2 Sheets—Sheet 1.

A. K. MUNSON.

Sulky-Plow.

No. 221,597. Patented Nov. 11, 1879.

Fig. 1.

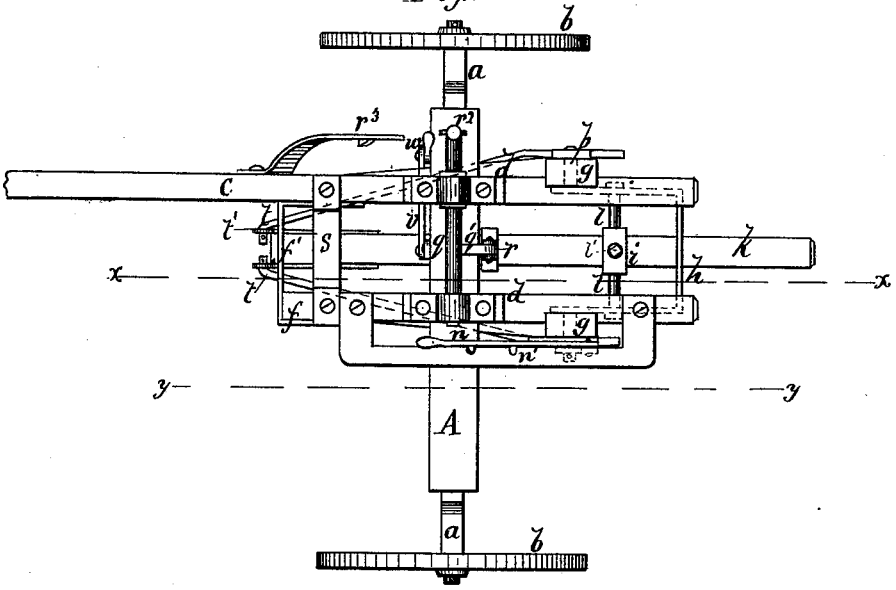
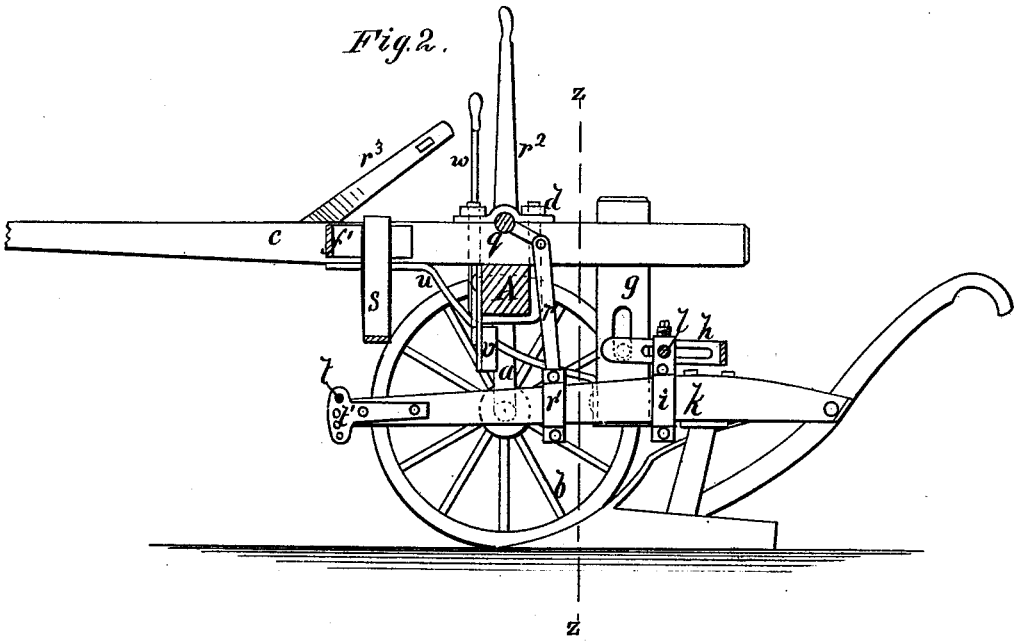


Fig. 2.



WITNESSES:

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Fig. 3.

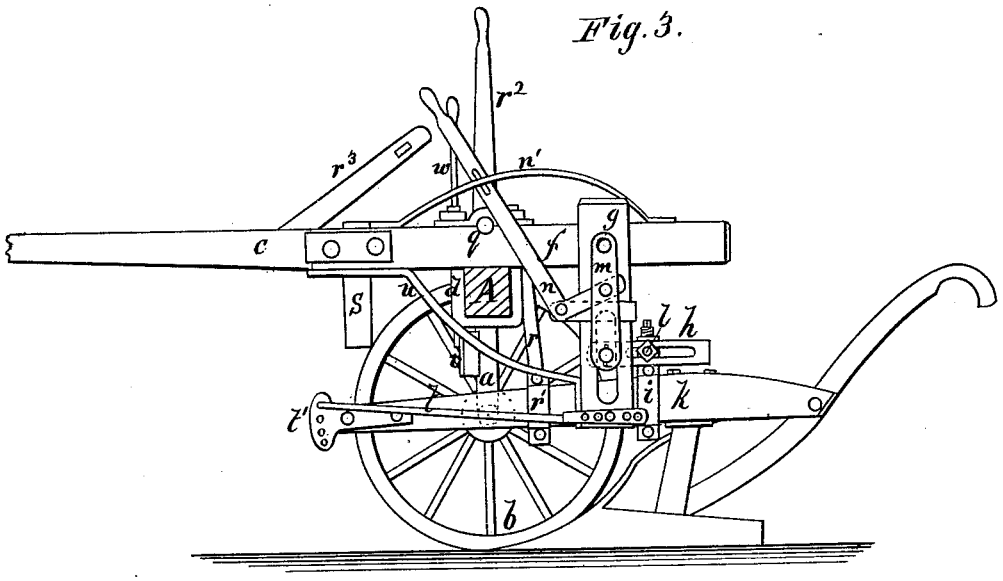


Fig. 4.

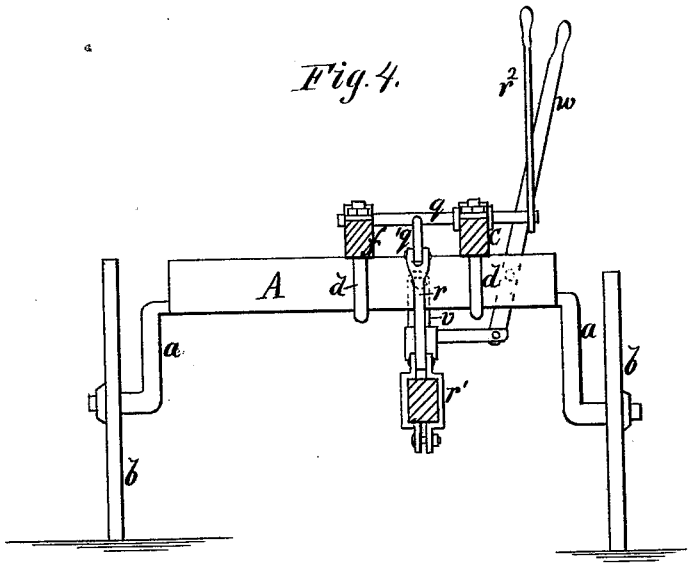
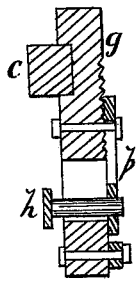


Fig. 5.



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UNITED STATES PATENT OFFICE.

ADEN K. MUNSON, OF MARYSVILLE, KANSAS.

IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **221,597**, dated November 11, 1879; application filed June 11, 1879.

To all whom it may concern:

Be it known that I, ADEN K. MUNSON, of Marysville, in the county of Marshall and State of Kansas, have invented a new and Improved Sulky-Plow, of which the following is a specification.

The object of my invention is to provide for vertical movement of the plow-beam independent of the sulky, so that the plow will run at a uniform depth, and also for leveling the plow sidewise on uneven ground; further, to provide for shifting the supports of the plow-beam bodily on the axle of the sulky for adjustment to the size of plow and the desired width of furrow, and to provide for ready attachment or disconnection of the plow-beam.

The invention consists in certain novel features of construction, whereby the objects named are attained in a simple and effective manner, as more particularly described in connection with the accompanying drawings, wherein—

Figure 1 is a plan view of a sulky-plow embodying my improvements. Fig. 2 is a sectional side elevation of the same on line *x x*. Fig. 3 is a sectional elevation on line *y y*. Fig. 4 is a vertical cross-section on line *z z* of Fig. 2. Fig. 5 is a detail view in vertical section.

Similar letters of reference indicate corresponding parts.

A is the axle-tree of the sulky, having axles *a*, bent downward and receiving the wheels *b b*, the axle at the land-side having the shorter bend.

The tongue or pole *c* is attached upon the axle-tree A by a shackle, *d*, that passes around the axle-tree and through the tongue, with nuts for securing it at the upper side of the tongue. A double tongue may be used, but I prefer a single pole, as shown; and in place of the second tongue a short bar, *f*, is attached to the axle-tree by a shackle, *d*, as described, and the tongue *c* and bar *f* are rigidly connected together by a plate, *f'*.

The connections for the plow-beam and the operative parts are all attached upon and carried by the tongue *c* and bar *f*, so that by loosening the shackles *d* sidewise adjustment can be made, according to the size of plow made use of, or to regulate the width of furrow.

Upon the tongue *c* and bar *f*, behind the axle-tree, slotted standards *g g* are rigidly connected, and to these standards *g* is hung a slotted yoke, *h*, that extends backward and carries a shackle, *i*, in which the plow-beam *k* is hung.

The shackle *i* consists of plates at each side of the beam, connected by bolts passing through above and below the beam, so as to be easily tightened on a beam of any thickness, either iron or wood, and by taking out the lower bolt and disconnecting the other connections, hereinafter described, the plow is separated from the sulky.

The shackle is fitted with trunnions *l*, that enter the slots of the yoke *h* loosely, and are provided with nuts at the outside to prevent side movement.

The yoke *h* is hung by pivots in the slots of the standards *g*. At the land-side the pivot is sustained by a link, *m*, that is connected to the end of a bent lever, *n*, which is fulcrumed on the standard *g*, and extends to a convenient position for operation by the driver, to raise and lower that side of yoke *h* to level the plow sidewise on uneven ground. The lever *n* is engaged with a toothed segment, *n'*, to hold it in position. The pivot of the yoke *h* at the other side enters a plate, *p*, that is attached upon standards *g* by screws or a ratchet device (see Fig. 5) for holding the plate securely, and so that it may be adjusted to the size of the plow and to regulate the depth of the furrow.

By this construction the rear end of the plow-beam is capable of vertical movement independent of the sulky, so that on rough ground it will not be thrown out of the ground, and the furrow will be made uniformly.

For raising the plow and beam bodily out of the ground, I provide a shaft, *q*, fitted on the tongue *c* and bar *f*, and provided with an arm, *q'*, that connects by a link, *r*, with a shackle, *r'*, on beam *k*. The outer end of shaft *q* is fitted with a lever, r^2, by which the shaft is turned and the plow raised, and when depressed for raising the plow the lever r^2 engages with a spring-catch, r^3, and is thereby retained.

The forward end of the beam *k* is limited in its upward movement by a bent cross-bar, *s*, that is attached to tongue *c*, and in raising

the beam by the lever r^2 the beam comes against the bar s first, and the further movement of the lever raises the yoke h and rear part of the beam.

From the forward end of the beam a draft-rod, t, extends at each side to the standards g. These rods t are formed with hook ends that enter holes in clevises or plates t', attached to the end of the plow-beam, and are connected to the standards g by pins or bolts passing through the flattened ends of the rods into the standards. There are numerous holes provided for the connections named, so that the rods may be adjusted in length to suit the plow-beam. These rods t take the draft and relieve the other connections from strain, and the standards g are provided with fixed braces u u from the tongue e for holding them more rigidly.

Upon the axle-tree A is hung an arm, v, having at its lower end a blocking-piece, which, when the arm v is swung above the beam k, prevents the plow from being thrown out of the ground by obstructions. The arm v is connected by a link with a lever, w, that is hung on the axle-tree A, whereby the arm is moved in or out of position.

The above-described construction furnishes a sulky-plow of light draft, durable construction, and which may be adjusted and operated with great facility.

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

1. A plow-frame having the slotted hangers g, in combination with the slotted yoke h and shackle i, having trunnions l, as shown and described.

2. The combination of the plow-frame c f, slotted hangers g, yoke h, shackle i, adjustable notched plate p, link m, and lever n, as and for the purpose set forth.

3. The combination of the plow-beam k, draft-rods t, slotted hangers g, slotted yoke h, shackle i, connections r r', rock-shaft q, lever r^2, and bent cross-bar s, as and for the purpose specified.

ADEN K. MUNSON.

Witnesses:
W. H. SMITH,
J. M. HAMMETT.