(No Model.)

W. D. ARNETT.

SEEDING MACHINE.

No. 345,403. Patented July 13, 1886.

Fig. 1.

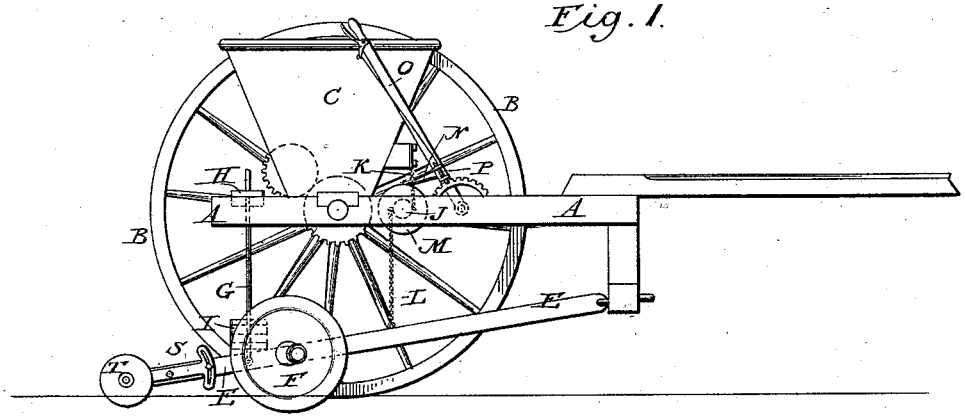


Fig. 2.

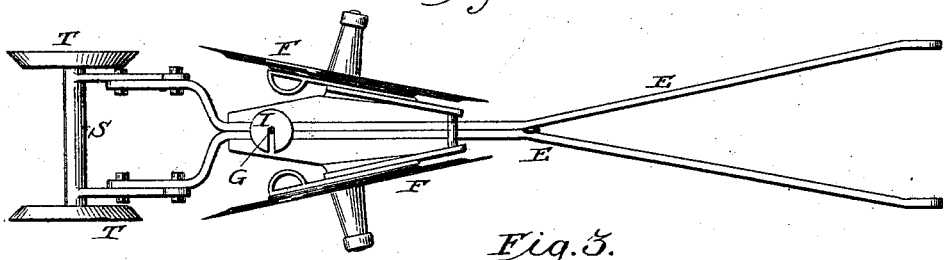
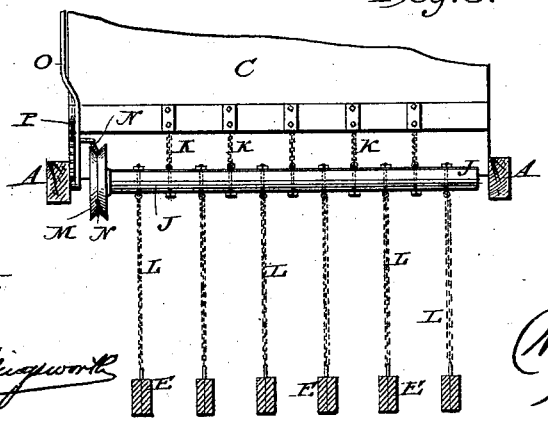


Fig. 3.



Attest

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WILLIAM D. ARNETT, OF MORRISON, COLORADO.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 345,403, dated July 13, 1886.

Application filed January 2, 1886. Serial No. 187,436. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. ARNETT, a citizen of the United States, residing at Morrison, in the county of Jefferson and State of Colorado, have invented a new and useful Seeding-Machine, of which the following is a specification.

My invention has reference more particularly to seeding-machines which open the seed-receiving furrows by means of obliquely-arranged disks attached to the drag-bars in advance of the spouts, as shown, for example, in Letters Patent of the United States granted to me on the 24th day of February, 1885, No. 312,791; and the improvements consist in means for depressing and in means for lifting the drag-bars and their disks.

In machines of this type, which are commonly operated on unplowed sod-land, it is necessary to provide unusual means for forcing and holding the drag-bars and disks downward with a yielding pressure; and to this end I provide the drag-bars each with a removable weight or weights. These weights, which may be varied at will, urge the disks downward with a constant pressure, unaffected by the rising-and-falling motion.

I am aware that springs are commonly used to depress drag-bars carrying drill-teeth, and that the springs, acting on the various bars, are frequently combined with an adjusting device common to the series. The use of springs in connection with furrow-opening disks is, however, very objectionable, first, because the rising-and falling motion of the drag-bar, as the machine travels over uneven ground, changes the tension of the springs and causes the disks to produce furrows of variable depth, and, second, because the springs interposed between the drag-bars and the frame tend to lift the latter, so that the rising of one or more drag-bars lessens the pressure of the others. The weights, on the contrary, apply a dead, constant, and invariable pressure, each beam operating wholly independent of the others, and each disk producing a practically-uniform furrow.

In order to adapt the machine for use under different conditions, I provide for each beam a section-weight or series of weights removable at will, so that the pressure may be varied as demanded. The weights may be variously formed and applied; but I prefer to provide each drag-bar with an upright guide-rod at the rear end, and to provide the weights with openings adapted to receive the rod, as shown in the drawings. As the beams and their attachments are of unusual weight, I provide a special lifting mechanism, by which they may be raised without severe exertion on the part of the operator. This consists of a horizontal shaft suspended from the frame by chains or other flexible connections, and connected in turn by chains to the several drag-bars. When this shaft is turned by means provided for the purpose, it rolls upward within its suspending-chains, and also winds upward the drag-bar chains, thus lifting the drag bars.

Referring to the accompanying drawings, Figure 1 represents in side elevation those parts of a seeding-machine which are necessary to an understanding of my invention, the improvements being embodied therein. Fig. 2 is a top plan view of one of the drag-bars and its adjuncts. Fig. 3 is a rear elevation, illustrating particularly the devices for elevating the drag-bars.

A represents the main frame of the machine, mounted on two ground-wheels, B, and provided with a seeding box or hopper, C, and the seed-distributing mechanism thereunder. These parts may all be constructed in any ordinary manner, or in any form which will admit of their being used in connection with the features forming the subject of my invention.

E E represent double or duplex drag-bars, each consisting of two bars united at their rear ends, but separated and jointed to the frame at their forward ends, as in my previous patent.

F F represent narrow opening-disks mounted on journals projecting from opposite sides of the drag-bars, their faces lying in planes oblique to the line of travel, whereby the lower edge of each disk is caused to open a furrow in a manner familiar to those skilled in the art.

G G represent vertical guides or rods connected at their lower ends to the respective drag-bars, and passing at their upper ends loosely through a cross-bar or other suitable guide, H, on the main frame.

I I represent the removable weights applied to the respective rods and seated on top of the drag-bars for the purpose of depressing the same. These weights are preferably slotted,

as shown, in order to admit of their application to the rod.

On each guide-bar I place a series of weights, or a weight divided into sections which are removable independently of each other, thus permitting the pressure on each bar to be varied as occasion may demand.

Referring now to the lifting mechanism, J represents a horizontal shaft of small diameter, secured to the lower end of the corresponding chains K, which are in turn secured at their upper ends to the front of the hopper, or to any other appropriate part of the machine from which they may receive rigid support.

L L represent a second series of chains, secured at their upper ends to the shaft and attached at their lower ends in any appropriate manner to the respective drag-bars. At one end the shaft J is provided with a sheave or pulley, M, encircled, or partially encircled, by a cord or chain, N, at one end thereto, and attached at the opposite end to a hand-lever, O, pivoted to the frame in position to be conveniently operated by the driver. This hand-lever may be provided with a locking device, P, of any approved form—such, for example, as a sliding latch mounted thereon and arranged to engage a notched plate secured to the frame, as shown in the drawings. When the lever is thrown forward, it acts, through the intermediate cord, to turn the pulley, which in turn revolves the shaft J, which, winding within chains K, climbs upward, at the same time coiling the lower chains about themselves in such manner that they in turn lift the drag-bars. In practice I find this combination a simple and entirely satisfactory device for the elevation of the drag-bar.

The locking devices admit of the drag-bars being sustained at any required elevation, and the chains admit of their rising independently, as may be required. At the rear end of the drag-bar its two members may be separated and attached to a casting, S, carrying at opposite sides wheels T, traveling immediately behind the respective disks and seed-spouts, for the purpose of closing the furrow and covering the seed.

Having thus described my invention, what I claim is—

1. In combination with the main frame and the drag-bars, the lifting device consisting of the roller, the chains suspending the same from the frame, and the chains suspending the beams from the roller.

2. The main frame and the hand-lever, in combination with the drag-bars, the chains attached thereto, the roller attached to said chains, the chains suspending the roller from the frame, and devices, substantially as shown, connecting the roller and the lever.

3. In combination with the main frame and the drag bars, the guide-rod and the removable weights acting to depress the drag-bars.

4. In combination with a drag-bar, an obliquely-arranged disk attached thereto to open the furrow, and a removable weight applied to the drag bar, substantially as described.

5. In a seeding-machine, the combination of a wheeled main frame, a series of independently-movable drag bars attached thereto, furrow-opening disks attached obliquely to the respective drag-bars, and variable weights applied to the drag-bars, substantially as described.

WILLIAM D. ARNETT.

Witnesses:
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