2 Sheets—Sheet 1.

G. W. DOOLITTLE.

Wheel-Cultivator.

No. 58,389. Patented Oct. 2, 1866.

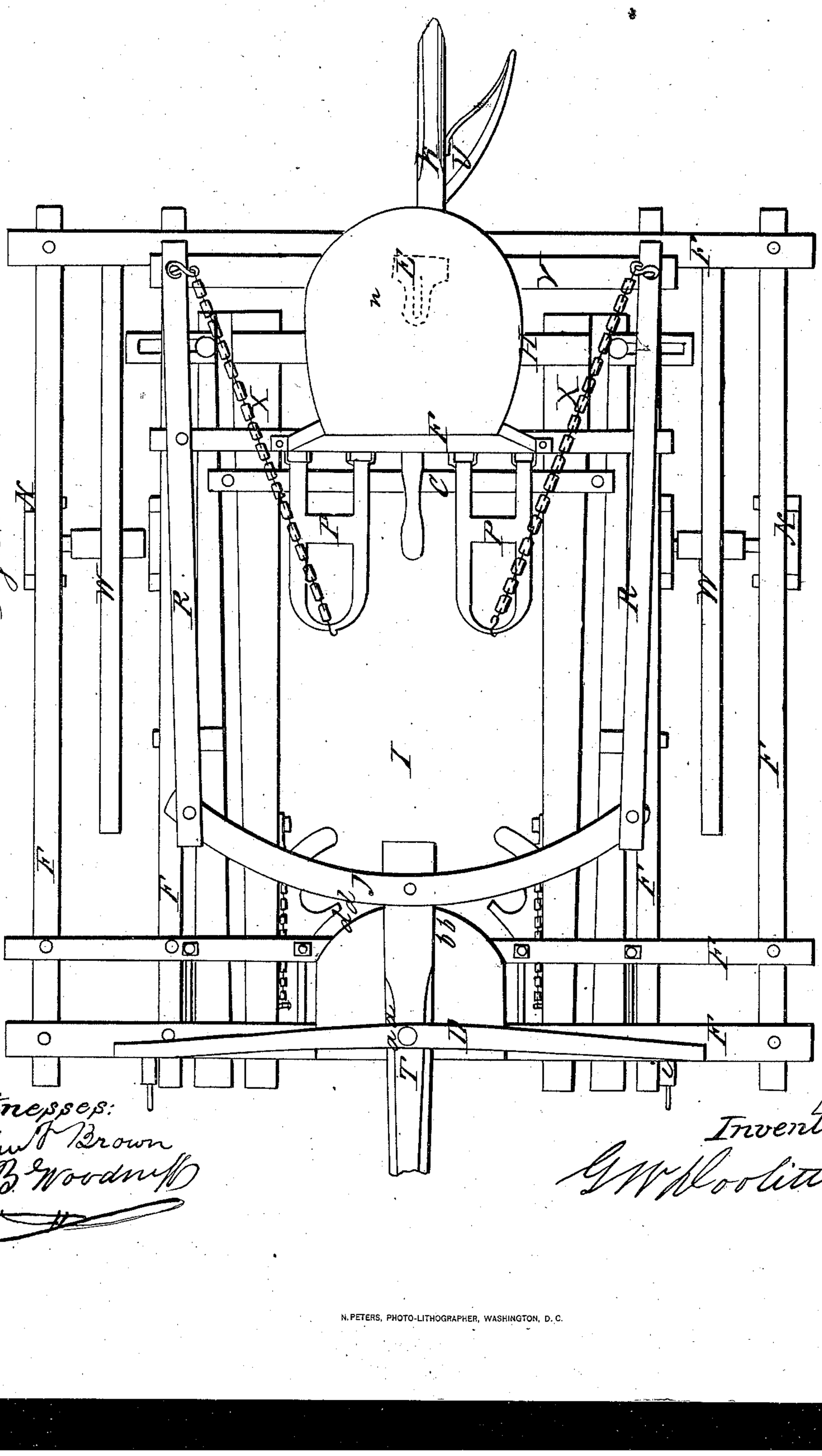

Fig. 1.

Witnesses:
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J. B. Woodward

Inventor:
G. W. Doolittle

2 Sheets—Sheet 2.

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Fig. 2.

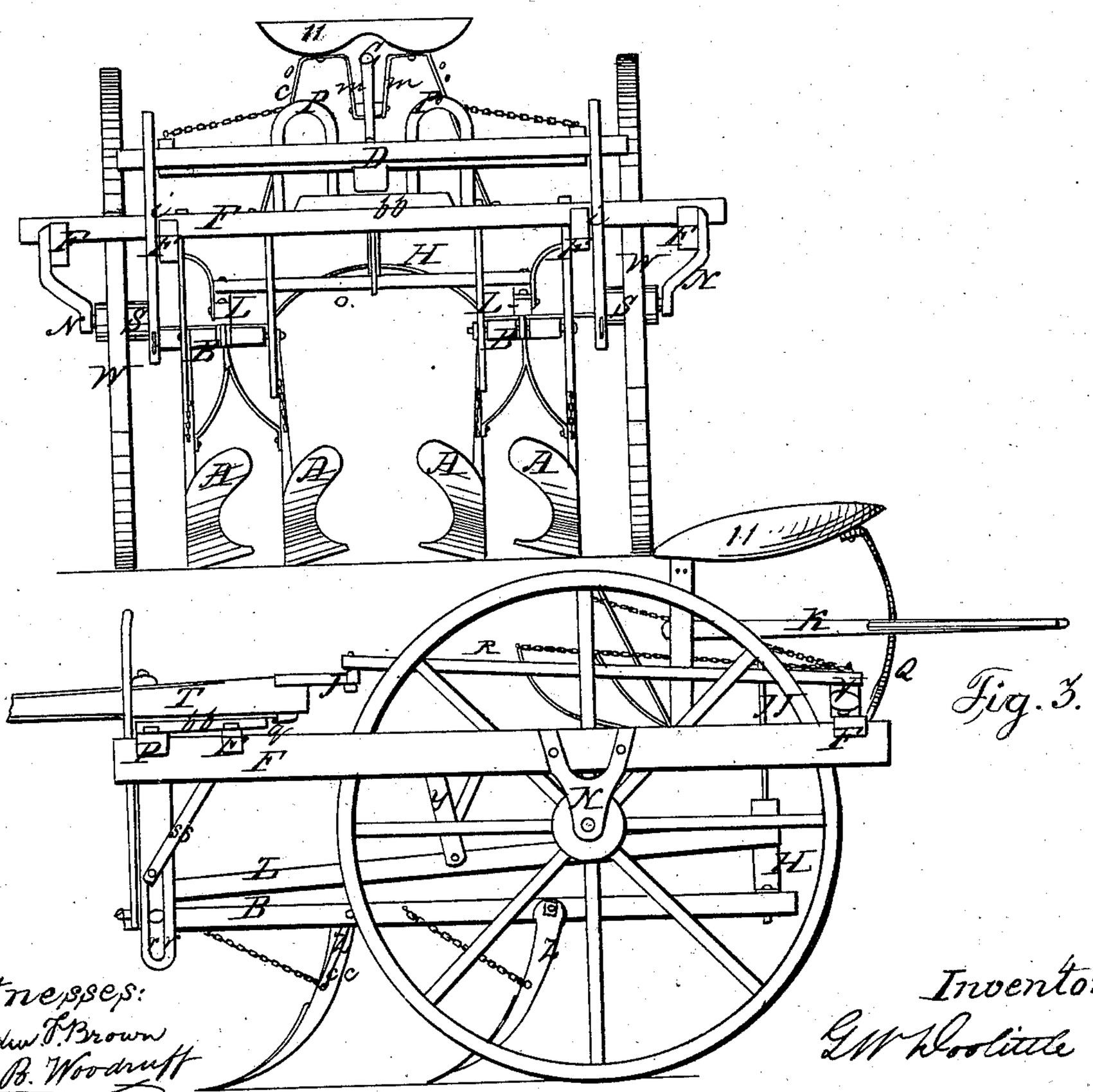

Fig. 3.

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Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE W. DOOLITTLE, OF LINCOLN, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **58,389**, dated October 2, 1866.

To all whom it may concern:

Be it known that I, GEORGE W. DOOLITTLE, of the city of Lincoln, county of Logan, and State of Illinois, have invented a new and Improved Corn and Cotton Cultivator; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a top view; Fig. 2, a front-end view, and Fig. 3 a side elevation.

The frame of this machine is constructed of wood, and marked F in Fig. 1, where it is best shown that it is simply notched together and bolted where the timbers cross each other. *b b* show a part of a circle of wood which is bolted on the forward end of the frame, upon which the tongue T is fastened so as to turn readily upon the bolt *a a*, describing the circle *d d*, which is plated with iron and traversed by a friction-roller on the under side of the back end of the tongue. The tongue is held down by a small friction-roller, (marked *q* in Fig. 3,) which traverses the under side of the circular plate *d d*, Fig. 1.

On the top side of the rear end of the tongue is notched and bolted firmly the section J in Fig. 1, upon either end of which the light wooden rods R R are fastened, with a bolt acting as a hinge, which bolt-hinge fastening is duplicated on the rear end of the rods R R upon the straight wooden piece V, which is held by a bolt in its middle, which works through a plate of iron, which has a slot cut only large enough to allow the center bolt through the piece V to slide fore and aft about four inches, E.

The chains X are hooked into the eyebolt at either end of V and into the foot-plates P.

By this combination it will be seen that the plowman when sitting on the seat *l l*, and placing his feet on the foot-plates P, will have easy and accurate control in guiding by pressing down one or the other of the foot-plates, as may be required, which operation draws the rods R backward or forward, placing the machine at will on any angle with the tongue that may be required.

Fig. 2 shows the shape of the plow-molds A, which are constructed out of the usual slab plow-steel, and are first cut the shape of the ordinary Diamond plow; then before bending cut out the circle, as shown in Fig. 2. By this shape of mold is obtained a wide share with a draft so light that a furrow can be plowed to a very great depth without materially increasing the draft, and hence can be easily drawn by two ordinary horses or mules, which are great objects much desired in the rich deep soil of the west, and have not yet been accomplished by other devices.

The plows A may be easily changed to throw the earth to or from the row, and placed at any given distance therefrom that may be required, throwing a greater or less quantity of earth to the row.

The plow-shanks Z can be readily changed from a perpendicular angle to an oblique angle, throwing the wing of the share down to fit any shape of ridge upon which cotton is always grown, thus rendering it an admirable cotton scraper and cultivator.

In Fig. 2 is exhibited a crooked iron axle, (marked S,) upon which the wheels W revolve, made similar to the ordinary cast-iron axle, but, in place of getting its entire strength or support at only one end, is supported at the other end by the brace marked N, Fig. 2, and bolted on the frame on either side of the wheels W. (Best shown in Fig. 1.)

In Fig. 2, too, is shown the manner of forming a fulcrum, *m*, fastened to the seat *l l*, by using the same iron which holds up the front end of the seat. (Marked *o o*.) B B exhibit front end of plow-beams, which are as wide as the cut of the share makes, in the end of which is fastened the lever L, which runs back the entire length of the beam B, and bolted at the fulcrum Y in Fig. 3, connected by the cross-bar *c* in Fig. 2; and by means of a spring-latch, G, in Fig. 2, the end of the plow-beams can be raised or lowered any required distance without stopping, and be firmly held in that position; and in addition to this convenience the lever K in Fig. 3, working up or down on the ratchet Q, can be set at any point upon the ratchet desired. Thus, by the iron rod J J, Fig. 3, the plows are lifted out of the ground when desired, or the rear end of the beam raised or depressed at will, and held firmly at any point on the ratchet. The two plow-beams are con-

nected at their rear end by a bow of tire-iron, in which the iron rod J J, Fig. 3, is fastened.

The plow-molds are bolted on an iron shank, Z, which is made with a flange to receive the bolt, and is held forward by chains at any required position by lengthening or shortening the chains.

Fig. 3 exhibits an iron slot, *r r*, and its brace *s s*, to which the beams are fastened by passing a bolt through the slot *r r*, end of beam and lever, and through the iron slot on the other side of the beam.

In Fig. 2 is exhibited the double-tree D and the perpendicular single-trees *i*, working on a hinge at F, and provided with a hook at the lower end to receive the single-tree, to which the team is attached.

The open space I gives to the operator the advantage of seeing the row without the obstructions of parts of machines, which is too much the case in all the machines that have come to my knowledge.

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

1. The form of the plow-molds, as herein described, for the purposes specified.

2. The arrangement and combination of the guiding mechanism herein described.

3. The iron axle S and the supporting-brace N, constructed and operating as herein described.

4. The combination of all the parts, operating substantially in the manner herein described.

GEORGE W. DOOLITTLE.

Witnesses:
EDM. F. BROWN,
J. B. WOODRUFF.