2 Sheets—Sheet 1.

J. E. MORGAN.

Seeder and Planter.

No. 208,625. Patented Oct. 1, 1878.

Fig. 1.

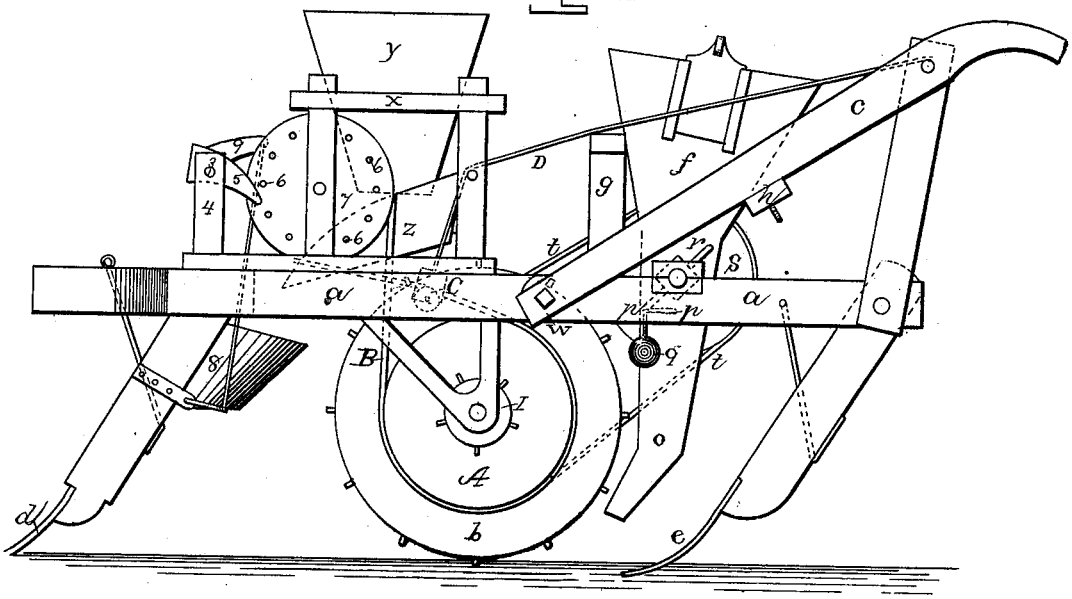
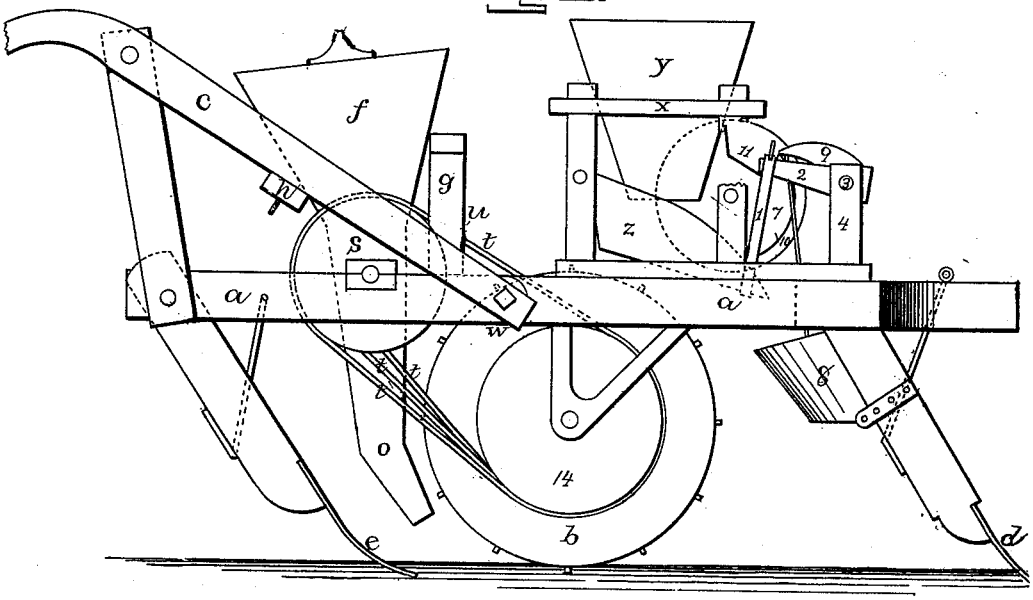


Fig. 2.



Witnesses.

J. W. Garner.

H. S. D. Haines

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2 Sheets—Sheet 2.

J. E. MORGAN.

Seeder and Planter.

No. 208,625. Patented Oct. 1, 1878.

Fig. 3.

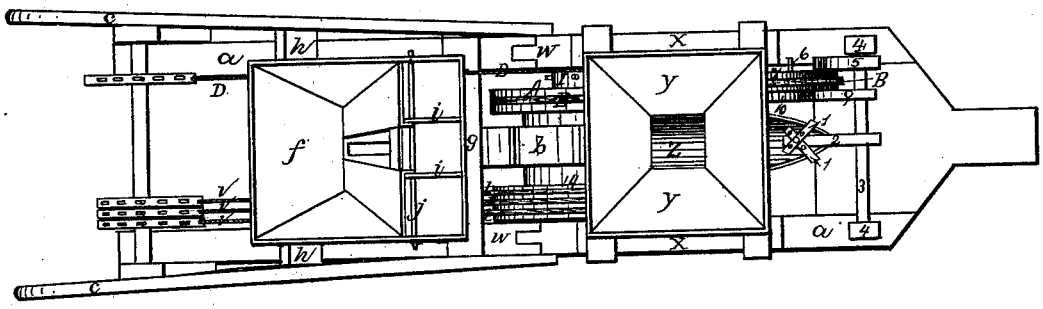


Fig. 4.

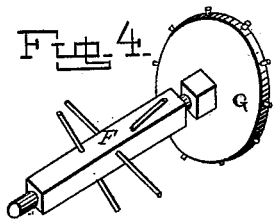


Fig. 5.

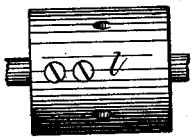


Fig. 6.

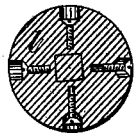


Fig. 7.

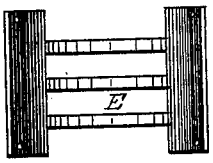


Fig. 8.

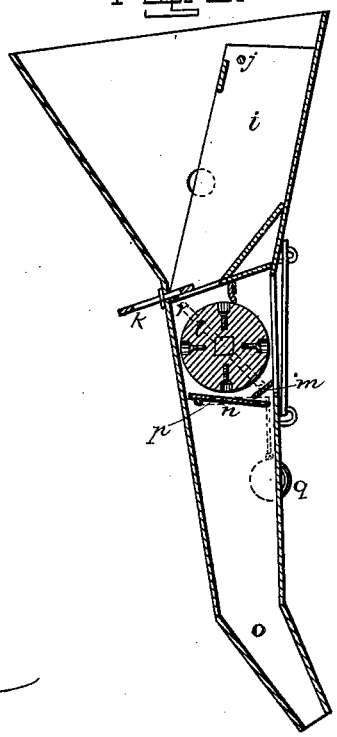
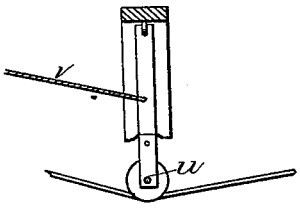


Fig. 9.



Witnesses:

J. N. Garner

W. S. D. Baines

Inventor:

J. E. Morgan

per

J. A. Lehmann,

Atty.

UNITED STATES PATENT OFFICE.

JOSEPH E. MORGAN, OF COLUMBUS, NORTH CAROLINA.

IMPROVEMENT IN SEEDER AND PLANTER.

Specification forming part of Letters Patent No. **208,625**, dated October 1, 1878; application filed August 14, 1878.

To all whom it may concern:

Be it known that I, JOSEPH E. MORGAN, of Columbus, in the county of Polk and State of North Carolina, have invented certain new and useful Improvements in Seeder and Planter; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in seeder and planter; and it consists in the arrangement and combination of parts, whereby one, two, or more kinds of seeds may be dropped at the same time, and a fertilizing compound deposited in the row, as will be more fully described hereinafter.

Figures 1 and 2 are side elevations, taken from different sides of the machine. Fig. 3 is a plan view of the machine. Figs. 4, 5, 6, 7, 8, 9 are details of the same.

a represents a rectangular frame, of any desired construction; *b*, the driving-wheel; *c*, the handles; *d*, the furrow-openers; *e*, the coverers; and *f*, the hopper. The hopper is supported between the frame *g* and the cross-piece *h*, on the under side of the two handles. In the hopper are detachably fastened the two divisions *i* by means of the rod *j* or other fastening device. These divisions are formed of pieces of sheet metal bent at right angles, or two pieces of board, which, when applied to the inside corners of the hopper, form rectangular chambers to receive beans, pease, and other small seed. These two divisions only occupy two of the corners of the hopper, leaving a space between and back of them to receive the corn or other grain. In the bottom of the hopper are cut slots for each separate kind of grain, and passing through slots in the back of the hopper are the slides *k*, by means of which the grain can be cut off altogether, or regulated so as to drop in large or small quantities upon the cylinder *l* below. In this cylinder are made a number of recesses, in the bottom of which are placed screws, which screws can be raised so as to be flush with the face of the cylinder, or depressed so as to make the recess shallow or deep, according to the number of grains to be dropped. These recesses may be of different sizes, and arranged in groups, or in any other way that may be preferred. Under the cylinder is placed an apron, *m*, which catches all of the grain which drops below the cylinder, and holds it until the valve *n* is operated. The valve *n* is pivoted so as to open downward and drop all of the grain upon it into the spout *o*, and has the bent arm *p* extending from it, reaching outside of spout, which arm has the weight Q or a spring fastened to it, so as to cause the valve to instantly close after having dropped the grain. Passed through one end of the shaft of the cylinder is the rod *r*, which, as the cylinder revolves, strikes upon the arm *p*, and thus opens the valve, so as to drop the grain in the furrow. Upon the opposite end of the cylinder from the rod *r* is placed a driving-pulley, *s*, having three different sizes, or a greater number, if preferred, and around each size is passed a driving belt or chain, *t*, from the pulley 14 on the shaft on which the driving-wheel *b* is placed. All of these belts *t* are made so loose that none of them will cause the pulley *s* to revolve unless the belt is intentionally tightened for that purpose. As each belt and its corresponding size of pulley cause the cylinder to revolve at a different speed, each belt is provided with its own tightening device *u*, which may be brought into play at any moment by means of a wire, rod, or chain, *v*, which has a chain or its equivalent device fastened to its rear end to catch over a hook, and thus hold the tightener *u* with any desired amount of pressure upon its belt.

By means of the above-described devices the grain may be dropped at any desired distance apart.

In order to give the rear part of the frame a slight vertical play, the frame is formed in two parts, and pivoted together at *w*. Upon the front half of the frame is built a small supporting-frame, *x*, in which is placed the hopper *y* for holding the fertilizing compound.

Just under this hopper is placed the inclined pivoted trough *z*, the front end of which is supported by the straps 1, which have their upper ends secured to the arm 2, that projects from the shaft 3. The shaft is journaled in the uprights 4, and has a tappet, 5, projecting

rearwardly, so as to strike against the pins or projections 6 on the side of the wheel 7, so as to impart a constant shaking motion to the trough *z*, whereby the fertilizing compound is made to keep running out of the trough into the receptacle 8, placed below to receive it.

Pivoted upon the shaft 3, but not secured to it, like the arm 2 or tappet 5, is the arm 9, which has its inner end supported upon a flange, 10, formed on the inner side of the wheel 7. In the surface of the inner side of the wheel 7, extending from the flange 10 inward toward the center, is a depression or recess, 11, into which the free end of the arm 9 falls at every revolution of the wheel 7, so as to let the free end of the receptacle 8, which is connected to it by a cord or chain, drop suddenly downward, and thus discharge its load of fertilizer, which has been shaken into it from the trough, into the furrow just made by the opener *d*.

On the same shaft as the driving-wheel *b* is a second pulley, A, from which, up over the wheel 7, passes the band B. As it may not always be desirable to drop the fertilizer with the seed that is being planted, this belt is made so loose that it will not operate the wheel 7 unless the belt is tightened by the operator for that purpose by means of the tightener C. To the tightener is connected a cord, wire, or chain, D, which extends back to the handles, where it is provided with links or other suitable means of holding it at any desired tension. As the straps 1 have a series of holes through them, the front end of the trough can be raised or lowered to drop more or less fertilizer, as may be desired.

By the arrangement of the recesses in the dropping-cylinder on opposite sides, the corn can be planted in hills at regular distances apart, and pease or beans planted in between the hills.

As the frame is jointed at its center, the two outer ends of the frame can be raised upward sufficiently to throw the whole weight of the machine on the wheel *b*, and thus enable the machine to be moved around from place to place without having the furrow-opener or coverers come in contact with the earth.

When desired, the whole frame-work on the front end of the frame *a* can be removed, together with the hopper and all its operating mechanism, so as to reduce the machine in weight, and thus make it easier to manage and lighter on the team.

When it is desired to plant cotton-seed, the divisions *i* are removed from the hopper, and the grating E is placed across its bottom, the shaft of the dropping-cylinder *l* is loosened at each end from its boxes, the whole hopper is lifted out of the frame *a*, and the cylinder *l* removed through the opening made in the front of the hopper for that purpose. The pulley *s* and the cylinder are removed from the shaft, and spikes are run through that part of the shaft where the cylinder was, so as to draw the cotton-seed down through the grating E. The pulleys are replaced, and the shaft replaced in the hopper, and the hopper returned to position. Through the upper part of the hopper, above the grating or ribs E, will be passed the shaft of stirrer F, which has a spurred pulley, G, on one end, over which passes a metallic belt from the small pulley I on the same shaft as the wheel *b*. While cotton-seed is being planted the receptacle 8, pivoted to the back side of the furrow-opener *d*, will not be used; but in its stead the semicircular guide will be fastened to the opener, so that the fertilizer will drop directly into it and run down into the furrow.

Having thus described my invention, I claim—

1. The two divisions *i*, secured together and held in position in the hopper by means of the transverse rod *j*, the said divisions forming two sides of a square, so as to be applied to the corners of the hopper, and thus leave the center of the hopper entirely clear, substantially as shown.

2. The combination, in a seeding-machine, of the feed-cylinder shaft, pulley *s*, having different diameters, belts or chains *t*, pulley 14, tighteners *u*, and rods or chains *v*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 7th day of August, 1878.

JOSEPH E. MORGAN. [L. S.]

Witnesses:
ALPHEUS E. WILEY,
JEREMIAH L. BELL.