(No Model.) 2 Sheets—Sheet 1.

T. T. HARRISON.
Sulky Plow.

No. 232,268. Patented Sept. 14, 1880.

Fig. 1.

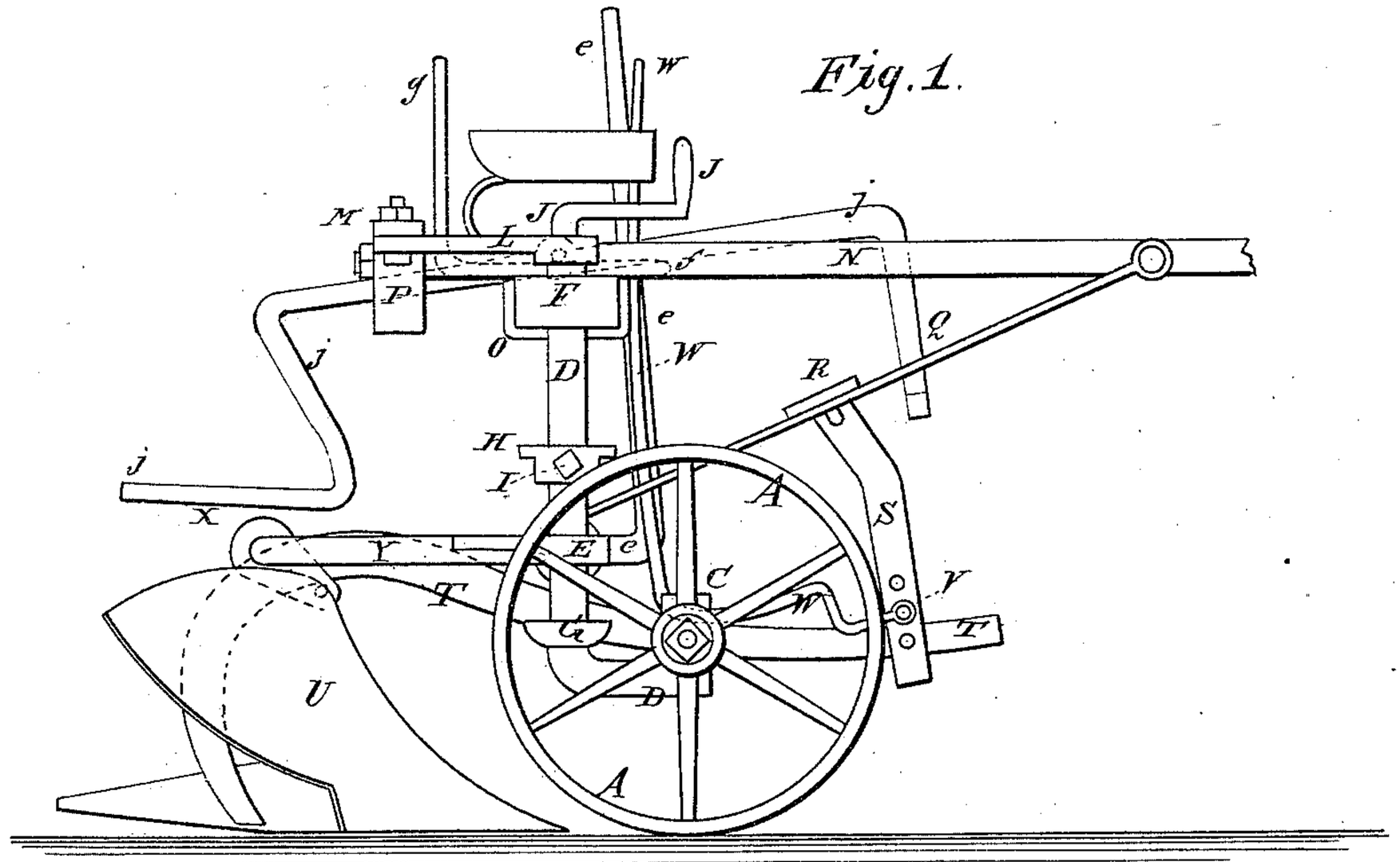
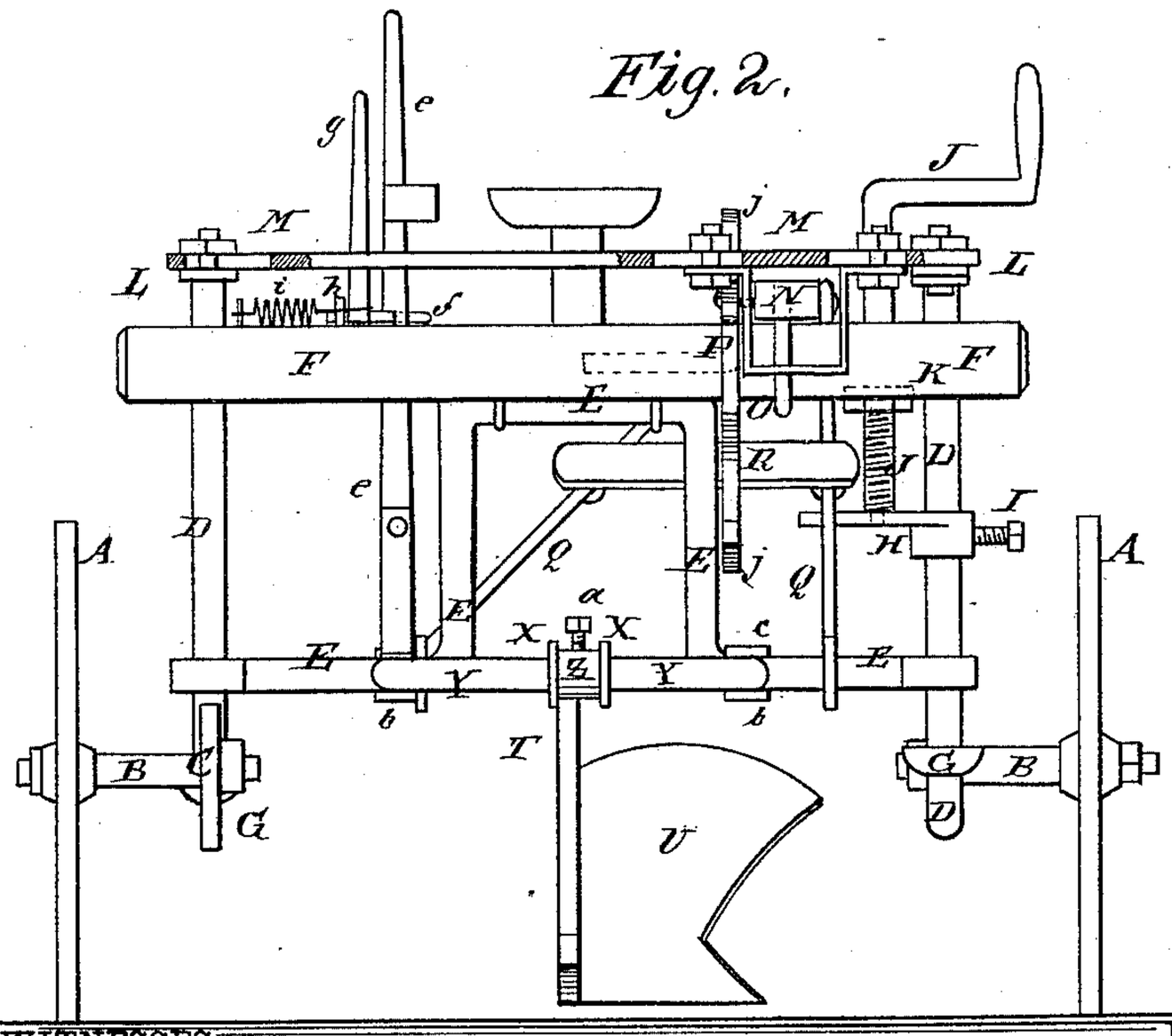


Fig. 2.



WITNESSES:

Henry N. Miller

C. Sedgwick

INVENTOR:

T. T. Harrison

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2

T. T. HARRISON.
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Fig. 3.

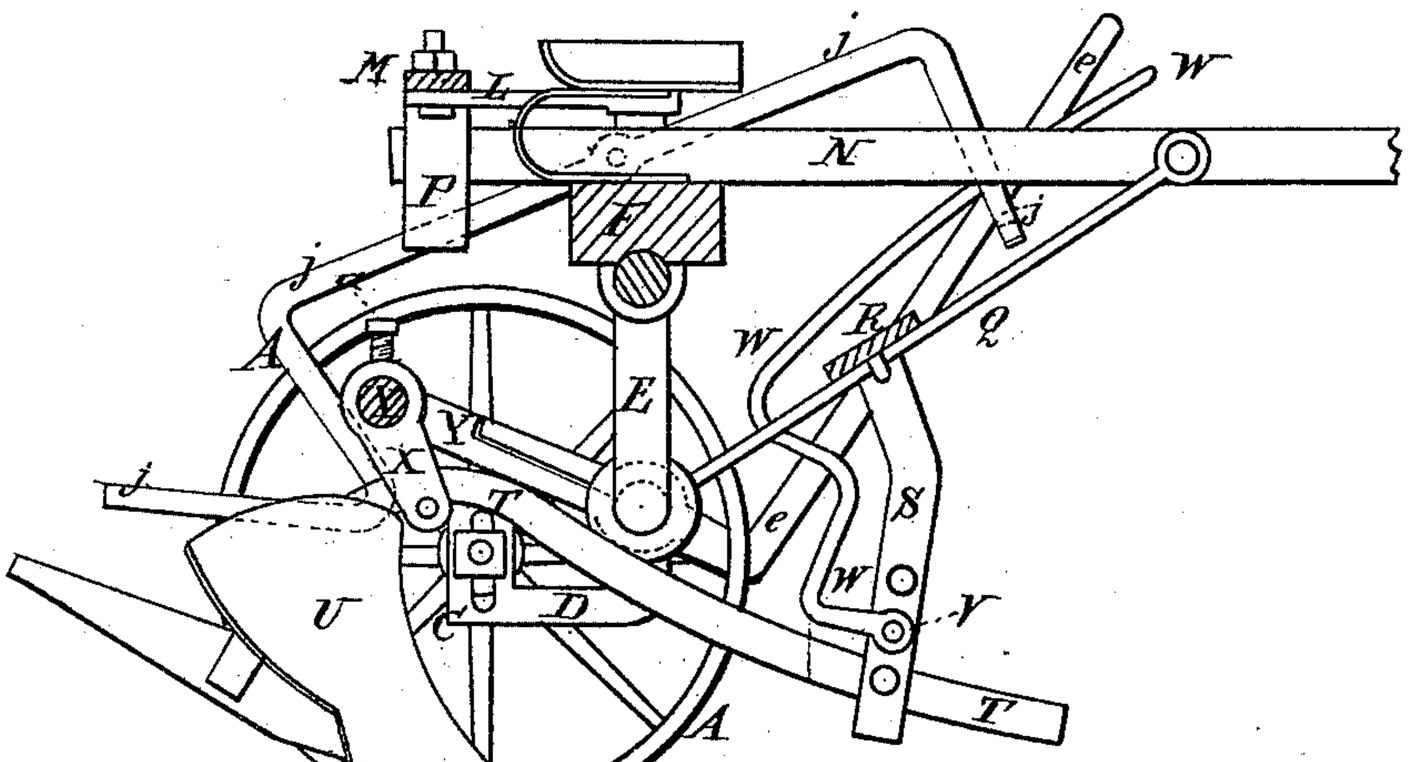


Fig. 5.

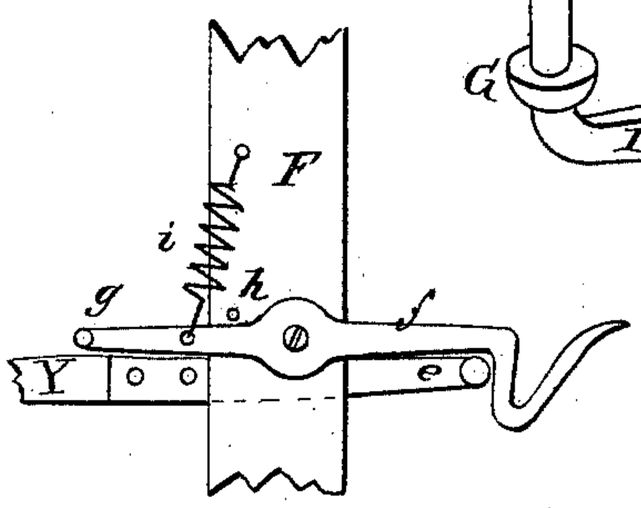


Fig. 4.

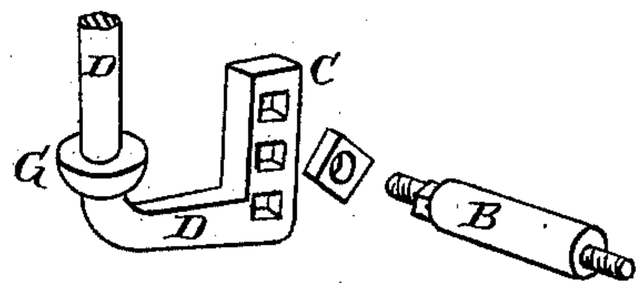


Fig. 7.

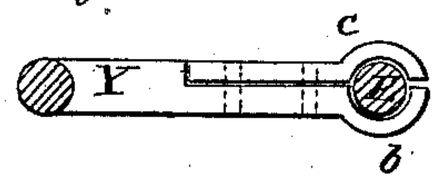
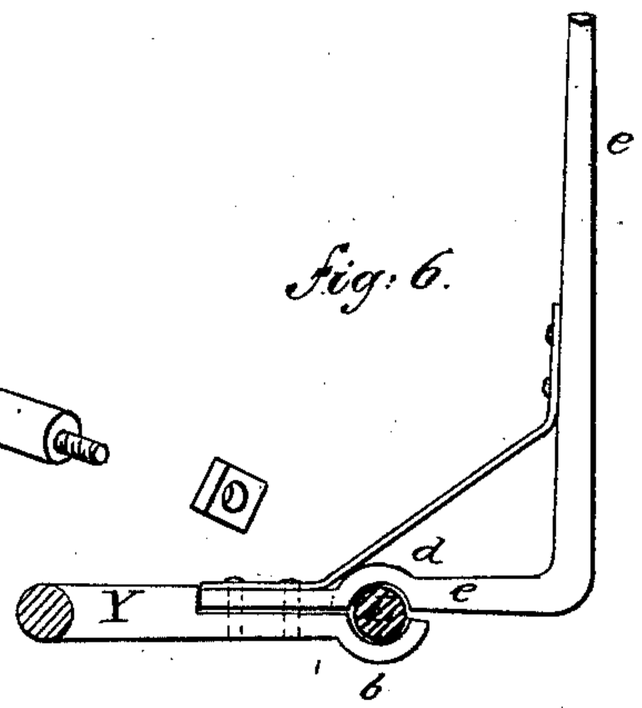


Fig. 6.



WITNESSES:

Henry N. Miller

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INVENTOR:

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ATTORNEYS.

UNITED STATES PATENT OFFICE.

THOMAS T. HARRISON, OF AUBREY, KANSAS.

SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 232,268, dated September 14, 1880.

Application filed June 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS T. HARRISON, of Aubrey, in the county of Johnson and State of Kansas, have invented a new and useful Improvement in Sulky-Plows, of which the following is a specification.

Figure 1, Sheet 1, is a side elevation of the improvement. Fig. 2, Sheet 1, is a rear elevation. Fig. 3, Sheet 2, is a sectional side elevation. Fig. 4, Sheet 2, is a detail perspective view of the axle-arm. Fig. 5, Sheet 2, is a plan view of the locking-hook. Fig. 6, Sheet 2, is a sectional elevation, showing the half-boxes for connecting the plow-crank, arched bar, and adjusting-lever. Fig. 7, Sheet 2, is a sectional elevation, showing the half-boxes for connecting the plow-crank and arched bar.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the sulky-plows for which Letters Patent No. 218,734 were issued to me August 19, 1879, in such a manner that they will be simpler in construction, more easily controlled, more reliable in operation, and better adapted to receive different kinds of plows.

A are the wheels, which revolve upon the axle arms or spindles B. The inner ends of the spindles B are squared to fit into square holes in the vertical end parts, C, of the axles D, where they are secured in place by nuts.

Several holes are formed in the vertical ends C of the axles D, to receive the ends of the spindles B, so that the carriage may be adjusted higher or lower, as the height of the plow-beam may require.

The axles D, at the lower ends of the vertical end parts C, are bent rearward or forward and then upward, and pass through holes in the ends of the arched bar E and the cross-beam F. The middle part of the cross-beam F rests upon the middle part of the arch or bend of the arched bar E, to which it is secured by staples, eyebolts, or other suitable means.

When both wheels A of the carriage are running upon a level, as when passing from place to place, the ends of the arched bar E rest upon collars G, formed upon or attached to the axles D.

The axle D of the furrow-wheel A passes through a hole in the outer end of an arm, H, which is secured in place adjustably upon the said axle D by a set-screw, I. The inner end of the arm H is widened and flattened to serve as a plate to receive the end of the crank-screw J, which passes through a nut, K, formed in or attached to the cross-beam F at a little distance from the axle D, so that by turning the crank-screw J the frame-work of the carriage can be leveled at whatever depth the furrow-wheel may be running.

The axles D may be adjusted with the spindles B in front or in the rear, or one in front and the other in the rear, as may be desired. The upper ends of the axles D are squared to fit into square holes in the forward ends of the short bars L, the rear ends of which are bolted to the ends of the cross-bar M, the fastening-bolt at the landside end of the cross-bar M passing through a slot in the end of the said cross-bar M, so that the wheel A can be adjusted to run true to prevent the spindle B from being worn.

N is the tongue, which is secured to the cross-beam F by a staple, O, or other suitable means. The rear end of the tongue N projects in the rear of the cross-beam F, and passes through a loop or stirrup, P, the ends of which are bolted to the cross-bar M, the fastening-bolts passing through slots in the said cross-bar M, so that the tongue N can be adjusted to cause the plow to take or leave land, as required.

The tongue N is held in position and strengthened against side strain by the braces Q, the forward ends of which are bolted to the opposite sides of the tongue N. The rear ends of the braces Q are secured to the horizontal end parts of the arched bar E.

To the middle parts of the braces Q is secured a plate, R, which serves as a foot-rest for the driver, and which is slotted to receive the bolt that fastens to it the upper end of the loop S. The loop S receives the forward part of the beam T of the plow U and holds the said beam from lateral movement. The side bars of the loop S have a number of holes formed through them to receive a pin or bolt, V, to prevent the forward end of the plow-beam from rising.

The pin or bolt V is provided with a tubular washer or hollow roller, to come in contact with the beam T and prevent the said beam from being worn.

To the pin or bolt V is pivoted the forked end of the lever W, the upper end of which projects into such a position that it can be readily reached and operated by the driver from his seat. The lever W is bent, as shown in Fig. 2, into such a shape that when its upper end is drawn to the rearward its lower part will force the forward part of the plow-beam T downward to cause the plow to enter the ground. The lever W may be reversed so as to pass up in front of the foot-rest R, so that it can be operated by the driver with his foot. The lever W is especially useful in plowing hard and trashy land.

To the opposite sides of the rear part of the plow-beam T are attached the lower ends of two bars, *x*, by bolts, clamps, or other suitable means. In the rear ends of the bars *x* are formed holes to receive the middle part of the crank-bar Y, where they are secured in place by a collar, Z, placed between them upon the crank-bar Y, and secured in place by a set-screw, *a*, so that the plow may be adjusted to cut wider or narrower furrows by adjusting the collar Z upon the crank-bar Y.

In the ends of the crank-bar Y are formed half-bearings *b*, to receive the horizontal end parts of the arched bar E, where they are secured in place by the half-bearings *c d*, which are bolted to the arms of the said crank-bar Y. The half-bearing *d* is formed upon the rearward-projecting lower end of the bent lever *e*, the upper part of which passes up at the front of the cross-beam F into such a position that it may be conveniently reached and operated by the plowman from his seat to raise the plow from the ground when desired.

To the cross-beam F is pivoted a hook, *f*, to engage with the lever *e* and lock the said lever in place when holding the plow raised from the ground. The hook *f* is so formed as to serve also as a stop to limit the play of the lever *e* when the plow is at work. The hook *f* is extended in the rear of its pivot, and the extended rear part, *g*, is bent upward into crank form, so that the said crank-hook can be conveniently operated to release the lever *e* by the plowman from his seat.

The forward movement of the hook *f* is limited by a stop-pin, *h*, attached to the cross-beam F for the rear part, *g*, to strike against, and against which the said crank-hook *f g* is held by a coiled spring, *i*, attached to it and to the said cross-beam F.

To the side of the rear part of the tongue N is pivoted a lever, *j*, the lower part of which is bent to form a shoulder or hook, and its lower end is inclined, as shown in Figs. 1 and 3, so as to hook upon the crank-bar Y and support the plow when raised from the ground and relieve the lever *e* from the strain.

The wheels A can be changed from the front to the rear and from the rear to the front of the axles D by detaching the spindles B and the bars L, turning the axles G through a half-revolution, and again attaching the spindles B and bars L.

The machine is adjusted for a left-hand plow by detaching and reversing the crank-bar Y, the lever *e*, the tongue N, and the braces Q.

The lower edge of the landside or bar of the plow U is horizontal from the point to or near the place where the end of the beam T connects with the said landside, and the said edge from this place to the rear end or heel of the landside is inclined upward, as shown in Figs. 1 and 3. This construction allows the plow to rock slightly as it is drawn forward, so that it will pass through the soil more easily.

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

1. The spindles B, axles D, having vertical end posts, C, the arched bar E, having end holes, the plate H, crank-screw J, and cross-beam F, combined, as and for the purpose described.

2. The braces Q, plate R, loop S, pin V, bent lever W, and plow-beam T, combined to adjustably support the front end of plow-beam, as shown and described.

THOMAS TROUSDALE HARRISON.

Witnesses:
JOHN BRANCH,
J. B. SMOOTE.