

Patented Jan. 29, 1869



United States Patent Office.

GEORGE W. MOYERS, OF GORDONSVILLE, VIRGINIA.

Letters Patent No. 92,084, dated June 29, 1869.

IMPROVEMENT IN CORN-PLANTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. MOYERS, of Gordonsville, in the county of Orange, and State of Virginia, have invented a new and improved Combined Corn-Planter and Fertilizer; 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view;

Figure 2, a section through line *x x* of fig. 1; and

Figure 3, a section through line *y y* of fig. 1.

The object of this invention is to improve the construction of combined corn-planters and fertilizers, in such a manner as to prevent their cracking the corn, and to distribute the fertilizer in a better manner than heretofore. In attaining this object, an improved arrangement of the several parts of such a combined machine is also had.

In the drawings—

A A represent the side-pieces;

B B' B², the cross-pieces;

C, the tongue or draught-pole;

D D, the handles;

E E, standards supporting the standards; and

F, a round, which connects the standards, and attaches the handles thereto.

These several parts are, preferably of wood, and constitute the frame of the machine.

In connection with them, I also employ a wooden hopper, divided into two compartments, the forward and larger one for the fertilizer, and the rear one for the seed-corn.

This hopper (which is not shown in the drawings) is provided with a cover, and attached to the metallic hopper-bottom, shown in the several drawings, by any suitable means.

G is a large draught-wheel, mounted on a cross-shaft, G', between the side-pieces A A, and just in rear of the bottom of the handles, and, by means of a mitre-wheel, *g*, at its side, operating a longitudinal shaft, H, which, in its turn, by means of changeable and adjustable gear-wheels, *i i*, of different sizes, operates the seed-cylinder shaft I, so as to plant more or less rapidly, according as the gearing *i i* may, at any time, have been adjusted.

The mitre-wheel *g* runs on the shaft G' independent of the draught-wheel, and may be made to run "fast" or "loose" on the shaft by means of a friction-clutch, *l*, which can be adjusted by a lever, L, extending toward the round F.

J is a plate attached to one of the frame-pieces, which serves to support and furnish a fulcrum for the lever, and, at the same time, to hold in place a spring, K, which keeps the parts *g* and H in gear when the lever is not employed to ungear them.

The cylinder-shaft I runs longitudinally with the frame, directly in rear of and in line with the draught-pole.

M is a metallic box, attached, by lugs or arms *m m*, to the side-pieces of the frame. It is, like the hopper, divided into two compartments, by means of a vertical partition extending across it.

The bearings or hangers of shaft I are attached to its ends, projecting vertically downward, and may be made adjustable up and down, so as to bring the cylinders to the proper position with relation to the concaves in which they work.

The boot N and standard *p* of the opening-plow P are supported by diverging arms or braces, *n n*, attached to the side-pieces A A and cross-piece B'.

The covering-plows P' P' are arranged as shown in fig. 1.

The box M is cast with a bottom concave on the under side, the concave being concentric with the seed-cylinders, that operate in connection with it.

The two cylinders (or one may be employed, extending the entire length of the box) do not touch the surface of the concave, but are nicely adjusted, so as to be, throughout their whole upper surface, nearly, but not quite in contact with it, in order that there shall be no unnecessary friction.

Two openings are cut through or cast in the bottom of box M, one in each compartment.

The position, size, and shape of these feed-openings are clearly shown in fig. 1.

In the upper part of the fertilizer-compartment is an agitator, O, operated from the shaft I by gearing, *o*, at the front end of the box.

T is the cylinder, or that part thereof which distributes the corn, and T' the one, or that part thereof which deposits the guano or other fertilizer.

t t are the two seed-pockets in the part T, and *t' t'* those for the fertilizer in the part T'.

The pockets *t' t'* are not arranged along the same longitudinal lines on the cylinder, but such a line running through any pocket *t t* would be laterally distant ninety degrees from a similar line on each side of it running through pockets *t' t'* of the other set. Thus, a pocket, *t*, in the revolution of the cylinder, always arrives at the edge, *e*, of the feed-opening in the rear apartment of the box a quarter of a revolution before the pocket *t'* arrives there in the forward apartment. If provision were not made to counteract it, the result of this would be that the corn would first fall to the ground, and then, in another place in the furrow, the fertilizer would be deposited, so that the two would not be brought in contact.

To obviate this difficulty, I attach a curved plate, *r*, to the right side of the box M, at the rear compartment, and extend it down under the rear cylinder, to the lowest point thereof, as seen in fig. 2, the plate *r*

thus forming an extension of the concentric, concave at that point. The result of this arrangement is, that the seed in the pocket *t* which arrived at the edge *e* in advance of the fertilizer in the pocket *t'* is not dropped till it has been carried down to the lower edge of plate *r*, at which moment the fertilizer has also passed by the edge *e*, and is dropped from the point *e'*, fig. 3. The fertilizer-chamber being slightly in advance of the seed-chamber, and the seed and fertilizer dropping at nearly the same time, they are brought together in the hill in the proper manner. It will be observed, also, that the seed drops at once, while the fine fertilizer-dust spills more slowly from the pockets as they gradually emerge from the point *e'*, so that the fertilizer is strewn along the hill, over the seed, by the forward motion of the planter. The action of the instrument, in this respect, is singularly perfect, being as nearly like that of the skilled human hand as it is possible to effect.

To prevent the cracking of the corn by the sharp edge *e*, as the cylinder rolls around, I make the seed-pockets *tt* inclined or oblique, as seen in fig. 2, so that

they extend in a direction nearly tangential to the cylinder. The edge *e* then acts merely as a "straight-edge," scraping the surplus seed lightly and easily away from the pocket, without the possibility of crushing or injuring any of it.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the box *M* and concavo-convex bottom *s*, the cylinder *T*, when the latter is provided with oblique pockets, and all arranged in the manner and for the purpose specified.

2. The arrangement of the pockets *tt* so that they arrive at the edge of the feed-openings at different times, when employed in connection with the curved plate *r*, as and for the purposes specified.

To the above specification of my invention I have signed my hand, this 9th day of February, 1869.

GEO. W. MOYERS.

Witnesses:

CHAS. A. PETTIT,
SOLOMON C. KEMON: