

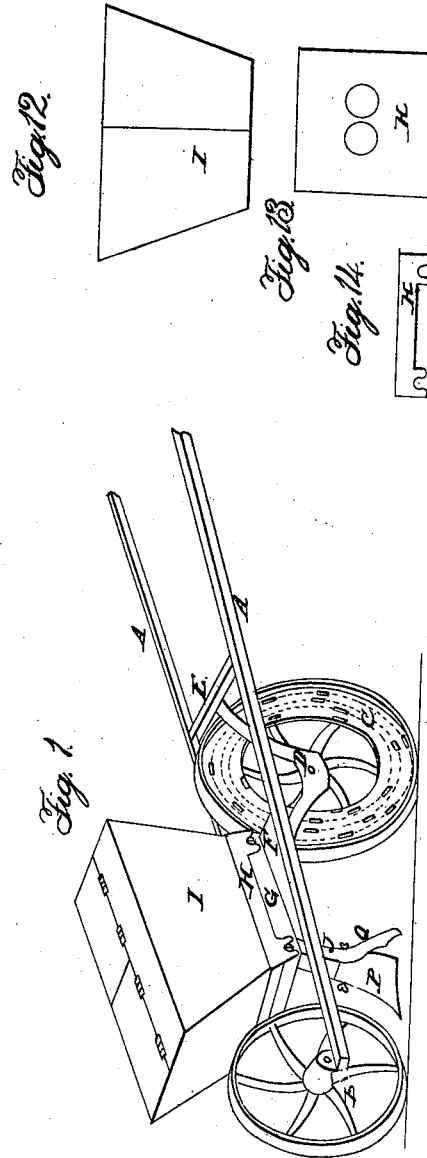
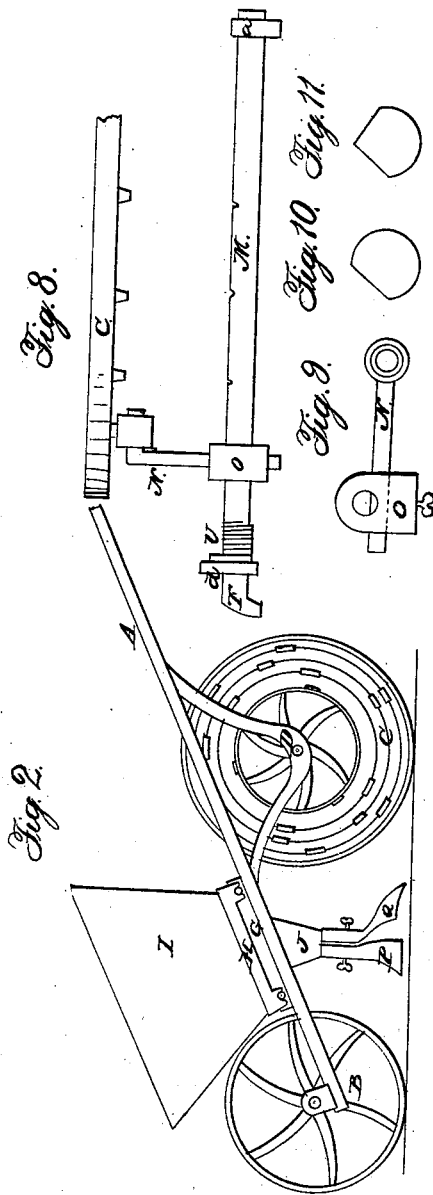
G. W. FARLEY.

2 Sheets—Sheet 1

Seed-Planter.

No. 51,707.

Patented Dec. 26, 1865.



Witnesses:
Frank J. B. Richardson
Charles A. Riddle.

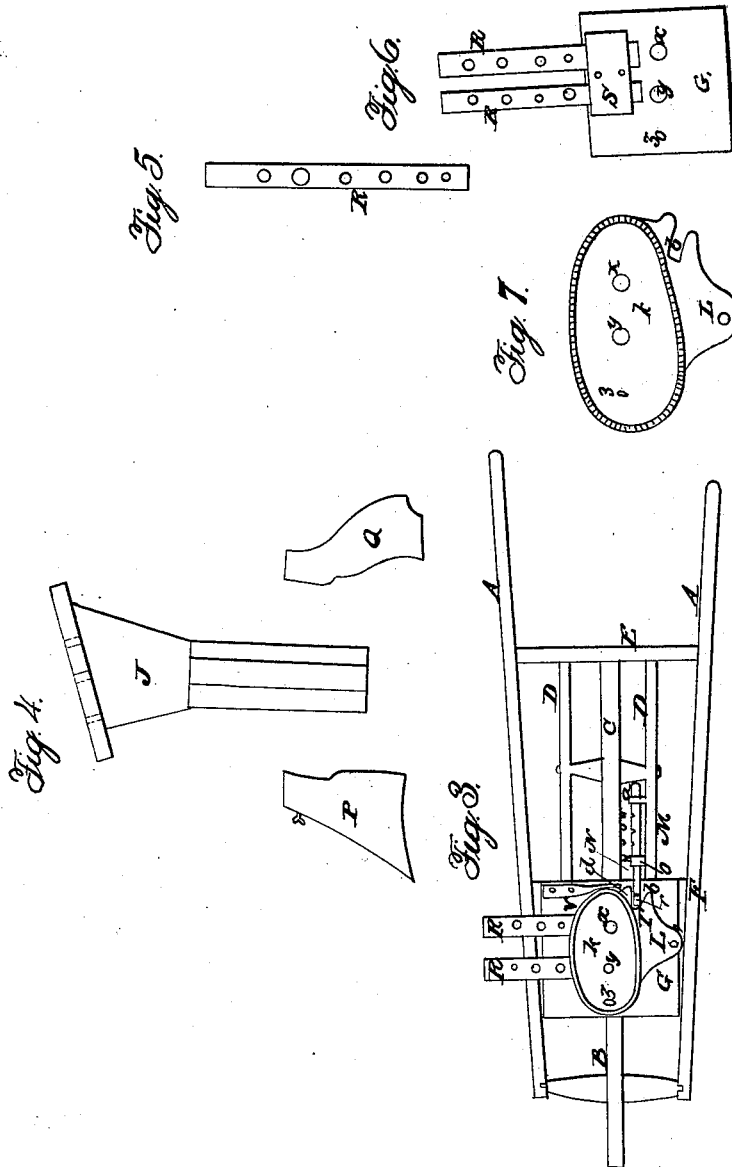
Inventor:
George W. Farley

G. W. FARLEY.

Seed-Planter.

No. 51,707.

Patented Dec. 26, 1865.



Witnesses.

Frank T. B. Richardson
Abel A. Bales

Inventor.

George W. Farley

UNITED STATES PATENT OFFICE.

GEORGE W. FARLEY, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. 51,707, dated December 26, 1865.

To all whom it may concern:

Be it known that I, GEORGE W. FARLEY, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented a new and Improved Seed-Drill Machine; 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, in which—

Figure 1 is a perspective view of the machine. Fig. 2 is a side elevation of machine. Fig. 3 is an interior vertical view of machine. Fig. 4 is the escape tube or pipe. Fig. 5 is a seed-gage. Fig. 6 is the bed on which the seed-valve K rests. Fig. 7 is the seed-valve. Fig. 8 is the hook-shaft, pawl, and part of the wheel E with cogs. Fig. 9 is the pawl. Fig. 10 is the section of the hook-shaft in all places excepting at the notches. Fig. 11 is the section of the hook-shaft at the notches. Fig. 12 is side view of hopper, showing partition. Fig. 13 is an iron flange-plate, and is the bottom of the hopper. Fig. 14 is the side view of the flanged plate or bottom of hopper.

A A are the handles of the machine, and are connected together by the cross-pieces E and F, and are firmly framed together. This frame has a bearing on two wheels, one in front of the other, and are designed to move in the same track with sufficient space between them to receive the machine. The front wheel, B, is attached to this frame in the same manner that the wheel is attached to a wheelbarrow. The other wheel, C, is larger than B, and has cast on one of its sides cogs. (See Figs. 1, 2, 3, and 8.) These cogs are cast on different radii of the circle, (as see Figs. 1 and 2,) and there may be as many cogs to each radius as are desired. If there are, say, four cogs to any one radius then four seeds will be laid in one circumference of the wheel C, and so if five, six, or any number of cogs are cast on any one radius. These cogs then regulate the distance apart of the seed sown. These cogs act on the pawl N, (see Figs. 3 and 8,) which moves the hook-shaft M and also the seed-valve K. The handles A A are suspended above the axle of the wheel C by the curved plates D D for the purpose of elevating the handles A A so as to be convenient to be taken hold of by the hands. Said plates D are attached securely to the cross-pieces E and F.

Between the two wheels B and C, and on the cross-piece F, there is fastened the bed-piece G, just large enough to receive the iron flanged plate H, which is the bottom of the hopper. Through this bed-piece G (see Fig. 6) there are three openings, *x*, *y*, and *z*—*x* for seed, *y* for the fertilizer, and *z* for dust that may slip down from *x* or *y*. These openings lead directly into the escape-pipe J, there being corresponding openings in the cross-piece F, and thus allows the seed, &c., to find the way to the ground.

On the upper surface of the bed-piece G is the seed-valve K, fastened to the bed-piece G by a screw, L, and moves on L as a center. In the seed-valve K there are three openings, corresponding to the three openings in bed G; but when the valve K is not acted on by the hook-shaft M—that is, when the machine is not in motion—the openings in the seed-valve K do not coincide with the openings in G, so that the seed, when the machine is standing still, cannot run out. In one side of the seed-valve K there is a slot, *b*, in which the hook of the hook-shaft operates when the machine is in motion. The hook-shaft M has as a section the larger segment of a circle (see Fig. 10) the whole length of it, from the spiral spring U to the collar *a*, except at the notches, where the section is as at Fig. 11. Said hook-shaft turns on a collar, *a*, attached to the curved plate D, and on another collar, *d*, attached to the bed G, and is always kept in one position with its hook perpendicular to the seed-valve K by the spiral spring U, which is attached, one end of it to the hook-shaft, the other end of it to the collar *d* or to the bed G, except when the hook-shaft is acted on by the pawl N. In that case the shaft turns part way around until the pawl is released from a cog in the wheel C, when the spiral spring throws the hook-shaft back to its position again, ready to be acted on again by another cog and the pawl.

The pawl, Fig. 9, is made in two parts. One piece is a block of metal, O, with two holes drilled into it at right angles to each other, one hole being bored so as to occupy a small part of the other hole. One hole is drilled large enough to move easily along the hook-shaft M. The other is large enough to receive the arm N of the pawl, and when the arm N of the pawl is inserted in the block O in its

proper place it occupies part of the hole bored to receive the hook-shaft M; but the section of the hook-shaft is the larger segment of a circle, (as see Fig. 10.) Consequently it will just fit into the remaining part of the hole after the arm N of the pawl is inserted in position, the cord of the segment of hook-shaft (see Fig. 10) moving against the curved side of the arm of the pawl N. The hook-shaft M has notches for the pawl N to operate in. They are made nearly opposite of the cogs in the wheel C, and at each notch the section of the hook-shaft M becomes as seen in Fig. 11, and it is only at these notches that the pawl is fixed in position to come in contact with the cogs in the wheel C. Therefore, when it is desirable to change the pawl N from one set of cogs to another, the arm of the pawl N is lifted from the notch in which it has been used and sufficiently high so as to be moved along on the hook-shaft from notch to notch on the section of the hook-shaft corresponding to Fig. 10. When we come to the notch we wish to use the arm of the pawl N is thrown toward the cog-wheel C, and that part of the pawl-arm N that is seen in Fig. 10 in the block O occupying part of the hole bored to receive the hook shaft then will occupy the notch and remain there until it is necessary to move it to another notch.

The escape-pipe J is fastened to the under side of the cross-piece F, and is made large enough, where it is fastened to F, to cover the three holes in F and G, and also to receive all that may come through them—that is, all the seed, fertilizer, and dust—and convey them to the furrow made by the plow P, which is attached to the front side of escape-pipe, at its lower extremity, by a thumb-screw, so as to be let down or raised up, just according to the depth of furrow you may desire to make.

The coverer or hoe Q is fastened to the back side of the escape-pipe J by a thumb-screw in the same manner as the plow P, and on the opposite side of the escape-pipe J, and can be let down or raised up at pleasure by the thumb-screw. This coverer or hoe is to cover the seed in the furrow as it is dropped by the machine. The wheel C then passes over the covered furrow and makes all smooth.

R R are gages, which are made to slip under the seed-valve K and upon the bed G. These gages have a variety of holes in them, smaller than the holes either in the seed-valve K or bed G, and by slipping them in more or less just such a sized hole in the gage will come over the hole in the bed G as will be adapted to the size of the seed to be sown. These gages are countersunk in the bed G, and are kept in position by the plate S, fastened to bed G by screws.

The hopper I is divided into two apartments, (as see Fig. 12.) Into one of the apartments is put the seed, and into the other the fertilizer. The bottom of the hopper rests on the iron flanged plate H, (see Fig. 12,) and is securely fastened

to it. The seed and fertilizer passes through the two holes in H (see Fig. 13) and falls onto the seed-valve K, which has an elevated rim around its sides, nearly high enough to touch the plate H, for the purpose of preventing the seed, &c., from escaping from the seed-valve K. The hopper, when attached to the iron flange-plate H, is fastened by the flanges of the plate H to the bed-piece G by screws, (as see Figs. 1 and 2.)

When I use my machine I put into the hopper the seed in one part and the fertilizer in the other, and, having moved the pawl along the hook-shaft to the notch that corresponds to the set of cogs in the wheel C that I wish to use, I throw the pawl into the notch, and the machine is ready for use. I then take hold of the handles of the machine and start it along, always being careful to keep both wheels bearing on the ground at the same time, and as the machine moves on the pawl comes in contact with the cogs in the wheel C. The pawl is borne down, and at the same time the pawl causes the hook-shaft to turn, and consequently the hook of the shaft to turn obliquely in the slot b of the seed-valve, which causes the seed-valve to move so that the holes in the seed-valve will coincide with the holes in the bed G and allow a seed and some fertilizer to fall through to the furrow. The cog on the wheel C, after bearing down the pawl a little way, slips past it, and the pawl-hook, shaft, and seed-valve are immediately brought back to its first position by the spiral spring V, attached to the hook-shaft and bed G, when the pawl is ready to be acted on by another cog.

V is a stop for the seed-valve, to keep it in position.

The handles are lifted up, so as to raise the hind wheel, C, from the ground in turning at the end of the rows.

The machine may be run backward without the loss of seed.

By my invention is produced a light hand-machine for sowing seed in drills, convenient to use, easy to regulate, and not liable to get out of order.

I claim—

1. In a seed-drill, the hooked rock-shaft M, in combination with the adjustable pawl N O and spiral spring V, substantially as and for the purposes set forth.

2. The seed-valve K, in combination with the bed-piece G and adjustable slides R, all constructed and arranged substantially as and for the purposes set forth.

3. The cogs on the side of the wheel C, in combination with the hooked rock-shaft M, the pawl N O, and seed-valve K, all constructed substantially as and for the purposes set forth.

GEORGE W. FARLEY. [L. S.]

Witnesses:

FRANK T. E. RICHARDSON,
A. A. BALCH.