W. P. HUBBARD & J. W. ROBINSON.

CULTIVATOR ATTACHMENT.

No. 190,328. Patented May 1, 1877.

Fig. 1.

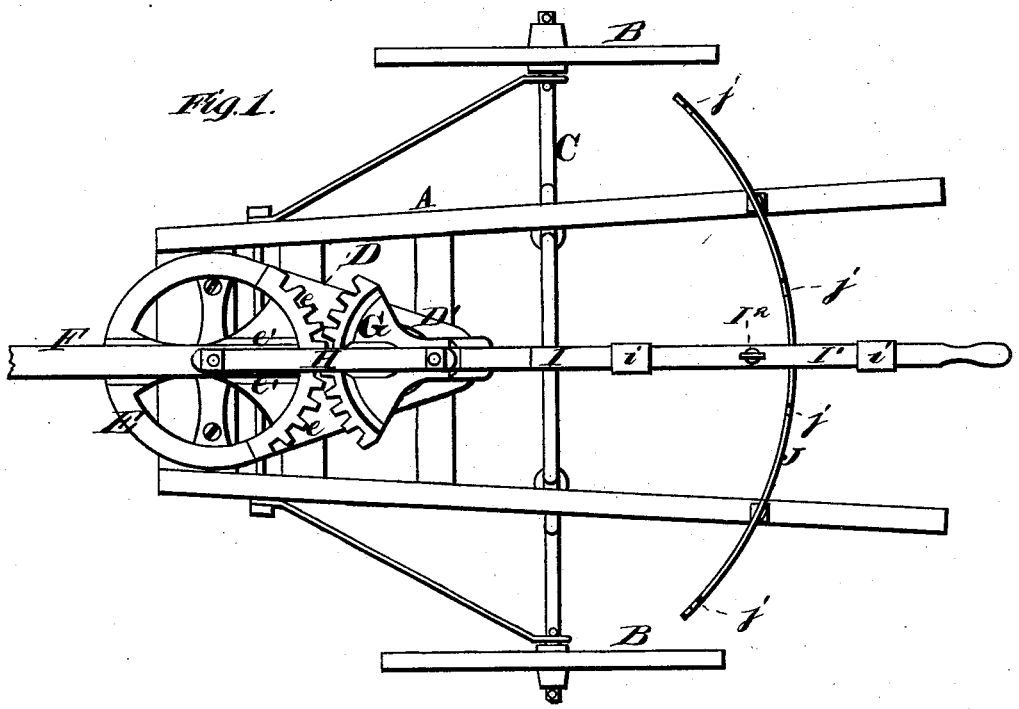

Fig. 2.

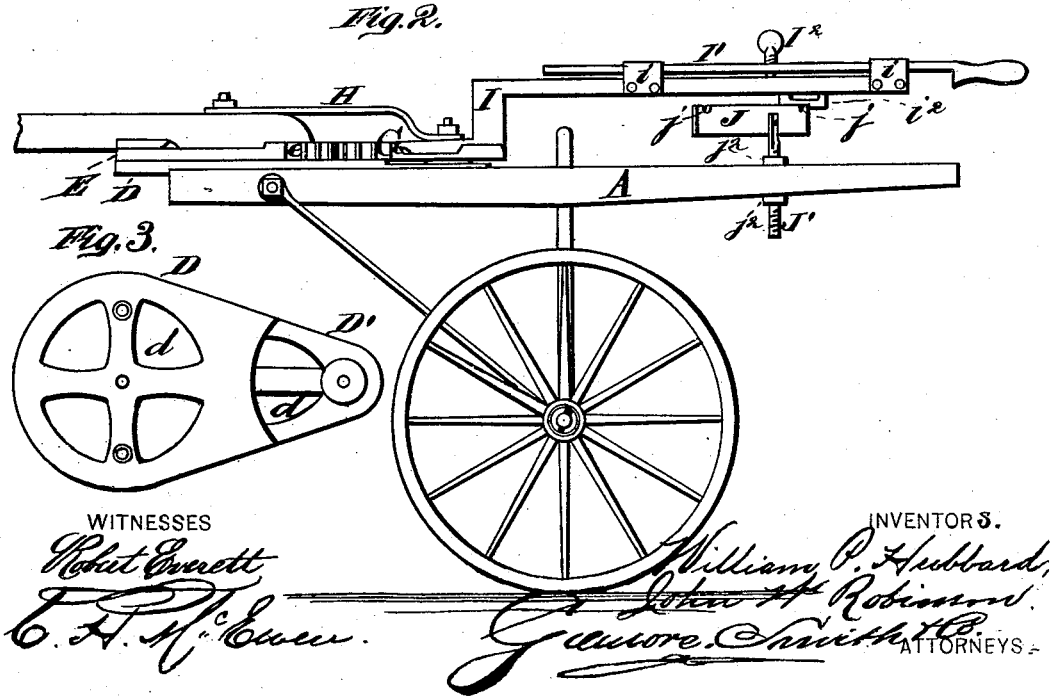

Fig. 3.

WITNESSES

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IMPROVEMENT IN CULTIVATOR ATTACHMENTS.

Specification forming part of Letters Patent No. **190,328**, dated May 1, 1877; application filed January 6, 1877.

To all whom it may concern:

Be it known that we, WILLIAM P. HUBBARD and JOHN W. ROBINSON, of Farmland, in the county of Randolph and State of Indiana, have invented a new and valuable Improvement in Cultivator Attachments; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of our cultivator attachment, and Fig. 2 is a side elevation thereof. Fig. 3 is a detail view of the same.

This invention relates to devices for adjusting laterally the draft-poles of wheel-cultivators. The nature of said invention consists, mainly, in providing the front gear-supporting plate with a rear extension, which supports the adjusting-gear or cogged segment, as hereinafter set forth.

In the annexed drawings, A designates the frame of a wheel-cultivator, which is supported upon driving and transporting wheels B by means of an arched axle, C. To the front part of the top of said frame A is secured a flat metal plate, D, which is broad and rounded in front, so as to form the greater part of a circle, and has at the rear a tapering extension, D′. The metal of the interior portions of said plate may be partly removed, in order to secure lightness, leaving open spaces *d*. The construction of said plate is shown in detail in Fig. 3.

To the center of the rounded front part of plate D is pivotally secured a disk or wheel, E, which turns thereon like the upper plate of a fifth-wheel, and is provided at the rear with cogs *e e*. If preferred, said cogs may be extended entirely around the circumference of said disk or gear-wheel E. The upper face of said wheel or disk is provided with two ridges, *e′ e′*, extending from front to rear. In the space between said ridges sets the rear end of a draft-tongue, F, which is pivoted at the same point as said front gear-wheel E, and turns therewith.

G designates a segmental gear, (which may be changed to a complete cog-wheel,) pivoted to the rear extension D′ of plate D, and meshing with said front gear-wheel E. The pivots of said gears E and G are connected by a metal bracing-strap, H. Said rear segmental gear G is provided with an adjusting rod or lever, I, the front end of which is set into a recess upon the surface of the said gear G. Said adjusting rod or lever I is made extensible by being constructed in two sections, the upper one of which, I′, slides longitudinally through clips *i i*, attached to the lower and main section of said rod; but it may be clamped to said lower section, at any point of its longitudinal adjustment, by means of a clamping-screw, I^2.

To the under side of said lever I is secured a rigid metal catch-piece, i^2, which is adapted to set into any one of the notches *j* on the upper edge of a curved locking-rack, J, which rack is attached to frame A near the rear thereof, as hereinafter described.

The office of adjusting rod or lever I and gears E G is to adjust draft-tongue F laterally on its pivot, so as to change the position of the horses, thereby enabling them to avoid obstacles without altering the line of draft. It also facilitates turning, and enables a row of corn to be conveniently cultivated quite from end to end. Rack J and catch i^2 conjointly operate to lock said tongue in any position of the aforesaid lateral adjustment. The extensibility of lever I enables the plowman to increase or diminish the amount of leverage according to the requirements of his work. It also facilitates grasping said lever. The peculiar construction of plate D, terminating at the rear in tapering end D′, securely attaches together the pivoted gears E G, and forms a bearing for said gears, preventing them from being strained or casually unmeshed by movements incident to the operation of the cultivator. Lever I may be turned sufficiently far to disengage gears E and G, and draft-tongue F may then be turned backward on its pivot, so as to allow the cultivator and all its attachments to be placed under a barn, shed, or other shelter.

Curved rack-bar J is provided on its rear side with two rigid downwardly-extending screw-threaded metal rods, J′, one of which is distinctly shown in Fig. 2. Each one of

said rods J′ passes down through one of the side bars of frame A, and is held in position by two nuts, j^2 j^2, arranged, respectively, above and below the same. By these devices said rack-bar is held rigidly to said frame, but may be adjusted upward or downward to suit the pressure of lever I, and to prevent the straining of the same.

We are aware that the tongue of a wheel-cultivator has heretofore been pivoted to its wooden frame, and provided at its inner end with a gear, which engages with a gear on the inner end of a lever, also pivoted in the wooden frame, by means of which the tongue can be moved in the arc of a horizontal circle; and we therefore lay no claim to such invention, broadly, which is objectionable, because the wooden frame is liable to warp and twist, so that the gears will not mesh with each other, or be always in line, or may bind, which objections are obviated in our construction by supporting the gears on a metallic piece not liable to twist or warp, which metal support also acts as a shield or protector of the gears.

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

1. In combination with the extensible lever I and adjustable rack-bar J, the plate D and the tongue and lever gears E G, substantially as described, and for the purpose set forth.

2. In a wheel-cultivator, the supporting-plate D, with its extension D′, made in one piece, and attached to the transverse braces of the wooden frame A, in combination with the pivoted tongue F, having gear E, and the pivoted lever I, having gear G, whereby the gears are supported by said plate, always held in engagement with each other, and shielded from obstructions from below, substantially as described, and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

WILLIAM P. HUBBARD.
JOHN W. ROBINSON.

Witnesses:
EDWARD S. HUDSON,
DANIEL JONES.