

(Model.)

2 Sheets—Sheet 1.

W. B. ALLEN.  
FERTILIZER DISTRIBUTER.

No. 260,444.

Patented July 4, 1882.

Fig. 1.

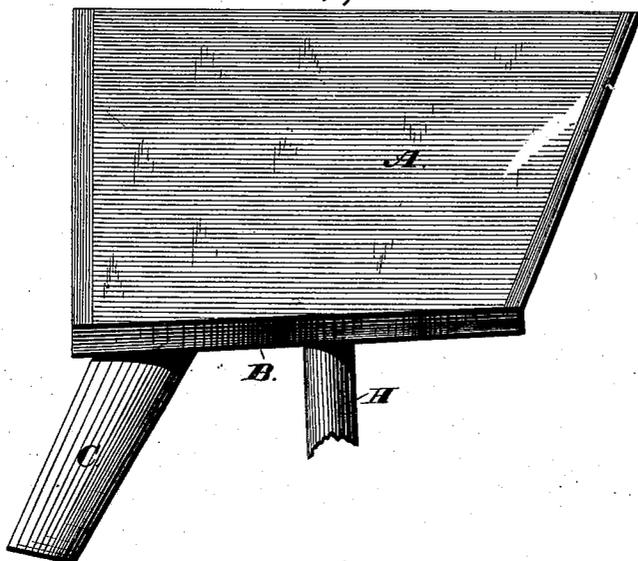
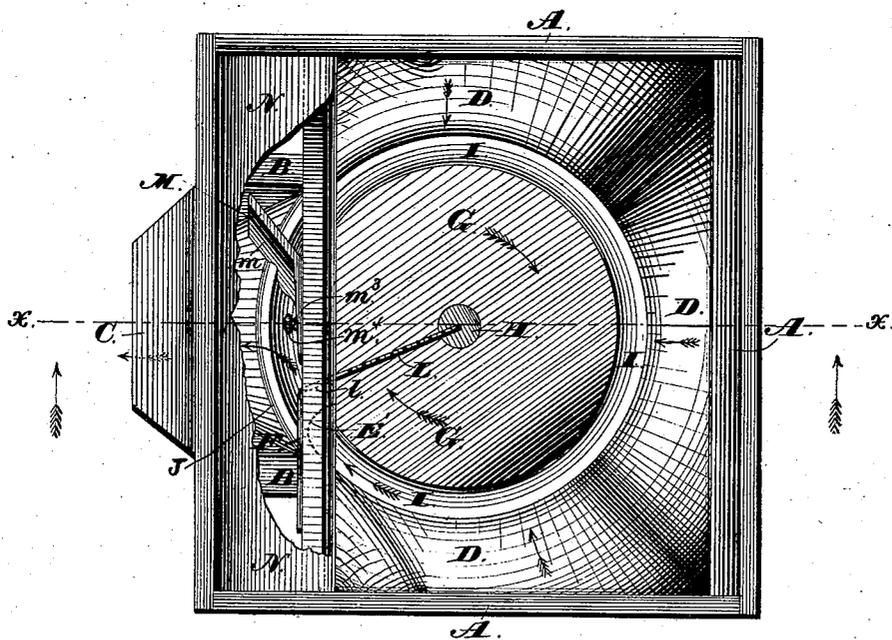


Fig. 2.



WITNESSES  
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Fig. 3.

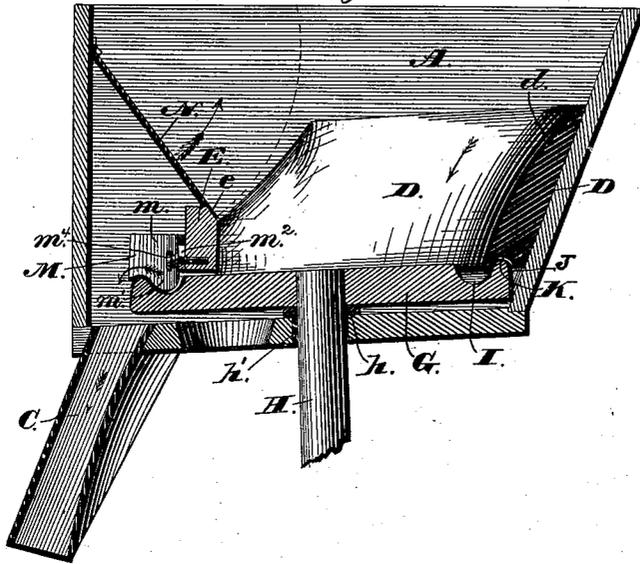
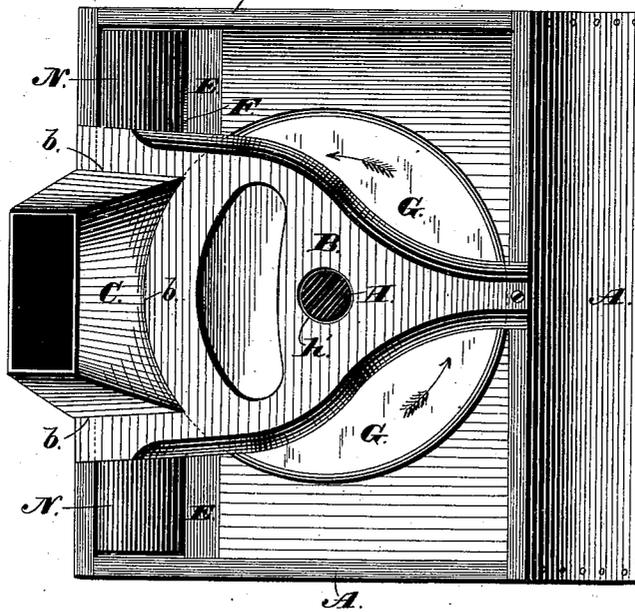


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM B. ALLEN, OF ORLEANS, NEW YORK.

## FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 230,444, dated July 4, 1882.

Application filed March 18, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. ALLEN, of Orleans, in the county of Ontario and State of New York, 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 invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to fertilizer-distributers, the object being to provide a force-feed distributor adapted for use with seeding-machines, which shall be reliable in its operation, simple in construction, and so arranged that the clogging and gumming of the material within the hopper, and more particularly within the mechanism of the feed, will be in great measure avoided, and a constant and regular feed and distribution of the material obtained.

The invention consists in the features of construction and combinations of parts, hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my improvement. Fig. 2 is a plan view of the same. Fig. 3 is a vertical section on the line *x x* of Fig. 2, and Fig. 4 is a reverse plan.

A represents the hopper of the distributor, to the under side of which is secured, by screws or otherwise, a yoke, B. The rear end of the latter is provided with a slot, *b*, within which is secured a discharge-chute, C, adapted to connect with the grain-run or discharge-tube of a seeding-machine. Within the hopper A is secured a hopper-block, D, having the beveled inner sides, *d*, and extending on each side of the hopper from the front rearward to a point above the forward edge of the discharge-chute. To the rear ends of the block D is secured by any suitable means a transverse bar, E, whose upper forward edge, *e*, is beveled, for a purpose hereinafter described. At one side of the bar E, adjacent to the hopper-block, the lower edge of the bar is provided with a diagonal beveled slot, E'.

G represents the revolving feed-wheel, mounted upon a standard, H, which latter is provided with a washer or collar, *h*, and supported in a bearing, *h'*, in the yoke B. The upper face of the feed-wheel is provided with an annular groove, I. The outer edge, J, of the wheel is

adapted to fit within a circular groove, K, formed on the under side of the hopper-block. One side of the wheel projects under and beyond the cross-bar E, and said wheel is so mounted relative to the cross-bar E that a portion of the groove I of the wheel will always project beyond the cross-bar E and that said groove will be in line with the inclined or diagonally-arched slot E' of the cross-bar.

L represents a blade or scraper secured to the cross-bar E, and extending inwardly to the center of the feed-wheel at an angle to said bar. The upper edge of this scraper-blade is notched to better adapt it to prevent clogging of the material. As shown in the drawings, the blade L is formed in the same piece with the reinforcing strip F, the latter being secured on the rear side of the bar E and then bent to pass through a diagonal slot, *l*, of said bar and terminating in the notched diagonal blade L.

M represents a plow-blade or scraper secured rigidly to the rear side of the cross-bar E. This blade is provided with a diagonally-projecting arm, *m*, the latter having a downwardly-projecting lip, *m'*, adapted to bear in the groove of the wheel at a point to one side of a line drawn from the center of the cross-bar E through the center of the feed-wheel.

The rear side of the arm *m* is beveled, as shown, and the horizontal portion *m<sup>3</sup>* of the blade is provided with a vertical slot, *m<sup>2</sup>*, and a screw, *m<sup>4</sup>*, whereby it may be adjusted relative to the groove of the feed-wheel to compensate for wear.

A door, N, is hinged near the upper edge of the rear side of the hopper. Its forward end is adapted to bear upon the beveled edge *e* of the cross-bar. By means of this door access may be had to the parts of the device located above the discharge-chute, for the purpose of repairing or renewing such parts.

The distributor as thus constructed is operated as follows: The feed-wheel (or its shaft) is connected by any suitable gearing to the operating-shaft of a seeding-machine, and is thereby revolved. The material being placed in the hopper upon the feed-wheel G, the groove I will be filled, and as it revolves the material will be carried by the groove through the diagonal slot E' of the cross-bar, after which it will come in contact with the plow-

blade M and be forced out of the groove and into the discharge-chute C.

It will be observed that the plow-blade M is located at one side of the center of the bar E and of the wheel, so that its resistance to the material in the groove will not force the material back against the bar and its point of egress from the interior of the hopper, but will operate to empty the material directly into the chute C.

An important advantage of the distributor when constructed in accordance with the foregoing description is that the material in the hopper in its passage through the distributor will not clog or become gummed to such an extent as to interfere with the operation of the device, since the serrated blade or scraper L will crush and force the material outward into the groove toward and against the inclined wall of the slot E' of the cross-bar, where it will be further crushed and broken to enable it to pass out to the discharge chute C. The close joint formed by the groove in the hopper-block, between the latter and the feed-wheel, effectually prevents any leakage of the fertilizing material. The door N is adapted to be kept closed by its own weight and that of the material placed upon it.

It will be apparent that many slight changes in the construction and relative arrangement of the parts of my invention may be resorted to without departing from the latter. Hence I would have it understood that I do not limit myself to the exact construction shown and described, but reserve to myself the right to make such alterations and modifications as may properly fall within the scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fertilizer-distributor, the combination, with the hopper and a cross-bar arranged therein, of a revolving feed-wheel provided with an annular groove on its upper face, a portion of the wheel extending under the cross-bar, and a scraper secured to the rear side of the cross-bar, whereby the material carried in said groove will be forced into the discharge-chute, substantially as set forth.

2. In a fertilizer-distributor, the combination, with the hopper, of a hopper-block provided with a circular groove on its under side, and a feed-wheel adapted to be revolved and provided with an annular groove and so arranged relative to the hopper-block that the upper edge of the wheel will revolve within the groove of the block, thus forming a close joint between the two to prevent the leakage of material, substantially as set forth.

3. In a fertilizer-distributor, the combination, with the hopper and a cross-bar arranged therein, of a revolving feed-wheel provided with an annular groove on its upper face and extending under and beyond said cross-bar, an inwardly-projecting scraper extending to the center of the feed-wheel, and a plow or scraper arranged on the outer side of said cross-bar and adapted to force the material into the discharge-opening of the distributor, substantially as set forth.

4. In a fertilizer-distributor, the combination, with the hopper and hopper-block, the latter being grooved on its under side, of a feed-wheel provided with an annular groove in its upper face, a cross-bar arranged within the hopper and above one side of the feed-wheel and provided with an arched and beveled opening under which the groove of the feed-wheel will pass, and an inner and an outer blade or scraper, whereby the fertilizing material is forced into the discharge-chute, substantially as set forth.

5. In a fertilizer-distributor, the combination, with the hopper and hopper-block of a yoke arranged below the hopper and slotted to receive the discharge-chute of the distributor and perforated to receive the shaft of the feed-wheel, a feed-wheel having an annular groove on its upper face, a cross-bar arranged within the hopper, and an inner and an outer blade or scraper adapted to force the material into the discharge-chute, substantially as set forth.

6. In a fertilizer-distributor, the combination, with the hopper, the beveled cross-bar arranged therein, and the discharge-chute, of a door hinged to the hopper above said chute and adapted to bear at its free end upon the beveled edge of the cross-bar, substantially as set forth.

7. In a fertilizer-distributor, the combination, with the cross-bar and revolving grooved wheel, of a scraper or blade adjustably secured to said cross-bar adjacent to the discharge-chute and notched to adapt it to bear in said groove, substantially as set forth.

8. In a fertilizer-distributor, the combination, with the hopper-block and revolving feed-wheel, of the inner scraper or blade having its upper edge notched or serrated, as and for the purpose described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM B. ALLEN.

Witnesses:

ULYSSES WARNER,  
JACOB A. WADER.