J. R. ROE.

GRAIN-DRILL.

No. 185,048. Patented Dec. 5, 1876.

Fig. 1.

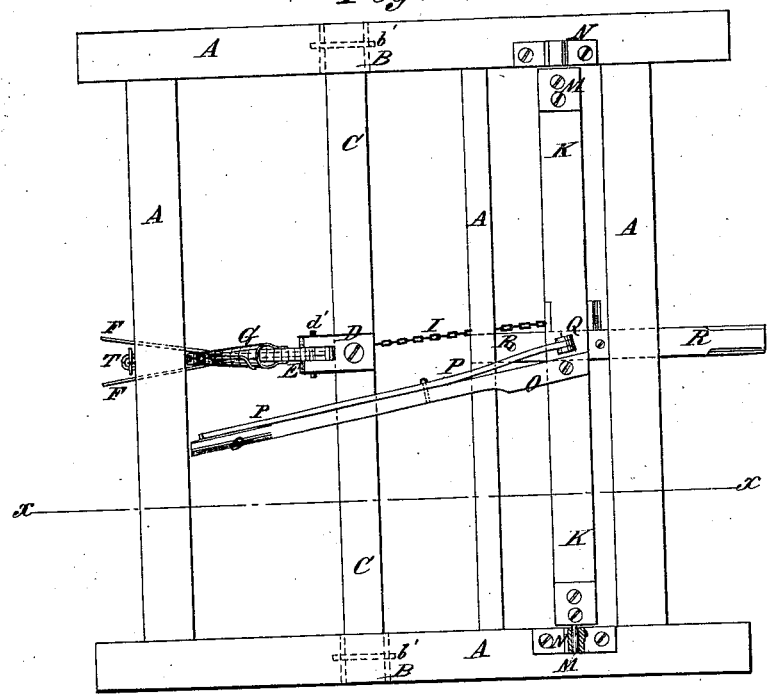
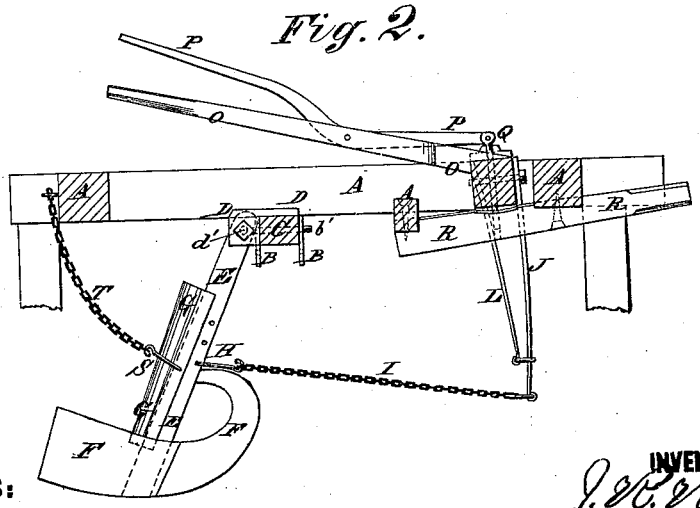


Fig. 2.



WITNESSES:

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JAMES R. ROE, OF FAIRVILLE, MISSOURI.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **185,048**, dated December 5, 1876; application filed August 14, 1876.

To all whom it may concern:

Be it known that I, JAMES R. ROE, of Fairville, in the county of Saline and State of Missouri, have invented a new and useful Improvement in Grain-Drills, of which the following is a specification:

Figure 1 is a top view of a part of my improved grain-drill. Fig. 2 is a detail section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved grain-drill, which shall be so constructed that it will not clog with trash, will adjust itself to an uneven surface of ground, will sow the seed evenly and uniformly, and may be easily operated.

The invention consists in the combination of the pivoting-castings, the pivoted standards, the cutter, and the conductor-spout with the adjustable cross-bar; in the combination of the loop or clevis, the draw-chain, the double spring, and the pivoted cross-bar with the standard and cutter and with the frame; and in the combination of the rigid lever, the pivoted lever, and the locking-pin with the pivoted bar to which the springs are attached, and with the tongue, as hereinafter fully described.

A represents the frame of the drill, to the side bars of which are bolted two slotted castings, B. In the slots of the castings B are secured, by bolts *b'*, the ends of a cross-bar, C, several holes being formed in the castings B, to receive the bolts *b'*, so that the cross-bar C may be adjusted higher or lower, as may be desired. To the bar C are bolted castings D, as many as desired, to lugs, upon the rear side of which are pivoted, by a bolt, *d'*, the upper end of the standards or bars E. To the lower end of the standards E are secured the runners or cutters F, the forward ends of which are curved forward, upward, and rearward, and are attached to the standards E, so that there is no point or end for trash to catch upon. The part of the cutter F in the rear of the standard E is forked, and the upper parts of its wings are inclined outward, or are a little wider apart than the lower parts, to pack the sides of the furrow, and prevent them from falling in before the seed has been fairly deposited. To the rear side of the standard E is attached a tube or spout, G, to receive the seed from the hose or spouts leading from the grain-box, and conduct it to the bottom of the furrow within the forked rear end of the cutter F.

The standard E is made of such a length, and the cross-bar C is so adjusted, that the said standard E may have a rearward inclination when at work. In the middle part of the standard E, above the end of the cutter F, are formed a number of holes, to receive a clevis or loop, H, to which is attached the end of the draft-chain I, so that the point of draft attachment may be raised and lowered, as may be required.

The forward end of the draft-chain I is attached to the lower end of the spring J, the upper end of which is attached to the forward side of the cross-bar K. The spring J is reenforced by a spring, L, which has a loop attached to its lower end, through which the lower part of the spring J passes. The upper end of the spring L is attached to the rear side of the cross-bar K. To the upper side of the ends of the cross-bar K are attached pivots M, which work in bearings N, attached to the upper side of the side bars of the frame A, so as to pivot the said cross-bar eccentrically to said frame. To the cross-bar K is rigidly attached a lever, O, which extends back into such a position that it may be conveniently reached and operated by the driver to bring the cutter F into working position after having been swung back to raise it from the ground. To the lever O is pivoted a second lever, P, to the forward end of which is pivoted a pin, Q, which passes down through a hole in the bar K, and enters a hole in the tongue R, attached to the lower side of the cross-bars of the frame A.

The tongue R may have several holes formed in it to receive the pin Q, and its upper side is concaved, and faced with metal, to allow the cross-bar K to turn upon its pivots and to prevent wear.

To the rear side of the standard E is attached a clevis, loop, or hook, S, to which is attached the end of the chain T. The other end of the chain T is connected with a bar or lever of the rear part of the frame A, for con-

venience in raising the cutter F away from the ground, when desired.

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

1. The combination of the castings D, the pivoted standards E, the cutter F, and the conductor-spout G with the adjustable cross-bar C, substantially as herein shown and described.

2. The combination of the loop or clevis H, the draw-chain I, the double spring J L, and the pivoted cross-bar K with the standard and cutter E F, and with the frame A, substantially as herein shown and described.

3. The combination of the rigid lever O, the pivoted lever P, and the locking-pin Q with the pivoted bar K, to which the springs J L are attached, and with the tongue R, substantially as herein shown and described.

J. R. ROE.

Witnesses:
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