

(No Model.)

J. M. JOHNSTON.
FERTILIZER DISTRIBUTER.

No. 344,279.

Patented June 22, 1886.

Fig. 1.

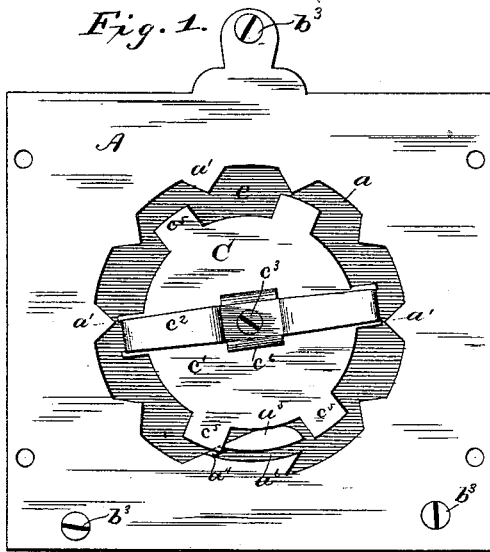


Fig. 2.

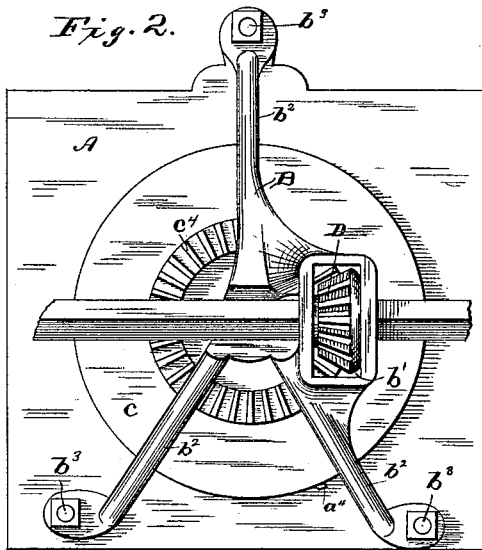


Fig. 3.

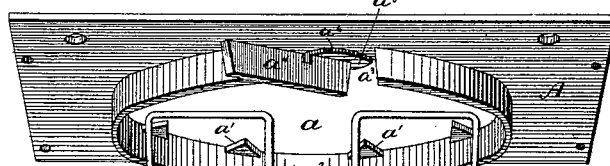
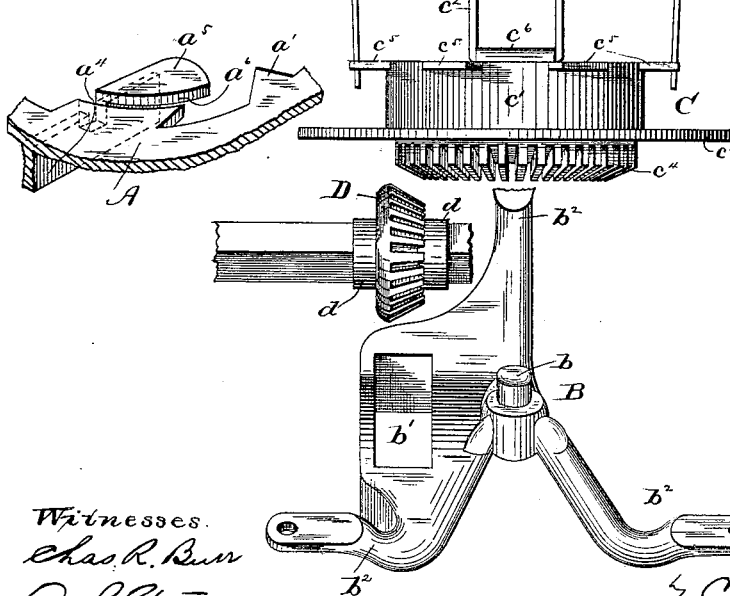


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES M. JOHNSTON, OF YORK, PENNSYLVANIA, ASSIGNOR TO NELSON C. BAUGHMAN, OF SAME PLACE.

FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 344,279, dated June 22, 1886.

Application filed November 23, 1885. Serial No. 183,771. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. JOHNSTON, of York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Fertilizer-Distributers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to improvements in that class of fertilizer-distributers wherein the material contained in a hopper is carried by a revolving plate through a discharge-orifice; and it consists in certain novel features of construction, as hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top and Fig. 2 a bottom plan view of the device. Fig. 3 is a detail view in perspective, representing the several parts separated. Fig. 4 is a perspective view of a portion of the bottom plate.

Similar letters of reference in the several figures indicate the same parts.

The letter A designates the plate, which is attached to and forms the bottom of the hopper or the receptacle for the fertilizer. It is provided with a central opening, a , radial teeth or projections a' , and an annular flange, a^2 , projecting downward and located at or beyond the base of the teeth a' . The flange a^2 is cut away at one side, as at a^3 , and to one side of the opening is located a tangential plate, a^4 , of the same depth as the flange a^2 , and provided with a horizontal flange or extension, a^5 , on the side toward the opening a^3 . This flange a^5 , which forms the top or cap for the discharge-opening a^3 , is formed with an arc-shaped slot, a^6 , the latter extending downward a short distance into the plate a^4 . Beneath the plate is located a bracket or spider, B, provided with a central stud or pin, b , an open socket, b' , at one side thereof, and three legs, b^2 , which latter are secured to the under side of the plate A by bolts b^3 .

Crepresents the combined feed-wheel crusher and agitator, composed, essentially, of a metal disk, c , a cap or drum, c' , and a bent

bar, c^2 , superimposed the one upon the other, and united by a screw-bolt, c^3 . The disk c is provided with a central socket or bearing fitting the pin b , and a gear-ring, c^4 , and the cap c' is provided at or near its upper edge with a series of radially-projecting plates, c^5 , and with retaining lugs or shoulders c^6 on its upper surface, to receive the central horizontal portion of the bar c^2 . The bar c^2 rises vertically on each side of the central portion or point of attachment to the cap and extends outward above the latter, the opposite ends being then brought down and resting in grooves formed in two of the plates c^5 , with the points extending somewhat below said plates, but at a distance from the periphery of the cap.

D is the bevel-pinion for engaging the teeth c^4 of the disk c , and is provided with a bearing, d , at each end fitting the open socket b' .

The several parts as thus constructed are combined for operation as follows: The bevel-pinion D, which is provided with an angular socket to receive the driving-shaft, is first inserted in the socket-bearing b' , and the combined feed wheel and stirrer is then applied to the pin b and above pinion, after which the stirrer and feed-wheel are inserted in the opening in plate A, and the spider B is bolted to the latter. When in this position, the upper surface of the disk c is brought into contact with the lower edge of the flange a^2 , and the teeth or projections a' of the plate A stand opposite the spaces on plate c^5 of the cap c' , while the downwardly-projecting points of the bar c^2 stand in line with the arc-shaped slot a^6 in the flange a^5 and plate a^4 . The parts being thus brought into position, the machine is ready to receive a charge of the fertilizer, which latter is thrown into the hopper and rests upon the cap of the feed-plate and the plate A. Motion being communicated to the combined feed wheel and stirrer through the pinion D, a path is cut through the material, and the latter is loosened up by the bar c^2 and falls toward the radial projections c^5 and a' , by which, if it is caked or lumpy, it is broken up and passes down onto the disk c , and is carried around until it meets the deflecting plate or scraper a^4 , and is discharged through the opening a^3 in the flange a^2 . The flange a^3

on the plate a^4 serves to confine the material and prevent its being carried over and beyond the scraper, and in order to facilitate the movement of the material and prevent its becoming packed under the said flange a^5 the ends of the bar c^2 are projected down into the annular space between the periphery of the cap and the annular flange of the plate A, and are caused to pass through the slot in the said flange a^5 , to assist in keeping the passage open. As before intimated, the vertical limbs of the stirrer serve to direct the material into the space between the flange of the fixed plate and the periphery of the cap, not by crowding, but by opening a passage so that the material adjacent thereto will be loosened and caused to descend by gravity, and the teeth of the cap and plate also assist in keeping the material in a loose condition, besides preventing it from passing onto the feeding-disk in large lumps, such as would tend to choke or otherwise obstruct the proper delivery.

I claim as my invention—

1. The combination, in a fertilizer-distributer such as described, of the flanged plate A, and the rotary disk with its cap and stirrer, as and for the purpose set forth.

2. The combination, in a fertilizer-distributer, of the rotary feeding-disk and the detachable cap and arched stirrer, substantially as described.

3. The combination, with the fixed plate A, provided with the annular flange, scraper, and radial projections, of the rotary feeding-disk

having the cylindrical cap with radially-projecting plates, substantially as described.

4. The combination, with the plate A, flanged, as described, and provided with radial projections, of the rotary disk bearing the cap and arched stirrer, the ends of the latter being projected into the space between the plate A and cap, as and for the purpose described.

5. In a fertilizer-distributer such as described, and in combination with the stationary plate and rotary feeding-disk, a stirrer provided with vertically-disposed arms arranged in line with the opening between the cap of the feed-disk and annular flange of the fixed plate, substantially as described.

6. In combination with the plate A, provided with an annular flange and flanged scraper, the rotary feed-disk, the cap, and the stirrer located above said cap, the points of the stirrer passing through a slot in the flanged scraper, substantially as described.

7. In a fertilizer-distributer, the combination, with a fixed plate provided with an annular flange, as described, of a rotary disk fitted against said flange and provided with a cylindrical cap, said plate and cap being provided with opposing radial plates or projections situated above the annular feeding-space, substantially as described.

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Witnesses:

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