate swinging connections between the beams and levers, the connections being of such character that a fixed or sliding joint may be established at will, as will be hereinafter more fully explained.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a combined walking and riding cultivator provided with my improvement, one of the main wheels being removed to expose other parts to view. Fig. 2 is a perspective view of the foot-plate employed for connecting the holding-rod with the beam. Figs. 3, 4, 5, and 6 are views illustrating different forms in which the lifting and holding rod may be constructed. Fig. 7 is a modified form of the combined foot and eye plate cast complete in one piece.

Referring to Fig. 1, A represents an arched main axle, sustained at its two ends by ground-wheels B, and provided with a draft pole or tongue, C. A cross-bar, D, bolted to the forward portion of the frame or tongue, carries at its ends two rigid pendent arms or brackets, E. To the lower end of each bracket there is connected, by a joint, F, a pair of divergent

beams, G, the rear ends of which are curved downward and provided with shovels H. The joint F is of such character that the rear ends of the beams are permitted to swing both laterally and vertically, their vertical position being controlled by means which will be hereinafter described, while they are at all times left free to swing in a lateral direction. Each pair of beams is provided at the rear end with a fixed handle, I, by which it is manipulated when the rider walks in rear of the machine. Two converging arms, J, connected rigidly with the draft frame or tongue, extend rearward above the beams and give support to a seat, upon which the driver may ride to operate the machine.

The foregoing parts are all of ordinary construction, and are familiar to persons skilled in the art.

In place of the devices hitherto employed for controlling the vertical movement of the beams, I employ the devices which I will now describe. On each side of the frame I bolt a curved rack-plate, K, and to each of these rack-plates I pivot an upright hand-lever, L, the upper end of which stands in suitable position to be operated by the driver while occupying the seat, and the lower end of which stands normally in a position substantially over the joint F, by which the corresponding beam is united to the frame. Each lever is provided with a thumb latch or lever, M, connected by an intermediate rod with a sliding bolt of ordinary form, arranged to engage with the rack-plate, for the purpose of locking the lever rigidly in the different positions required. To the lower end of each lever I joint a rigid bar, N, which extends thence downward through an ear upon a foot-plate, O, bolted firmly in position between the beams thereunder. This foot-plate, clearly represented in Fig. 2, is of such form and so located with respect to the driver's seat that when riding upon the machine the driver may place his foot upon the plate, and thus assist in controlling the lateral movement of the beam. The rod N is inserted loosely through the ear of the foot-plate, and provided with a nut or head upon its lower end, this arrangement permitting the plate to slide freely upward upon the rod as the beams are elevated, but

causing the beams to be suspended by the rod as the latter is lifted or properly adjusted. Under the above arrangement a depression of the hand-lever will cause the rod to lift the beam and shovels out of action. Upon locking the hand-lever at a suitable point the rod will be held at such elevation as to suspend the beam at any required height. By thus suspending the beam the distance to which the shovels enter the soil may be limited as required, while at the same time the beam is left free to rise in the event of its encountering obstructions or the operator lifting the same by means of the handles when the machine is used as a walking-cultivator.

In operating under certain conditions encountered in practice it is desirable to lock the beams positively at a given depth, to prevent them from rising accidentally. For this purpose I provide means by which the lower ends of the rod N may be rigidly connected with the beams at will. This locking device may be of any suitable character; but I prefer, as the most simple means, to provide each rod N, immediately above the foot-plate, with a transverse slot or hole and insert through said hole a removable key, P. It will be observed that when this key is inserted the beam and connection are no longer free to slide upward on the rod, but are locked fast to the lower end thereof, so that the locking of the levers in position will have the effect of preventing the elevation of the beam.

I am aware that hand-levers have been connected with beams of a cultivator by chains and sliding rods, by means of which the beams could be suspended at a given elevation and permitted to rise freely.

I am also aware that in sulky-plows means have been provided for rocking the beam or standard of a mold-board plow laterally, to vary the inclination of the plow-standard and lock the same in position, and I lay no claim to either of said combinations.

My combination relates peculiarly to cultivators in which shovels are employed, and in which it is necessary to have the beams swing laterally with perfect freedom, and the invention is restricted to an arrangement in which the levers and their connections may be adjusted at will to lock the beams down, to lift them, or to suspend them at any given elevation in such manner that they may rise freely.

While it is preferred to arrange the sliding connection of the rod at its lower end, it is manifest that it may be secured rigidly at the lower end to the beam and have the sliding connection at the upper end of the hand-lever, provided means are supplied to prevent the sliding movement at will.

Figs. 3, 4, 5, and 6 illustrate various forms in which the rod may be constructed.

Fig. 7 represents a modified form of the foot and eye plate, which is here represented as being cast in one piece, instead of being made in several pieces, as in Fig. 2.

While I have represented in the drawings two pairs of beams, each beam curved downward to receive a single shovel, it is to be understood that I may substitute therefor two beams or drag-bars of a straight or other form, each provided with two or more shovel-carrying standards, the two arrangements being well known in the art as equivalents of each other.

Having thus described my invention, what I claim is—

1. In a riding and walking cultivator, the combination of the following elements: a wheeled frame, shovel-carrying beams free to swing in a lateral direction, jointed at the forward ends to said frame and provided with operating handles at the rear, a driver's seat mounted upon the frame, hand-levers mounted upon the frame, devices for locking said levers in different positions, rods connecting the hand-levers to the respective beams, and means, substantially as described, whereby said rods may be given a rigid or a sliding connection at one end, as occasion may require.

2. In a wheeled cultivator, laterally and vertically swinging shovel-beams, jointed at their forward ends to the frame, combined with hand-levers mounted upon the frame and provided with devices whereby the levers may be locked in different positions, rods connecting the lower ends of the hand-levers with the respective beams, said rods being arranged to slide through their connections at one end, as described, and the removable keys or pins inserted through the sliding end of the rod for the purpose of preventing the sliding movement, whereby the levers may be caused to act simply for lifting the beams, for suspending the same at a given elevation, or for the additional purpose of locking the beam down positively in an operative position.

3. The wheeled frame having the laterally and vertically swinging shovel-beams jointed thereto at their forward ends, the hand-levers having their lower ends substantially over the forward ends of the beams, the locking devices for said levers, the rods N, having their upper ends jointed to the levers substantially over the forward ends of the beams, and their rear ends extended through eye-plates on the beams, and provided with nuts or heads at the lower end, and a key or locking device combined with said rod above the eye-plates.

4. In combination with the shovel-beams and suspending or lifting rods, the combined eye and foot plates, as described.

5. In combination with the shovel-beam and the lifting-rod, the plate attached to the beam and provided with a series of openings, as described, whereby a lateral adjustment of the lifting-rod with respect to the beam is permitted.

CHAS. A. BAKER.

Witnesses:

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G. W. GRIFFIN.