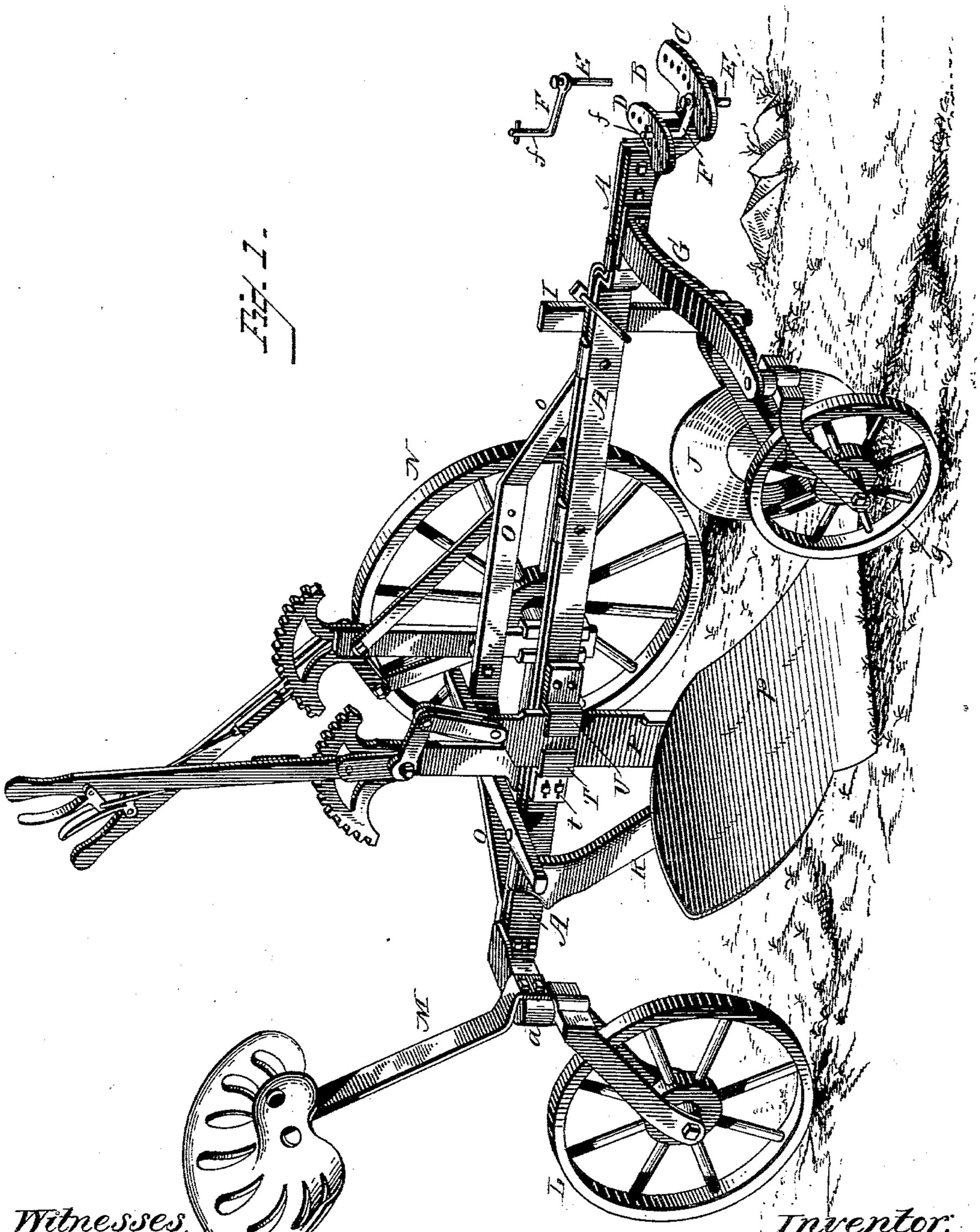
(No Model.) 2 Sheets—Sheet 1.

L. M. BROCK.

WHEEL PLOW.

No. 319,059. Patented June 2. 1885.

Fig. 1.



Witnesses.
Thos. D. Snider
L. L. Miller.

Inventor:
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per Chas. H. Foisler,
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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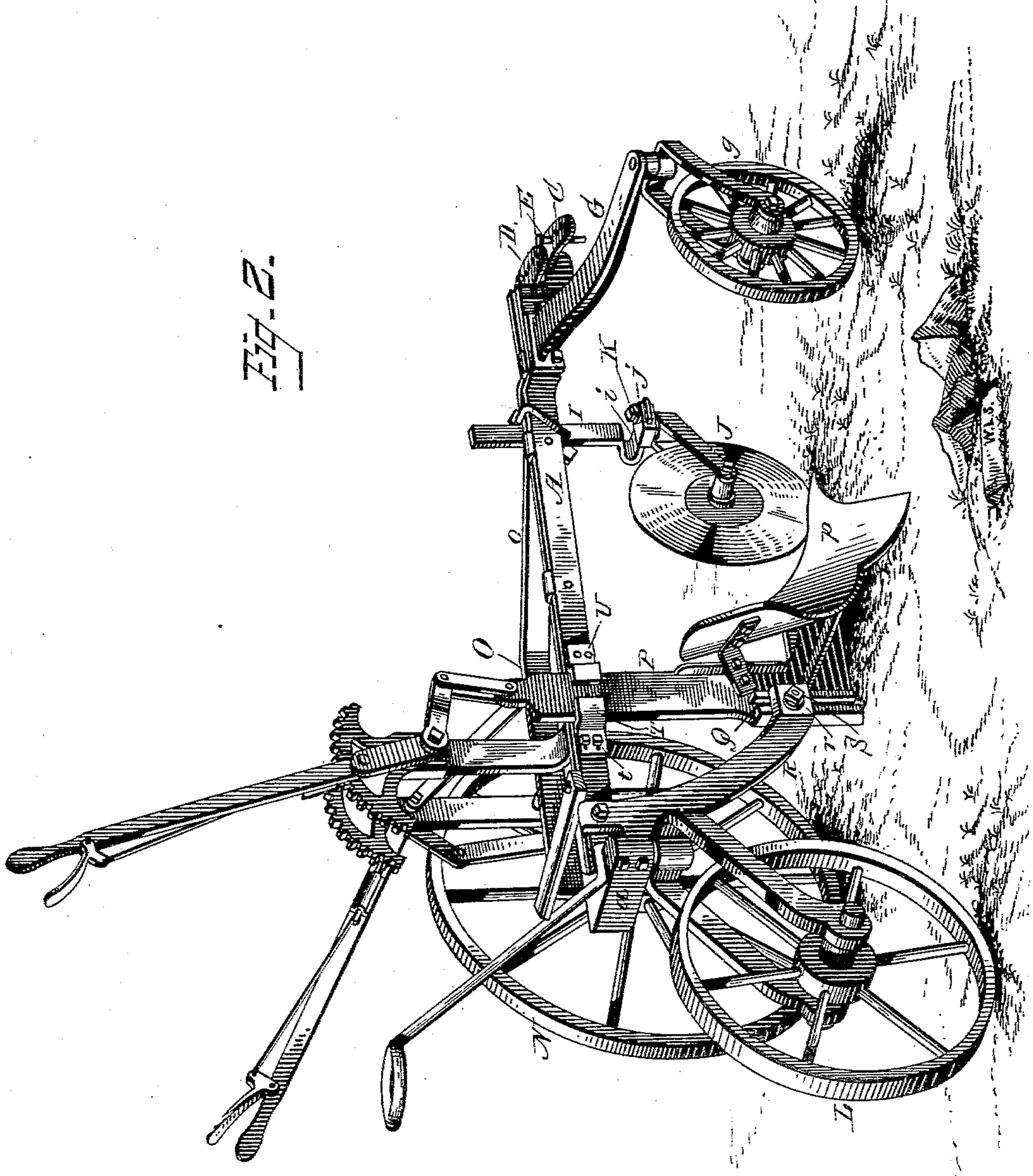
Fig. 2.



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UNITED STATES PATENT OFFICE.

LEVI M. BROCK, OF MACKINAW, ILLINOIS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 319,059, dated June 2, 1885.

Application filed March 14, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEVI M. BROCK, a citizen of the United States, residing at Mackinaw, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Wheeled Walking and Sulky Plows; and I do hereby declare that the following is a full, clear, and exact description 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.

This invention relates to wheel-plows intended for use as riding or walking plows, and has for an object to provide improvements on the plow patented to me February 17, 1885, No. 312,324. These improvements lie in the novel construction of the frame-work, whereby the weight of the driver is borne on the caster-wheels, and the large wheel is arranged closer to the beam. They further lie in the novel connection between the brace and plow, in the novel formation of the keeper-clips for guiding the standard, and in the construction of the clevis, and other features, all of which will be described, and pointed out in the claims.

In the drawings, Figures 1 and 2 are perspective views of my machine, taken from the opposite ends of the same, the seat being replaced in Fig. 2 by a hand-hold for use in walking.

The beam A is provided at its forward end with the clevis B, consisting of the lower or base plate, C, and the upper or brace plate, D. These plates C and D are cast, wrought, or otherwise suitably secured to the beam, and extend laterally to opposite sides of same. Both plates are provided with perforations for the king-bolt E or the arm of the hammer-strap F. The double-tree rests, in use, on the base-plate of the clevis and in front of the brace-plate, which is arranged in rear of the base-plate and above the same equal to or more than the thickness of the double-tree. The double-tree is set on this base-plate and adjusted to one or the other side of the center, as may be desired. The king-bolt is then dropped through its opening in the double-tree and the coincident opening in the base-plate. The hammer-strap F is provided at its front end with an opening fitted on the king-bolt, and it extends rearwardly above the double-tree and in rear thereof under the brace-plate, and has an arm, *f*, which projects upwardly through one of the openings in the brace-plate. By this construction the double-tree is held so it may swing freely in a horizontal plane, but is held by the base-plate and the form of hammer-strap from lowering at its opposite ends so the horses can step out of the traces. This, manifestly, is desirable in tongueless plows and cultivators, as great difficulty and inconvenience are experienced by the horses stepping out of the traces, requiring the delay and trouble of replacing them in their proper positions. I prefer to form the king-bolt and hammer-strap separately, but they may, when desired, be formed in one piece. An arm, G, is fixed to the beam near its forward end, and extends outwardly therefrom on the mold-board side. To the outer end of this arm I swivel the supporting-bracket of the caster-wheel *g*, which latter is arranged to run in the furrow adjoining the one being formed by the plow in the operation of the invention. The colter-support I is secured to the beam usually in rear of the arm G, and has its lower end curved slightly toward the land side, and thence toward the mold-board side of the machine, forming a transverse horizontal supporting-arm, *i*. The colter J has its bracket swiveled to a box-loop, *j*, which slides on the horizontal arm *i*, and may be held at any desired point of adjustment by a suitable set-screw, K, by which construction the colter may be set to one or the other side and held at any desired point. At its rear end the beam is bent slightly to the mold-board side of the machine, forming a short wing, *a*, to the outer end of which is swiveled the supporting-bracket of the rear caster-wheel, L, which is arranged to run directly in rear of and in the furrow formed by the plow. The seat-bar M is secured on the rear end of the beam, preferably near the outer end of the extended wing *a*. By so arranging the seat I dispense with the arch forming a part of my former patent, and so support the seat that its occupant is not affected by the jolts and jars of the large wheel, which runs on the unplowed ground and is engaged by stones and other obstructions thereon; but the driver is supported wholly on the caster-wheels, which

run in the even furrows, rendering the driver's position more comfortable and making the draft of the machine much easier. Furthermore, by reason of the disposition of the seat before described I am able to reduce the width of the machine by setting the large wheel nearer to the beam than in my former patent, and so arrange the devices for elevating such wheel in more convenient position for operation by the driver. The large wheel N is arranged on the land side of the beam on a bracket, O, extended parallel with and close to the beam, and connected therewith at its opposite ends by diagonal ends *o*. This wheel is held and adjusted by mechanism similar to that employed in my patented machine, and needs no detailed description. It may be said, however, that this operating mechanism is arranged in front instead of to one side of the operator, and may be more easily manipulated for such reason. The plow *p* is supported on the standard P, and may be of any desired pattern. In my former patent I cut a slot entirely through the standard in rear of the mold-board to receive the pin for securing the brace. In practice I find this slot becomes filled with dirt, which clogs the brace-connecting pin and prevents the movement of the standard up and down when desired. The portion of the pin and brace projected to the land side of the standard in my former patent also served as a drag to the machine, increasing its draft. To obviate these difficulties, instead of slotting the standard I form it with a vertical groove, Q, on its mold-board side, in rear of the plow, and this groove I make larger on its inner than on its outer side. The brace R is fixed at its rear end to the beam, and is carried thence to a point in rear of the standard P back of the groove Q. At this point the brace is bent, forming a shoulder, *r*, which receives the back-pressure of the standard and relieves the bolt S of such strain. The brace is carried forward from such shoulder *r* in front of the groove Q, and is provided with a bolt, S, which projects into the groove Q, and has a head fitted to the inner enlarged portion of such groove. The bolt, it will be seen, serves to connect the parts and permits the vertical movement of the standard, while the shoulder *r* takes all the strain, thereby providing a simple, strong, and easily-made construction by which to brace the standard.

The mechanism for adjusting and holding the standard and plow at any suitable point is similar to that shown in my patented machine. The standard is held to the beam by two keeper-clips, T and U. The clip U may be formed integral with the beam; but the clip T is provided in its shank, which laps alongside the beam, with one or more horizontally-elongated bolt-holes, *t*, through which to pass its fastening-bolts. By these slots the clip T may be set back and forth on the beam and held at any desired point by the bolts, so as to set the point of the plow up or down, the rear end of such plow being held by the brace, as before described. By supporting the seat on the extension *a* of the beam such seat is arranged between the caster-wheels and the plow proper, so that none of the weight mounted thereon is supported by the large wheel, and so nicely is the machine balanced that the large wheel might be dispensed with, except in turning corners, and the corners may be easily turned either to right or left without raising the plow from the ground.

When desired to use the machine as a walking instead of a riding plow, the hand-hold shown in Fig. 2 may be put in place of the seat. This hand-hold will be found convenient as a support for the driver, and of use in guiding the plow, and for holding the machine back when going downgrade with the plow out of the ground.

For convenience of reference I have used the terms "land side" and "mold-board" in distinguishing the opposite sides of the beam.

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

1. The combination of the beam provided at its rear end with a wing extended laterally to the mold-board side, and at its forward end with an arm extended also to the mold-board side of the beam, caster-wheels having their brackets swiveled to such arm and extension or wing, the plow supported on the beam between such parts, and the driver's seat supported on the rear lateral wing of the beam, substantially as set forth.

2. The combination of the vertically-movable standard provided in its mold-board side with a vertical groove, and the brace secured at one end to the framing, and provided at its other end with a shoulder bearing in rear of the standard, and with a pin projected into the groove thereof, substantially as set forth.

3. The vertically-movable standard and a suitable brace for its lower end, in combination with the beam and keeper-clips for holding said standard to the beam, one of said clips having its shank lapped alongside the beam and provided with horizontally-elongated slots, and fastening-bolts passed through said slots into the beam, substantially as set forth.

4. The combination, in a tongueless plow, of the beam, the clevis having horizontal brace, and base-plates fixed to such beam and arranged one in front of and below the plane of the other, both being perforated, the king-bolt fitted to the perforation of the base-plate, and the hammer-strap connected at one end with the upper end of the king-bolt, and having its other end bent upward, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LEVI M. BROCK.

Witnesses:
P. J. F. MILLER,
J. W. BARKDALE.