J. BREWER.

Sulky-Plow.

No. 48,512. Patented July 4, 1865.

Fig. 1.

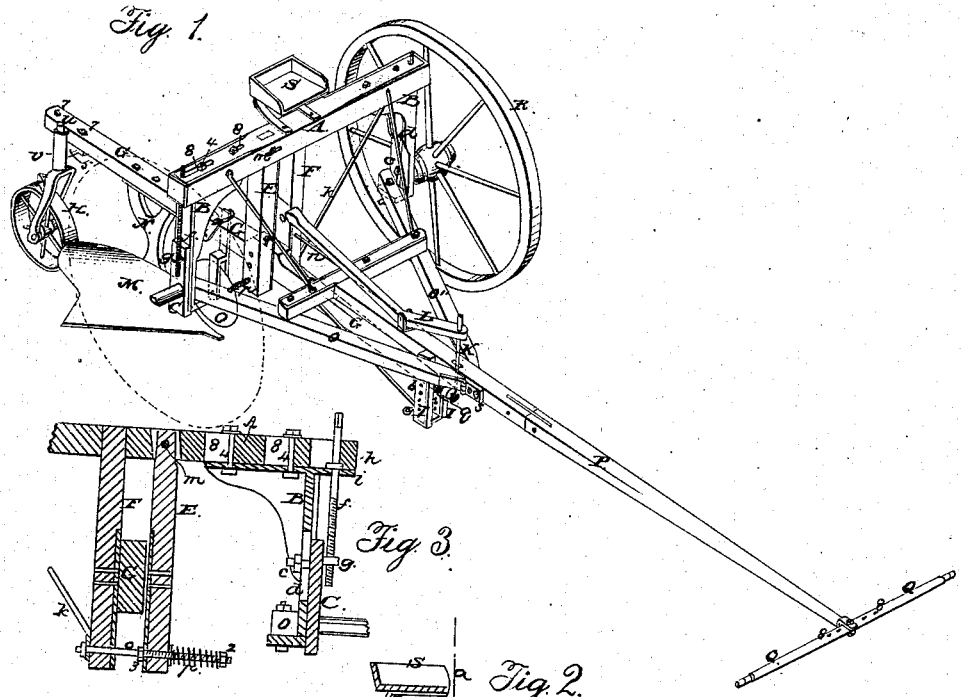
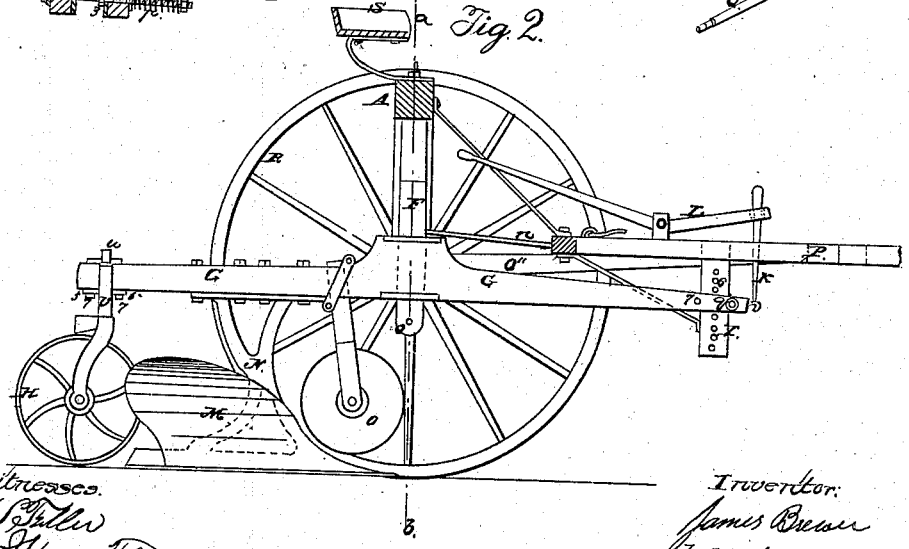


Fig. 3.

Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES BREWER, OF ALBANY, ILLINOIS.

IMPROVEMENT IN SULKY-PLOWS.

Specification forming part of Letters Patent No. **48,512**, dated July 4, 1865.

To all whom it may concern:

Be it known that I, JAMES BREWER, of Albany, in the county of Whiteside 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 the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a perspective view of said sulky-plow. Fig. 2 represents a longitudinal vertical section through the same. Fig. 3 represents a cross-section through the line *a b* of Fig. 2.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the axle supported by the standards B, which are recessed, and in whose recesses the spindle-blocks C are set and secured by means of the bolts *c*, which pass through the slots *d* of the standards B. The spindle-blocks C are provided with lugs *g*, through which screw-spindles *f* pass, the latter being set into the axle A, and are provided with collars *h*, which, bearing against the plate *i* of the standard B and against the axle A, prevent any longitudinal motion of the screw-spindle *f*. The upper ends of the latter are square to permit the application of a wrench for turning the spindles, and when the screw-nuts *e* are loosened the plow-frame and the plow can be raised or lowered bodily, as desired.

E and F are beam-posts mortised into the axle A. The post F is rigidly secured to the axle and braced by means of the brace *k*. The post E is secured to it by means of bolt *m*, on which it can turn. Both posts are braced against yielding toward the front or rear by means of the braces *n*. A screw-bolt, *o*, passes through the lower ends of the posts E F and projects beyond the yielding post E, and a spiral spring, *p*, is set upon the projecting part thereof and secured to it by means of the nut 2. The object of said spring is to allow the post E and the plow-beam to yield laterally if the plow should strike against anything too hard to be cut off, as will be more fully explained hereinafter.

G represents the plow-beam. It is set between the two hanger-posts E F, which keep it in its proper position. Its rear is supported by a caster-wheel, H, and its front end plays between two hangers of the main frame, and is suspended to a rod, K, whose upper end is fastened to a foot-lever, L. Thus the pitch and depth of the plow can be adjusted by raising or depressing the front end of the plow-beam by means of the foot-lever L.

M represents the plow, secured to the beam G by means of its standard N, and O a revolving root-cutter in front of the plow, as above stated. The plow in striking a hard object—such as a stone or stump—which it cannot cut, can yield, owing to the yielding standard E, thus preventing breakage, and when the plow has passed the obstruction the spring *p* forces the standard E back against the plow-beam, holding it again in its proper position. To facilitate the yielding of the plow I make the front end of the beam G round, so that it can turn readily between the hangers I, and a friction-roll, *q*, bears against the ways in front of said hangers to facilitate the raising or depressing of the plow-beam, while any longitudinal movement of said beam is prevented by the pin *r* in the beam, which bears against the rear side of the said hangers I. The yielding post E can be fitted closely or loosely to the plow-beam by means of the adjusting-nut 3, and by adjusting the bolt *m* within the slot in the axle A, the spring *p* may be removed entirely when it is desired to keep the plow-beam steady.

O′ O″ represent the hounds of my plow, which connect the standards B with the tongue or pole P. The furrow-hound is hinged to the tongue by means of the hinge *s*, and so that it can be adjusted in its position, and the standard B, to which its rear end is secured, is also adjustable by having its fastening-bolts 4 passing through slots 8 in the axle A. Thus the furrow-wheel can be adjusted inward or outward according to circumstances. The hinge *s*, by which the furrow-hound O′ is fastened to the tongue P, is slotted to permit of a longitudinal adjustment of said hinge, so that the hound can be moved forward or backward.

The hangers I, which straddle the front end of the plow-beam G, are provided with pin-

holes 6, into which a pin can be inserted at the desired height, by which said end can be retained to adjust the depth of the plow.

The caster-wheel H runs in the furrow immediately behind the plow. The spindle *u* of its caster is set into the caster-socket *v*, which latter is bolted to the lower side of the plow-beam by means of the flange 5. The holes in said flange, through which the fastening-bolts 7 pass, are slotted to permit of said caster-wheel being adjusted to conform to the landside of the plow, and the wheel can thus be accurately adjusted to support the plow properly and to relieve it of the entire friction arising from the dragging of the bottom of the plow in the furrow. To effect the latter properly I apply washers, by which the caster-wheel H can be raised or lowered by insering them either below or above the caster-socket *v*, and I am thus enabled to adapt the caster-wheel to the nature of the ground.

To make the plow cut more or less land the breast-yoke Q, which is swiveled to the front end of the pole P, is provided with holes 8, by means of which the pole or tongue can be moved from side to side.

When the plow is intended to cut an ordinary furrow the tongue P will be fastened in the center hole of the breast-yoke; but if it is wished to cut more or less of an ordinary furrow the tongue will have to be thrown respectively to the left or to the right from the center hole of the breast-yoke.

From the above description it will be seen that the plow-beam G works loosely between the posts E F, and for this reason is perfectly independent of the supporting-wheels R, and when said wheels run over rough ground the plow-beam will play up and down between the posts E F, leaving the plow running level and steady, that the driver from his seat S can readily adjust the depth of the plow by treading on lever L, and can thus raise it from the ground altogether, and that the plow by means of its various adjustments is adapted to almost any kind of plowing and soil.

The hound O′ and its cross-bar are provided with suitable slots to permit of the movement of the hounds above described.

Having thus fully described the nature of my invention, what I claim herein as new, and desire to secure by Letters Patent, is—

1. Making one of the standards E F, which keep the plow-beam in its proper position, yielding to a certain degree, for the purpose of permitting the plow to pass obstructions which are in its line and which are too hard to cut, substantially as and for the purpose specified.

2. The combination, with the plow-beam, of the rigid standard F, yielding standard E, screw-bolt *o*, and spring *p*, substantially as and for the purposes specified.

3. Hanging the plow-beam of a sulky-plow between two standards in such a manner that the operation of the plow is not affected by the passage of the supporting-wheel over rough or uneven ground, as and for the purposes specified.

4. In combination with the plow and its beam G, herein described, the laterally-adjustable caster-wheel H, when fastened to the rear of the plow-beam, substantially as and for the purposes specified.

5. Connecting the hound on the furrow side to the pole by means of a hinge, *s*, for the purpose of making it and the furrow-wheel adaptable, as and for the purposes specified.

6. The combination, with the foot-lever L and plow-beam G, when capable of rotation within the standards I, of the friction-rolls *q*, as and for the purposes specified.

7. In combination with the plow-beam G and tongue P, the adjustable breast-yoke Q, for the purpose of cutting more or less land, as herein described.

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Witnesses:
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