W. W. HUBBARD.

Corn-Planter.

No. 54,166. Patented Apr. 24. 1866.

Fig. 1.

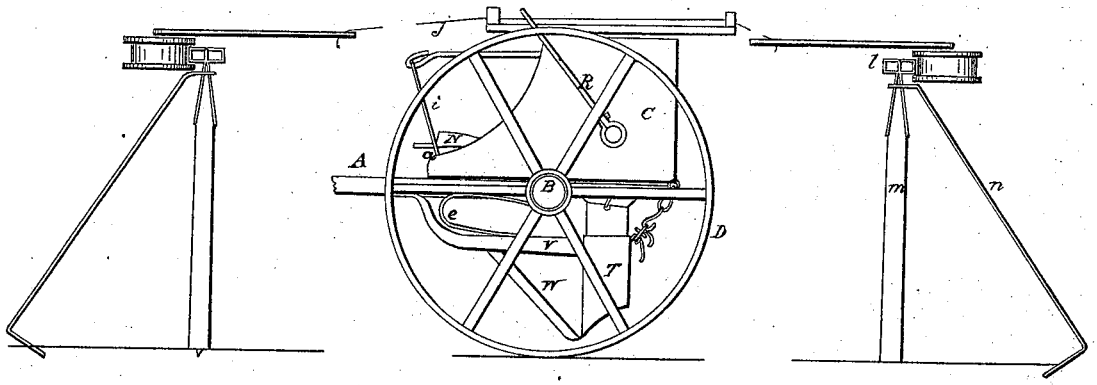


Fig. 3.

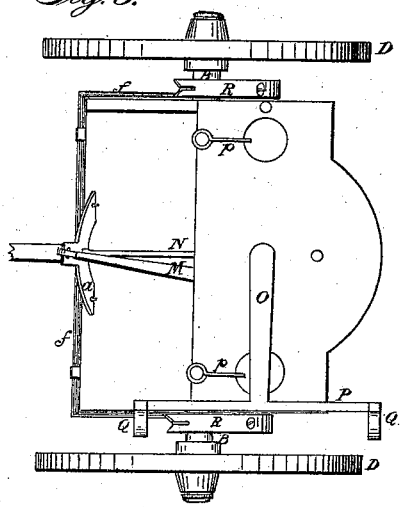


Fig. 2.

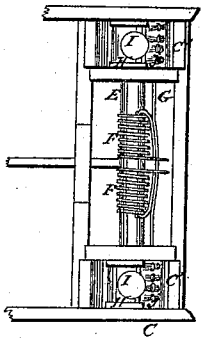


Fig. 4.

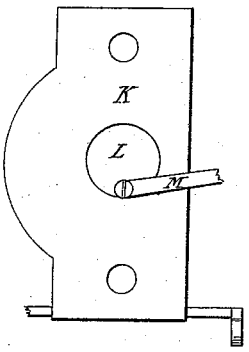


Fig. 5.

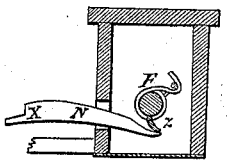
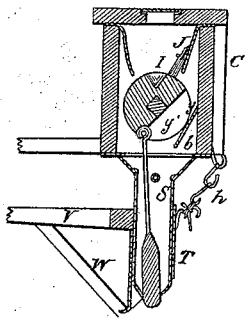


Fig. 6.



Witnesses:

John P. Jacobs

Charles Alexander

Inventor:

Wm W Hubbard

per Attorney

Alexander & Mason

UNITED STATES PATENT OFFICE.

WILLIAM W. HUBBARD, OF EDINBURG, INDIANA.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **54,166**, dated April 24, 1866.

To all whom it may concern:

Be it known that I, WILLIAM W. HUBBARD, of Edinburg, in the county of Johnson and State of Indiana, have invented certain new and useful Improvements in Seeding-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the annexed drawings, A represents the tongue of the machine, which connects and is permanently secured to an axle, B. This axle B is provided with two wheels, D D, which support and carry the machine.

Upon the axle B is secured a box, C, which has at each end of it a seed-box, C′ C′. A shaft, E′, passes through the box C, as shown in Figure 2, and upon this shaft is secured a seed-cylinder, H, near each end and within the seed-boxes C′ C′. This seed-cylinder is provided upon its upper side with an opening, I, which receives the seed and carries it around to be deposited when the cylinder revolves or partially revolves.

S represents a seed-spout, which is adjustably secured to the under side of the box C, and which passes down into a boot, T, which said boot has secured to its lower extremity a point or tooth of any of the usual modes of construction, for the purpose of opening a furrow for receiving grain. The lower end of the seed-spout S is made funnel-shaped, as represented.

U represents a rod, which is situated within the seed-spout S, the upper end of said rod being connected eccentrically to the seed-cylinder H. The lower end of rod U is formed conical in shape to fit the lower end of the seed-spout S. As the seed-cylinder H partially revolves it raises and lowers the rod U, so as to open or close this end of said seed-spout.

F F represent coiled-wire springs, which are coiled around the shaft E, one end of said springs being secured to said shaft E, the other end being hooked, and hooked around, but on different sides of, a rod, G, which passes through the box C from one end to the other. This spring, operating upon the shaft E in both directions, keeps it in proper position.

Secured to each end of the shaft E, and outside of the box C, are levers R R, the upper ends of said levers being V-shaped, and slotted at the bottom of the V for a short distance downward. The object of this slot will be hereinafter explained.

A brush is secured in the seed-box C′, which acts as a cut-off to prevent more seed than it is desired to remove from the seed-box passing out.

f f represent a rod, which passes through the axle B at each end, or is secured to it, said rod being bent, as shown in Fig. 3, and passing through or secured to the tongue A.

To the rod *f* is hinged a bar, V, which passes back and is secured to the boot T. This bar is for the purpose of steadying the boot in its proper position and for drawing it. A brace, W, passes up from the bottom of the boot to the bar V, being secured to each, as shown in Figs. 6 and 1. It also acts as a colter.

The boot T is chained at its rear to the box C, as shown, by the chain *h*.

The shaft E has upon its under side a projection, *z*, which acts upon a lever, N, as seen in Fig. 5. This lever N has a shoulder, *x*, upon it, near its outer end, which said shoulder is intended to catch against a plate, *a*, when the machine is in gear, and under a slot in said plate when the machine is not in gear.

a represents the plate just referred to. This plate is made of metal, and is hinged to a platform in front of the box C, said plate being provided with a slot on its under side, which receives the lever N, when desired. It is also provided with an arm upon its upper side. (Marked *i*, Fig. 1.)

Upon the under side of the cover K of box C is a wheel or disk, L, and upon this side of the cover a rod, M, is attached, being pivoted eccentrically to said wheel or disk. The outer end of this rod M has a hook upon it, which connects it to the upper end of the arm *i*.

The wheel or disk L has a short shaft, which passes through the cover K, and upon the upper side of this short shaft is a lever formed in a T shape. At each end of the cross-bar upon this lever is a hooked eye, through which a cord or wire is intended to pass.

The lever O, just described, turns half-way around, and is prevented from turning farther by means of the stops *p p* upon the cover K.

In using this machine I will describe what is necessary beside the machine itself. At each side of the field in which I am planting

corn or other grain I have horizontal bars, supported at proper distance from the ground by feet, and secured in position by means of adjustable braces, *l* being the bar, *m* the feet, and *n* the brace. From one bar, on one side of the field to another on the opposite side, I stretch a cord or wire, and upon this cord or wire are small balls or stops permanently secured every three or four feet apart or at any desired distance. These wires are secured at their ends to metallic clutches or bars, and these bars or clutches are provided with pulley-wheels, which press against the outside of the bars *l l*, as shown in Fig. 1. This line or wire being stretched, as described, in the direction I wish the grain planted, I drive my machine under it and pass the wires through eyes of lever O, so that the wire will rest or fall into the slots in the ends of levers R R. When I drive forward the first ball or catch catches against the levers R R and draws them back a certain distance, and as the machine advances they slip out of the slots (the wires do) and the levers R R fly back to their normal position, being impelled by the spring F, which has been described. Of course, when the levers R R turn they partially revolve the seed-cylinders H H, thus carrying grain in the seed-cups I I past the brushes J J and emptying it at a point, *y*, between the seed-cylinders and the sides of the seed-box, where it remains until the cylinder moves back, opening or disclosing an orifice, *y'*, in the seed-cylinder, through which it is allowed to be discharged into spout S. The grain falling in this discharge-spout is arrested near its bottom by the peculiar formation of the lower portion of rod *u*, which fits into the lower end of the said discharge-spout. The next time the seed-cylinder is operated the rod *u* rises, as it must, from its eccentric connection to said cylinder, and allows the grain which has lodged in the seed-spout to pass out. The grain is thus admitted into the seed-spout, dropped near the ground, and discharged from this position by the levers R R.

The machine passes across the field and the levers R R are operated upon, as described above, every three or four feet by means of the wire with its balls or stops. When the machine reaches the end of the wire and turns around the lever O, which holds the wires in the eyes in its ends, turns half-way around, but before it commences to turn the driver should place his foot upon the lever N and bear it down; then as lever O turns its disk or wheel L moves backward the rod M, and by means of it the plate *a*, thus catching the lever N under the slot in said plate and holding it down. The rod M moves backward the first half of the distance the lever O moves, and forward the balance of the distance, so that by the time the machine has turned and the lever O strikes the stop on the side to which it is turning the plate *a* has been moved sufficiently far forward to release the lever N. Said lever rises to its place as soon as released, and the machine is now in gear and ready to move forward again. As the machine moves forward this time the wire catches into the lever R opposite to the one in which it caught before it turned.

It is necessary for the driver to place his foot upon the lever N and bear it down in passing around a stump or other obstruction.

It will be observed that there is a small spring, *e*, (see Fig. 1,) which bears against the axle B and against the bar V for the purpose of keeping the boot T down or allowing it to adjust itself in passing over small obstructions.

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

1. The slotted levers R R at each end of the shaft E, when used for operating the said shaft, with its connections, substantially as and for the purpose herein specified.

2. The shaft E, provided with the seed-cylinders H H, as constructed and arranged, with the wire springs F F and rod G, substantially as and for the purpose herein specified.

3. The T-shaped lever O, provided with eyes, as described, and used substantially as and for the purpose set forth.

4. The arrangement of the lever O, disk L, rod M, plate *a*, and lever N, when used substantially as and for the purpose specified.

5. The wire or cord *j*, provided with balls or stops, when used with the levers R R or their equivalents, for operating the seed-cylinders and regulating the distance the grain is to be dropped, as is herein fully set forth.

6. The seed-spout S, as constructed, when used with the rods *u*, said rods *u* being formed as described, and connected to the seed-cylinders, as and for the purpose specified.

W. W. HUBBARD.

Witnesses:
C. M. ALEXANDER,
J. M. MASON.