(No Model.) 2 Sheets—Sheet 1.

H. REA.

CULTIVATOR.

No. 301,831. Patented July 8, 1884.

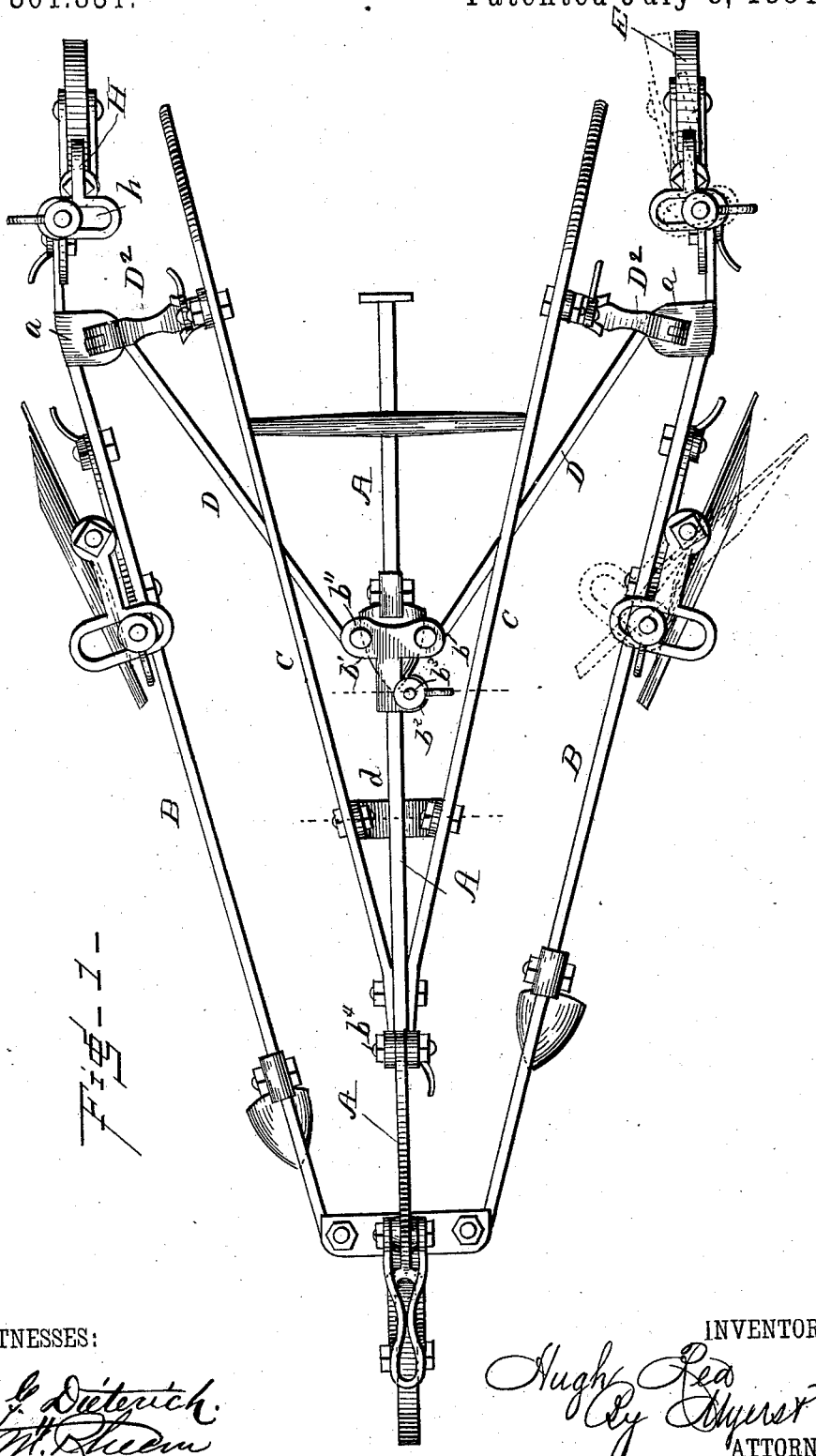

Fig. 1.

WITNESSES:

Fred. G. Dieterich.

W. M. Queen

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(No Model.) 2 Sheets—Sheet 2.

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CULTIVATOR.

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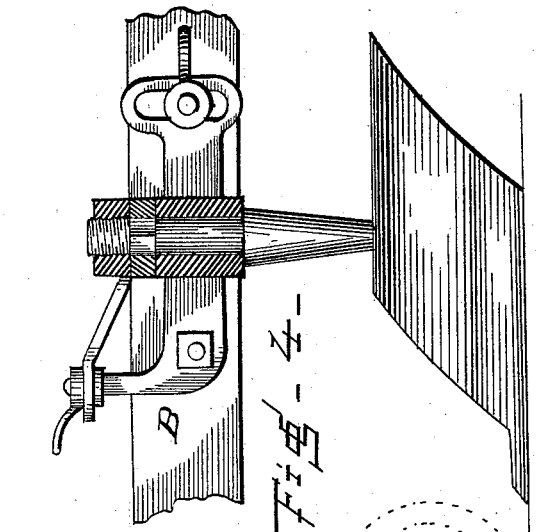

Fig. 4.

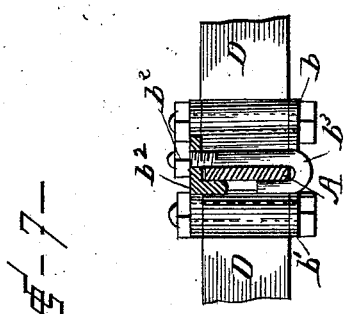

Fig. 7.

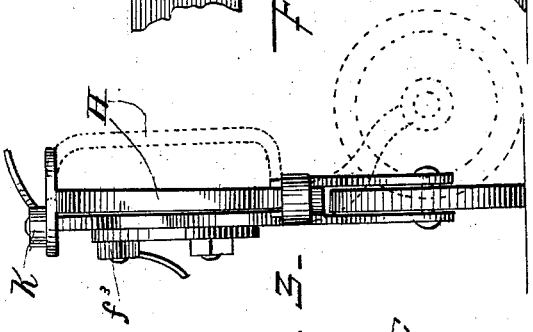

Fig. 3.

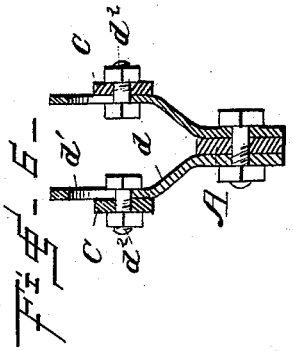

Fig. 6.

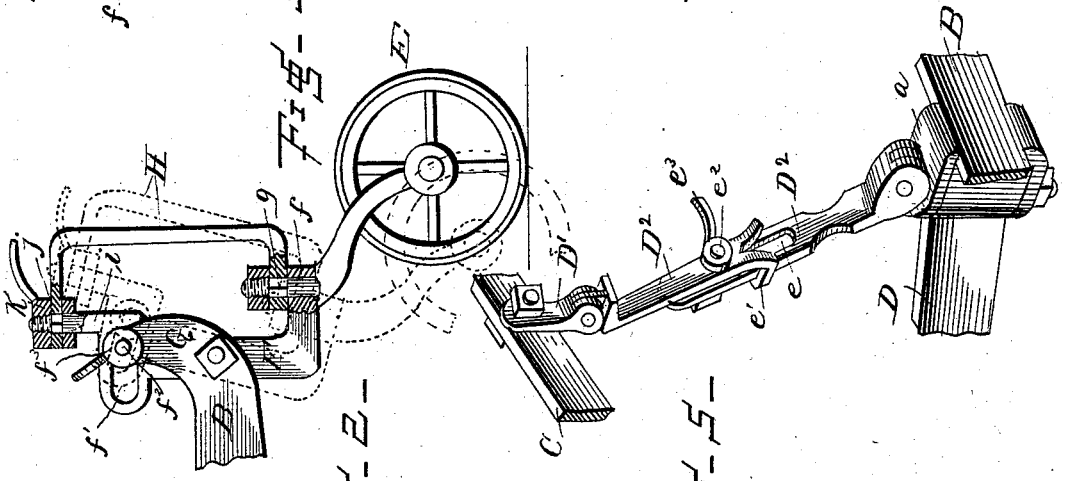

Fig. 2.

Fig. 5.

WITNESSES:

Fred G. Dieterich.

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UNITED STATES PATENT OFFICE.

HUGH REA, OF VILLAGE GREEN, PENNSYLVANIA.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 301,831, dated July 8, 1884.

Application filed April 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, HUGH REA, a citizen of the United States of America, residing at Village Green, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Cultivators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to improvements upon my cultivator for which Letters Patent were granted January 8, 1884, No. 291,772, having for its object to effect the vertical adjustment or lowering and raising of the rear ends of the plow-beams, to control the depth of penetration of the soil by the plows, and also to facilitate the lateral adjustment of the wings, while rendering the handles capable of adaptation to the height of the attendant, and to accommodate the lateral adjustment of the wings.

The invention consists of means or contrivances to effect the aforesaid results, substantially as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a cultivator embodying my improvements, and the other figures, 2 to 7, represent details of the same.

In the organization of my invention, I connect the central beam, A, with the hinged or pivoted wing-beams B, which are of the construction shown in my above-referred-to patent, by means of the arms D, pivoted at their outer rear ends in clips *a*, cast with the rear ends of the beams B, and pivoted at their inner forward ends in clips *b b'*, connected, as presently described, to the central beam, A. The upper or face part of the clips is a T-shaped casting or plate, *b''*, which is connected to its lower transverse plate, *b'*, by the bolts which connect the arms D to the clips. The forward end of the plate or casting *b''* has a lateral extension, b^2, through which is inserted a hooked bolt, b^3, having a handled nut upon its upper end, and embracing at its lower hooked end the beam A upon its under side, as seen in Fig. 7.

C C are the handles, which are pivoted, by means of the nutted bolt b^4, to the beam A at their lower ends, while farther up their lengths they are connected to said beam by two castings or standards, jointly forming a Y-shaped connection, *d*, as clearly seen in Fig. 6, said connection having adjusting-slots *d'*, which receive adjusting-bolts d^2 from and thus allow the vertical adjustment of the handles. At the rear upper ends the handles C are connected to the wing-beams B, so as to permit of their vertical and lateral adjustment, according as it may be desired to adapt them to the height of the operator or one guiding the implement, or to the lateral movement or adjustment of said wing-beams, said connection being effected by means of the two-part extensible connections D^2 D^2. Each of the latter comprises two castings or sections—a lower and an upper—the former casting being pivoted or hinged to the top of one of the clips *a* at one end, and provided at its other end with a vertical slot, *e*, while the other section or casting is pivoted or hinged at its upper end to a short arm or pendant, D', bolted to one of the handles and provided with a laterally-bent loop or eye, *e'*, and just above said eye with an adjusting headed bolt, e^2, and handled nut e^3, said lower section or casting having its slotted portion passing through the loop or eye of the upper section, while the adjusting-bolt of the upper section passes through the slot of the lower section or casting.

E E are the supporting caster-wheels of the rear ends of the wing-beams B, which are capable of a lateral plane of travel and of longitudinal adjustment, the former being to enable them to revolve or move in the direction of the lateral adjustment of said wing-beams, while the latter is to permit the vertical adjustment or raising and lowering of the said ends of said beams, to permit of controlling the depth of penetration of the soil by the plows, said adjustment of the wheels being designated in dotted lines in Fig. 2, and said plane of travel of said wheels being indicated in like manner in Fig. 3. To effect the aforesaid adjustment of the wheels as to the plane of travel, the spindle *f* of each axle-frame thereof is supported in the rearward extension of a right-angled bracket or lever, F, about centrally pivoted upon an upturned extension, G, of each beam B, the upper end of said lever having a horizontal slot, *f'*, standing edgewise to the length of the lever and receiving a headed bolt, f^2, having a handled nut, f^3, which effects the holding of the lever F at the desired point of adjustment. To secure the aforesaid plane of travel of said wheels, the spindle *f* is pro-

vided above its bearing in the bracket or lever with an angular shoulder or surface, *g*, which is embraced by the lower inwardly-extended end of a bail-shaped lever, H, secured in place by a nut screwed upon the screw-threaded end of said spindle, while the upper inwardly-extended end of said lever H is provided with a horizontal slot, *h*, (see Fig. 1,) arranged transversely to the length of said lever. This slot receives an upward screw-thread extension, *i*, of the lever F, which is also provided with an angular shoulder or surface, *j*, where it enters said slot, while its extreme upper end is provided with a handled nut, *k*. The angularity of the extension *i* and of the spindle *f*, together with the corresponding shape of the aperture in the lower end of the lever H, and of the slot in the upper end of the latter, enables the disposition and retention of the wheel in the required plane of travel by grasping and properly manipulating the lever H and its tightening or holding nut *k*.

The remaining devices, which consist, principally, of the cultivating plows and shovels, are substantially described in my above-alluded-to patent, and therefore need no further reference herein.

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

1. The combination of the wing-beams B, arms D, central beam, A, plate or casting *b' b''*, having extension b^2, and hooked bolt b^3, embracing the central beam, A, substantially as shown, and for the purpose described.

2. The combination of the handles C, pivoted to central beam, A, Y-shaped connection *d*, having adjusting-slots for coincident adjusting-bolts, extensible connections D^2, wing-beams B, and arms D, substantially as shown and described.

3. The combination of the wing-beams B, having upturned extensions G, axle-frames of wheels E, having spindles *f*, bracket or lever F, having horizontal slot *f'*, and lever H, having slot *h*, substantially as shown and described.

4. In a cultivator, the pivoted handles C, adjustable vertically in connection with the slotted Y-shaped connection *d*, and supported by means of the extensible connections D^2 upon wings B, and the slotted Y-shaped connection *d*, substantially as shown, and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

HUGH REA.

Witnesses:
M. W. HAMMELL,
CHAS. H. HANNUM.