M. BROWN.

Sulky-Plow Attachment.

No. 216,375. Patented June 10, 1879.

Fig. 1.

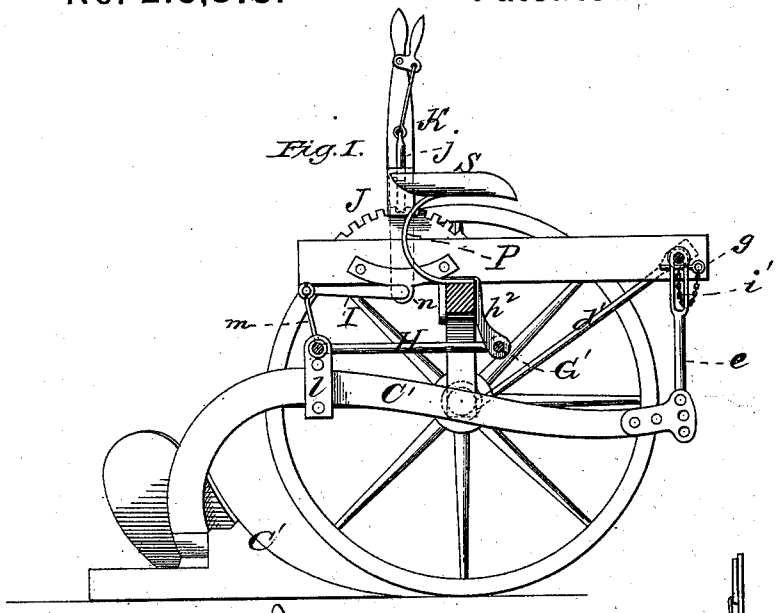


Fig. 2.

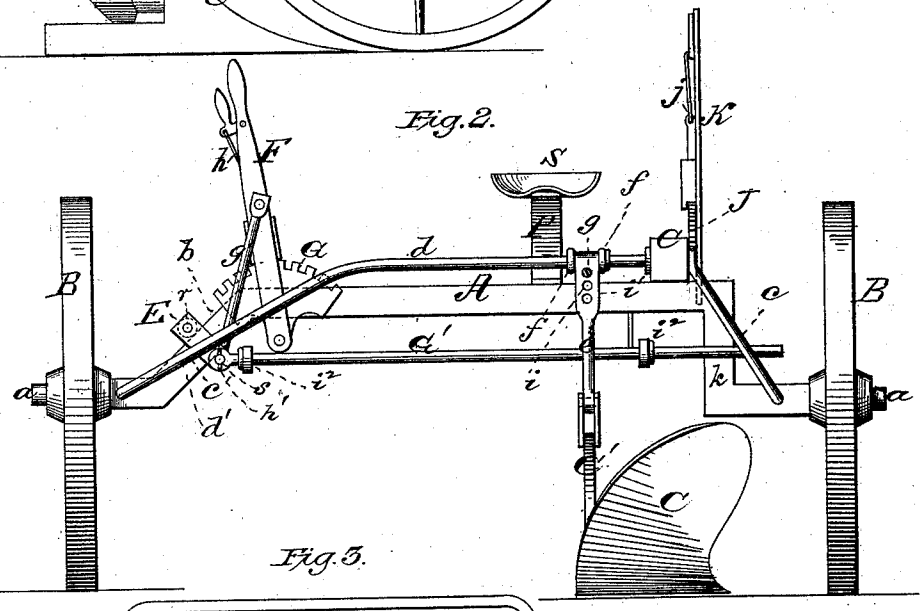
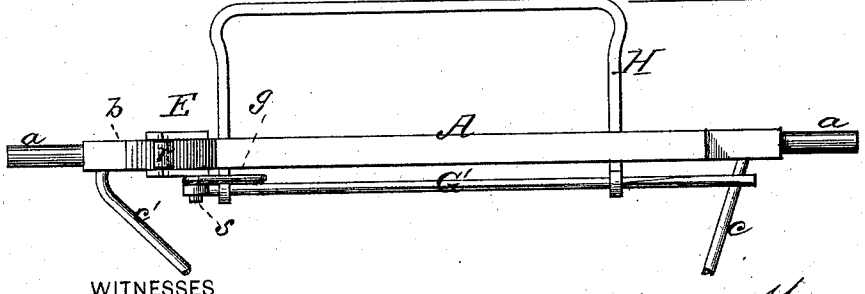


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

MERCER BROWN, OF VERMILLION GROVE, ILLINOIS.

IMPROVEMENT IN SULKY-PLOW ATTACHMENTS.

Specification forming part of Letters Patent No. **216,375**, dated June 10, 1879; application filed April 7, 1879.

To all whom it may concern:

Be it known that I, MERCER BROWN, of Vermillion Grove, in the county of Vermillion and State of Illinois, have invented a new and valuable Improvement in Sulky-Plow Attachments; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation 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.

Figure 1 of the drawings is a representation of a longitudinal section of my improved sulky-plow. Fig. 2 is a front-end view of the same, and Fig. 3 is a detail view.

This invention has relation to improvements in sulky-plows; and the nature of the invention consists in combining, with an axle having right-angular and obtuse-angular bends at opposite ends, a slide working on the latter bend, and a lever mechanism actuating the said slide to tip or tilt the plow, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates the axle of my improved sulky-plow, having at each end a spindle, *a*. The plowed-land end of the axle is bent up at right angles to the spindle, and the other end is bent at an obtuse angle to its spindle, forming an incline, *b*, the object of which will be set forth hereinafter. On the spindles *a* are secured the transporting-wheels B, and the end of the axle adjacent to the plowed land is higher than its other end, in order that when the wheel B is running in a furrow the body of the axle may be horizontal.

C designates the draft-tongue, rigidly bolted to the body of the axle near its end, and extending a certain distance to the rear. It is braced to the ends of the axle by means of the metallic rods *c c'*, of which the former is rigidly secured at one end to the tongue and at the other to the axle-arm *a*, being inclined, and the latter secured to the tongue and to the other axle-arm at the bottom of the incline *b*. The brace *c'* has a horizontal portion, *d*, at right angles to the tongue, and an inclined portion, *d'*, extending to the axle-arm.

C indicates a plow, and C′ its beam, not differing in construction from those commonly used. The beam has pivoted to its front end a metallic rod, *e*, that is provided at its upper end with a slot, *i'*, of considerable length, and of a width to receive the brace *c'*. The rod *e* depends from the horizontal portion, *d*, of brace *c'*, and is held against lateral displacement by means of the collars *f*. The slotted portion of rod *e* is provided with a number of perforations, *i*, arranged in a vertical line and at a suitable distance apart, by means of which and a lock-pin, *g*, the front end of the beam may be raised or lowered, thus raising or lowering the point of the plow, as may be required.

E indicates a slide, working freely upon the incline *b*, and provided in its upper end with an anti-friction roller, *r*, that causes the said slide to ascend and descend the said incline without binding. Projecting from the front lower end of the said slide is a cylindrical spindle, *s*, upon which is passed the lower perforated end of a rod, *g'*, the upper end of which is pivoted to a lever, F, having its fulcrum in an offset of a segmental rack, G. This rack extends above the axle and is secured thereto, the fulcrum of the lever being below the axle. Upon this lever is secured a spring-actuated lever-pawl, *h*, that engages the rack aforesaid. The lever F vibrates across the frame of the plow.

G′ indicates a strong metallic rod, having in one end an eye that is passed over the spindle *s*, and prevented from leaving the spindle by a key, pin, nut, or other equivalent device, h^1. The rod G′ extends through a metallic guide, h^2, depending from the axle, the opening in the said hanger being sufficiently large to allow the said rod not only to move endwise, but also a certain degree of vertical vibration.

H indicates a U-shaped metallic bail, vibrating vertically on rod G, and extending considerably in rear of the axle. The arms of this bail are provided at their ends with eyes i^2 through which the rod G extends, and the bail is prevented from lateral displacement by means of collars thereon. Suspended from the bail H are the metallic clamp-plates *l*, between which is received the plow-beam C′, the said beam being secured to the said plates by means of through-bolts passing through them above and below the said beam, as shown in Fig. 1.

J indicates a segmental rack secured to the tongue over the axle, and projecting above the same. This rack has at its lower edge an offset, *n*, through which extends the end of the horizontal branch of a crank, I. The protruding end of this crank is squared, and affords a seat to a vertically-vibrating lever, K, traversing the rack, and provided with a spring-actuated lever-pawl, *j*, engaging the same. The other end of this crank is provided with a wrist, upon which is applied a connecting-rod, *m*, that is flexibly connected to the bail aforesaid, (lettered H in the drawings.)

The driver's seat S is supported from the axle by means of a spring, P, and is situated between the levers F K, so that they may be conveniently manipulated by the driver.

By operating the lever F the slide is raised or lowered, as the case may be, on the incline *b*, and the bail H, to which the beam of the plow is attached, is given a lateral as well as a vibratory movement, the plowed-land side of the frame being the pivotal point, and the plow-beam is tipped or moved either way, as may be desired, and the plowshare is raised or lowered, thereby leveling the plow without moving the beam or bar of the plow from its place.

By actuating this lever K to the front the plow may be raised partly or wholly from the ground in shallow plowing, or in driving from the field.

I am aware that it is not new to employ a transverse adjustable plow-carrying beam which is hinged to an inclined axle at one end, as shown in the patent of R. C. Buckley, February 19, 1878; but such an arrangement gives too much play to the point of the plow in the adjustment, and I do not claim it.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sulky-plow, the axle A, having the right-angular bend *k* at one end and the obtuse-angular bend *b* at the other, in combination with a slide, E, working on the latter bend, and actuated by a lever mechanism to tip or tilt the plow, substantially as specified.

2. In a sulky-plow, the sub-frame consisting of the bail H, the sliding cross-rod G′, the axle A, having incline *b* at one end, the slide on said incline, a lever mechanism raising or lowering said slide, and a plow-beam suspended from said bail, substantially as specified.

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

MERCER BROWN.

Witnesses:

LEVI REES,

ELMORE REES.