S. E. DRAKE.
Sulky-Plow.

No. 199,626. Patented Jan. 29, 1878.

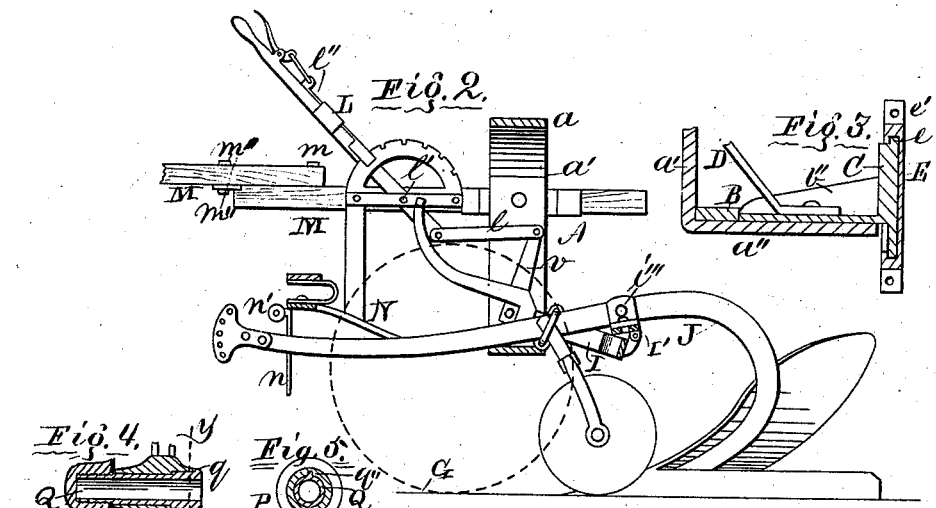

Fig. 2.

Fig. 3.

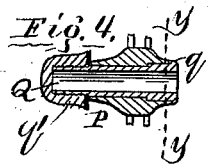

Fig. 4.

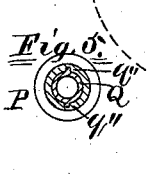

Fig. 5.

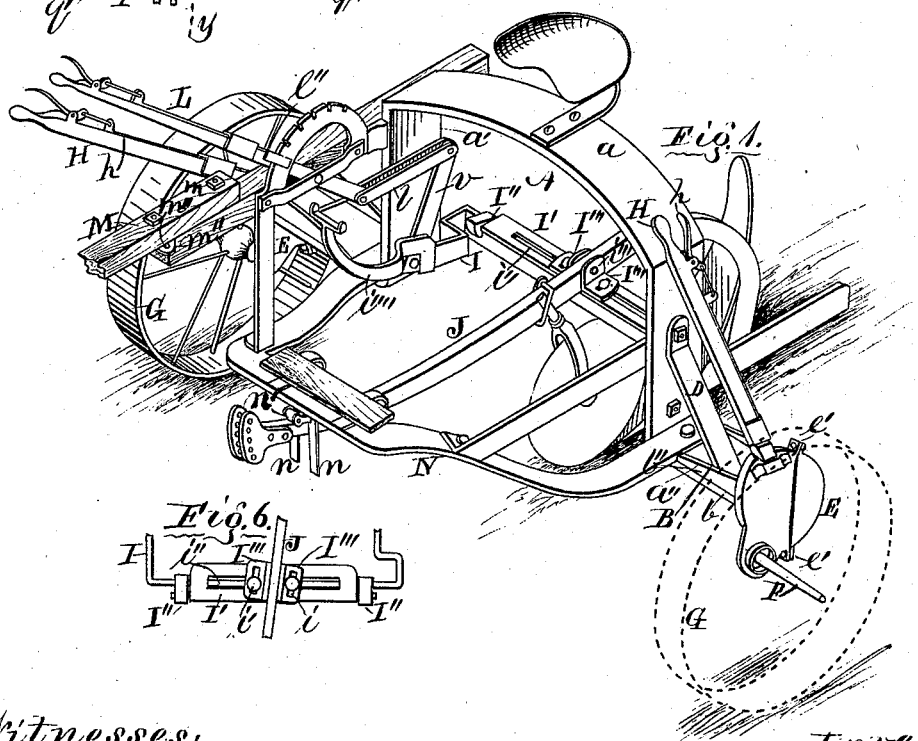

Fig. 1.

Fig. 6.

Witnesses:
Chas. C. Barringer
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UNITED STATES PATENT OFFICE.

SAMUEL E. DRAKE, OF CANTON, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE H. PLATT, OF SAME PLACE.

IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **199,626**, dated January 29, 1878; application filed June 30, 1877.

To all whom it may concern:

Be it known that I, SAMUEL E. DRAKE, of Canton, in the county of Fulton and State of Illinois, have invented certain new and useful Improvements in Sulky-Plows; and I do hereby declare that the following is a full, clear, and exact description of my invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in sulky-plows; and consists in constructions and combinations hereinafter fully described, and set forth in the claims hereto annexed.

In the accompanying drawings, Figure 1 is a perspective view of a sulky-plow embodying my invention. Fig. 2 is a central vertical sectional view. Fig. 3 is a vertical sectional view of one end of the axle in the line of its length. Fig. 4 is a vertical sectional view of one of the wheel-hubs. Fig. 5 is a section in the line *y y* in Fig. 4; and Fig. 6 is a detail view—a top view of the saddle by which the plow-beam is attached to the rear yoke.

Referring to the parts by letters, A represents the axle, formed of a flat bar of wrought-iron, with an elevated central portion, *a*, vertical side portions *a'*, and horizontal end portions *a''*. B B are cast-metal plates, bolted one to each portion, *a''*, of the axle, and forming a part thereof. Their lower edges have flanges *b* to strengthen their attachment to the axle, and their upper edges have flanges *b''* for supporting circular disks C on the outer ends of the plates B. D D are braces connecting the parts *a' a''* of the axle. E E are disks, having internal annular grooves *e*, which fit over and secure them upon the disks C, as shown at Fig. 3.

The disks E are each made in two parts, bolted together at *e' e'*, so that they may be easily removed and replaced whenever required. Each disk E carries on an arm from one side a spindle, F, for a supporting-wheel, G, and each also carries a lever, H, having a spring-pawl, *h*, which may be engaged with the notches formed in the periphery of the disk C, to retain the disk E in various annular positions in relation thereto, for the purpose of raising and lowering either end of the axle by rotating the short crank-axles formed by the disks E, having wheel-spindles F to one side of their centers.

I is a yoke hinged to the axle A, and, projecting rearward, has the beam J of the plow adjustably attached to its rear portion, as follows: A saddle, I', on which the beam rests, is journaled at its ends to blocks I'', in such manner that the saddle I' may oscillate in a vertical plane at right angles to the rear portion of said yoke, to which the blocks I'' are fixed.

I''' I''' are angle-plates, with slots *i* in one side, through which they are secured to the saddle I' by bolts *i'*, which pass through the slots *i* and through slots *i''* in the saddle I'. The plow-beam rests between the plates I''', and is bolted thereto by a bolt, *i'''*.

The plates I''' may be secured at different distances apart, adapting them to receive and hold plow-beams of different thicknesses, by adjusting the bolts *i'* in the slots *i''*, and the plates I''' may be adjusted at different angles transversely to the rear portion of the yoke I. for adjusting the angular position of the plow-beam relatively to the yoke, and adapting the plow to run to or from the land, as desired, by adjusting the bolts *i'* in the slots *i*, as shown at Fig. 6.

The forward end of one side of the yoke I has one arm, which extends forward to form a foot-lever, *i''''*, within reach of the driver's foot from his seat K on the axle, and another arm, *v*, which extends upward, and forms an elbow-lever with the portion of the yoke extending rearward. The upper end of the arm *v* is connected by a link, *l*, with the lower end of a lever, L, which is fulcrumed at *l'* to the side of the tongue M. The lever L has a spring-pawl, *l''*, by means of which it may be locked at different angles with a vertical line.

N is a frame projecting forward from the axle A, and serves as a foot-rest for the driver or operator and a guide for the plow, the beam of which rests between pendants *n*, at the upper portion of which is seated an anti-friction roller, *n'*.

P is the cast-metal hub of the wheel G. Q

is a pipe-boxing seated in the hub P, and held therein against longitudinal displacement by an annular flange, q, on one end, and a nut, q', screwed upon its other end, and secured from rotating in its seat by means of short splines q'' on periphery seated in grooves in the hub.

When worn the boxes Q may be readily and easily replaced by new ones.

The tongue M is adjustable laterally at different angles for giving direction to the forward movement of the machine by pivoting its forward end to its rear end at m, and securing its forward end in different positions by means of a set-bolt, m', which passes through the forward end of the tongue, and a slotted plate, m'', attached to the forward part of the rear end of the tongue.

The construction of the axle herein described is strong, and the cast-metal portions most liable to wear are removably attached to the other portions, and may be replaced when worn or damaged in any manner.

The wheels G may be raised and lowered relatively to the axle by means of the short crank-axles and their respective levers, in the ordinary manner, for the purpose of leveling the axle and adjusting the depth of plowing.

The plow may be raised and lowered and elevated above the ground by means of the levers L and i'''' in the evident manner. The anti-friction roller n' will relieve the friction between the frame N and plow-beam.

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

1. An axle constructed, substantially as described, of a wrought-iron bar, having vertical side and horizontal portions a a' a'', and cast-metal plates B B, having flanges b b'' and circular disks C, for the purpose specified.

2. The disks E, constructed in two parts, secured together as shown at e' e', combined to operate with the disks C, substantially as described, and for the purpose specified.

3. The slotted angle-plates I''' and bolts i', arranged to operate with the slotted saddle I', yoke I, and plow-beam J, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature hereto in presence of two witnesses.

SAMUEL E. DRAKE.

Witnesses:
AARON MILLER,
ALPHEUS WEBSTER.