

(No Model.)

C. E. GARDNER.
Seed Planter and Fertilizer Distributer.
No. 236,015. Patented Dec. 28, 1880.

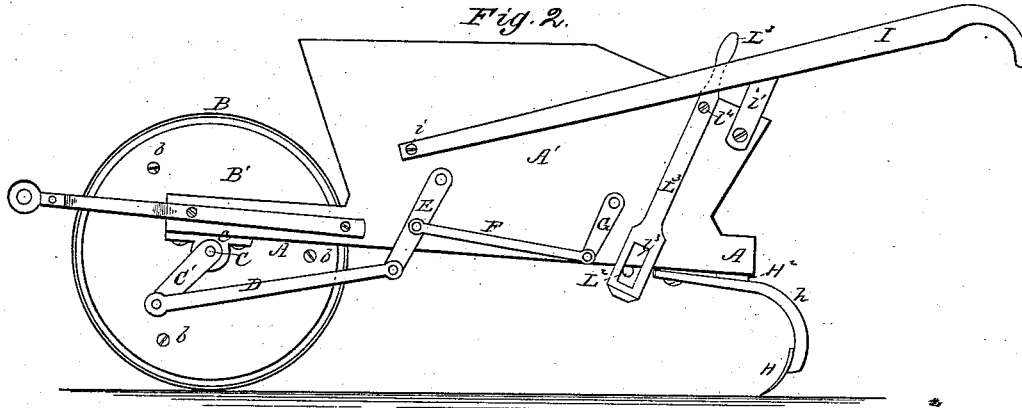
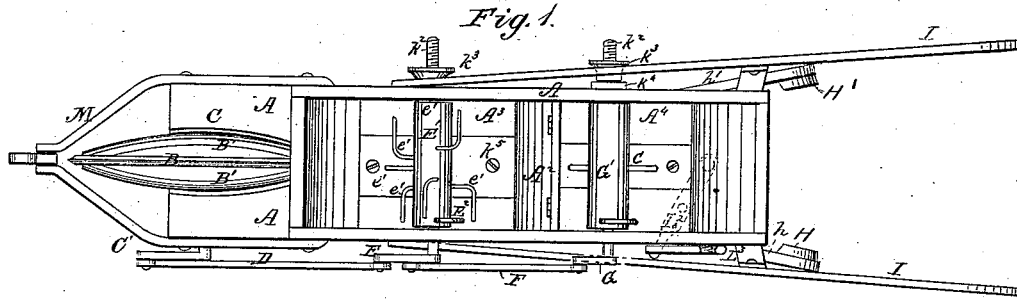


Fig. 5.

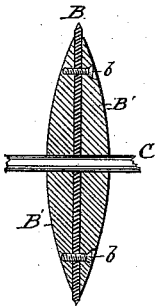


Fig. 3.

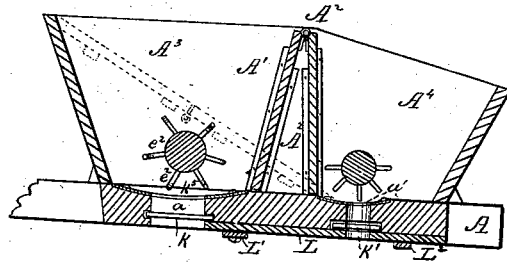
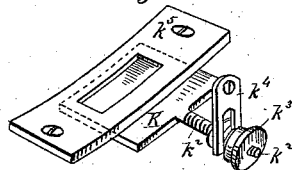


Fig. 4.



WITNESSES:

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CHRISTIAN E. GARDNER, OF ORANGEBURG, SOUTH CAROLINA.

SEED-PLANTER AND FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 236,015, dated December 28, 1880.

Application filed May 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN E. GARDNER, of Orangeburg, in the county of Orangeburg and State of South Carolina, have invented a new and Improved Seed-Planter and Fertilizer-Distributor; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to machines of the wheelbarrow pattern in which two hoppers are each provided with dropping devices, so that different materials may be carried and fed or distributed with a single machine.

The object of my invention is to so construct a machine of the above class that it may be used either as a single or as a double dropper or planter, and when used as a single planter only may have an increased capacity for carrying the material to be deposited; and the improvement consists in providing a double-compartment receptacle with a removable sliding portion, formed of sections hinged together in such manner that the partition between the two independent compartments may be withdrawn and unfolded and placed across the receptacle in such manner as to form a single enlarged compartment for holding and dropping a single material, as will more fully appear from the following detailed description thereof.

In the accompanying drawings, Figure 1 is a plan view of my improved machine; Fig. 2, a side elevation of the same; Fig. 3, a longitudinal section through the center of the hopper and its connections detached, and Fig. 4 a detail view of the valves and connections for operating them.

The general structure of the machine is of the wheelbarrow pattern. A base-frame, A, supports a box, A', formed of parallel vertical side pieces and inwardly-sloping end pieces, and by means of a partition, A², of peculiar construction, is divided into a double compartment, A³ A⁴, as will hereinafter appear. The front end of the machine is supported upon a wheel, B, formed of an iron or steel disk, of sheet metal, to the sides of which wooden faces B' B' are secured by wood-screws b, passing through them. The periphery of the metal disk B is sharpened to a cutting-edge, and the outer surfaces of the wooden pieces B' are

made convex, and together form a colter-wheel of the form of a double-convex lens with an acute-angular edge. The wheel B is secured to an axle, C, supported in bearing-straps c c, secured to the under side of the base. The forward end of the base is cut out to fit closely against the sides of the double-convex colter-wheel, and may be edged with metal to scrape away any mud or dirt that may adhere to it.

A crank, C', is secured to the end of the axle C, and is connected, by a pitman, D, with one end of a double crank, E, the other end of which passes through the side wall of the forward hopper and projects into the end of a wooden hub, E', which is provided with a stud-bolt, e, upon its opposite end, that is supported and turns freely in bearings in the opposite side wall of the hopper. The hub E' is secured to the end of the double-crank arm by means of a pin, E², that passes through holes in both of them, and may be readily removed or replaced by means of a loop or ring handle upon its upper projecting end.

The hub E' is formed into an agitator and guano-feeder in a cheap and simple manner, as follows: A series of holes are bored all the way through the hub, and wire rods e' pass through them and project at each of their ends. The ends of about one-half of these rods are bent over at right angles to their shanks in one direction, and the ends of the other rods are bent in the opposite direction in a corresponding manner.

Radial pins e² may be inserted in the hub midway between the rods e', and sweep the middle portion of the discharge-opening of the hopper to clear it of obstructing matter, while the bent rods agitate the mass and cause it to be regularly fed through the opening.

To the middle portion of the crank E is connected, by a short pitman, F, a crank, G, similar to the crank E, but shorter in length. A hub, G', similar to hub E', and provided with agitators, is connected to the upper arm of the double crank G by a pin, as in the case of the hub E'. By means of the crank-axle, double cranks, and two separate pitmen, the agitators may be vibrated together. By removing the short pitman of the agitator it is obvious that the rear hopper will be inoperative.

Covering-plows H H', secured to beams h h',

bolted to the under side of the rear end of the frame A, are arranged to straddle the row and cover the fertilizer deposited therein with a two-furrow lap of earth.

5 The beams $h h'$ are braced and held in position by a plate, H^2 , screwed to the under side of the framing.

10 When the machine is used as a planter the plow-shovels may be removed and a covering-board substituted therefor.

Handles I I are secured at their forward ends to the side of the receptacle by means of wood-screws i , or other suitable means, and are also secured at the rear end of the box by metal angle-plates i' , which give the handles 15 the proper spread to be conveniently grasped by the operator.

Each of the compartments $A^3 A^4$ is provided with a discharge-opening, $a a'$, the area of which 20 is regulated by means of sliding valves $K K'$, each provided with a screw-threaded stem, K^2 , and a nut, K^3 , with a corresponding thread that fits upon the end of the stem. An annular groove in the hub of the nut receives 25 the jaws of a metal plate, K^4 , securely attached to the side of the frame, in such manner that as the nut is turned the stem and its valve will be moved across the discharge-opening and regulate its area. The edges of the discharge- 30 openings may be protected by metal plates K^5 , to secure greater accuracy. The discharge-openings $a a'$ are in line with each other, and are covered by a rectangular strip, L, of wood or metal, perforated at such point in its length 35 that it will come opposite the discharge-opening a' of the rear hopper when the valve shall have been drawn back to its full length to open both of the ports. The valve L slides in a depression in the bottom of the frame A, 40 and is held in place by a cross-strip, L' .

A lever, L^2 , pivoted to the frame, is slotted at one end to embrace a pin on the valve, and at the other end passes through a loop or slot, l^3 , at the lower end of a hand-lever, L^3 , pivoted 45 at l^4 to the side of the boxing at its rear end,

to bring the upper end of the lever L^3 within convenient reach of the operator to close the valve L while the machine is turning or in passing over uncultivated space around trees and stumps. The forward end of the frame is 50 connected by means of a bail, M, with the draft apparatus.

The hoppers $A^3 A^4$ are divided by a partition, A^2 , of peculiar construction. (Shown clearly in Fig. 3.) It is made of two rectangular pieces 55 hinged together at their upper edges, so that they may be spread apart at the base or bottom of the hopper, to form an inclined partition for each adjoining hopper to deflect the material to the central discharge-aperture and 60 within range of the agitators. The forward hopper is purposed to distribute cotton-seed and the rear hopper to distribute guano as a fertilizer at the same time.

When it is desired to use the machine as a 65 cotton or wheat planter only, the discharge-aperture in the rear hopper is alone used.

In order to afford increased space and utilize nearly the entire interior of the box for a single hopper, the hinged partition A^2 is with- 70 drawn from its guides, as shown in full lines in Fig. 3, and when unfolded may rest upon strips upon the inner sides of the box, as shown in dotted lines in the same figure, and form an inclined bottom for an enlarged single receptacle 75 in which nearly the entire space of the box is utilized.

What I claim as new is—

In a combined manure-distributor and seed-planter, the hopper having the partition formed 80 of two hinged sections, which may be folded together and arranged as described, to form a double-compartment hopper, or unfolded and arranged in the manner specified, to convert the hopper into a single-compartment receptacle, 85 substantially as set forth.

CHRISTIAN E. GARDNER.

Witnesses:

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G. B. LALLEY.