

J. F. KELLER.
Distributing Fertilizers.

No. 104,854.

Patented June 28, 1870.

Fig. 1

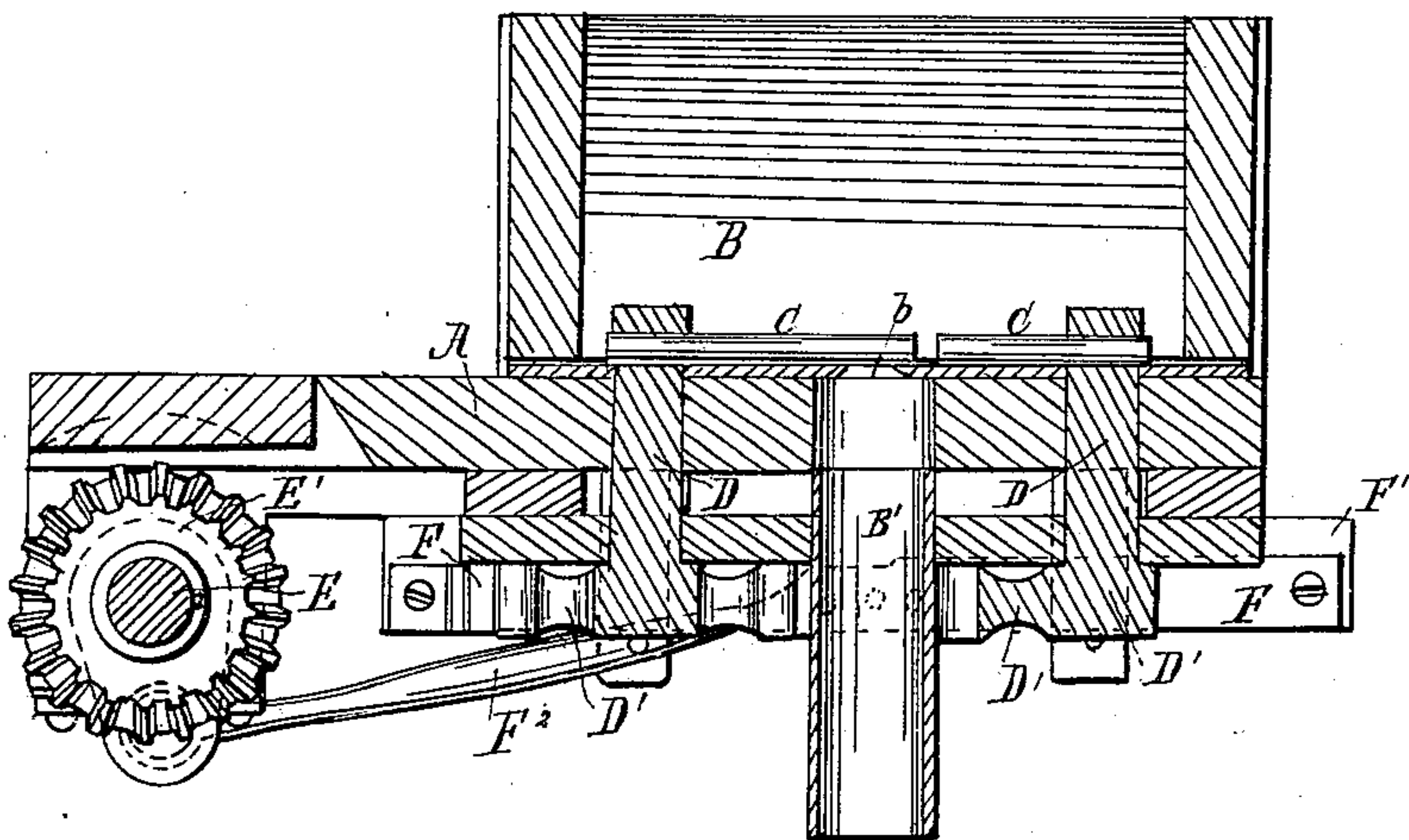
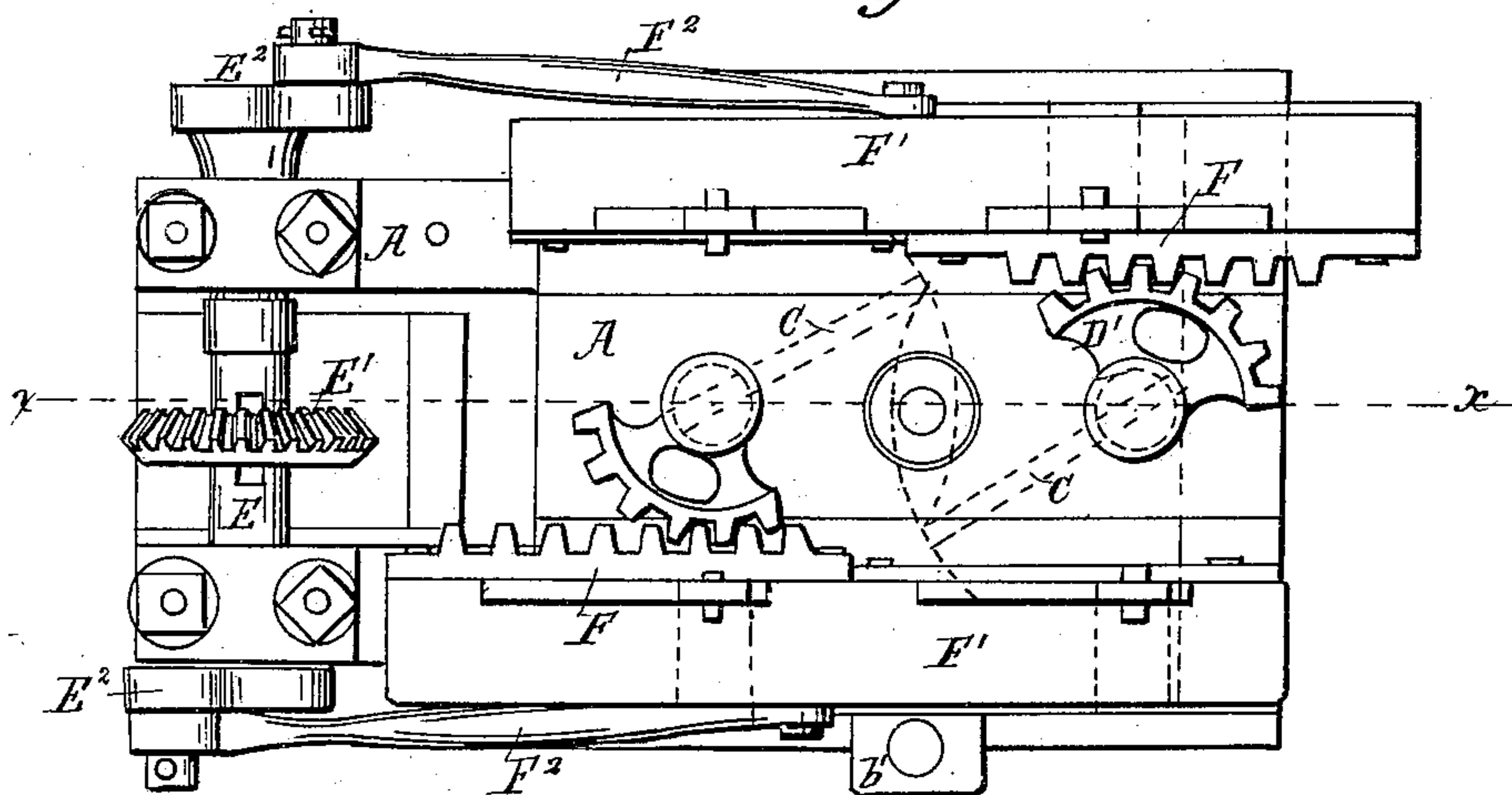


Fig. 2



Witnesses:

C. F. Clausen,
C. Ruppert.

Inventor:

John F. Keller
by
Edgar B. Smith
att'y

United States Patent Office.

JOHN F. KELLER, OF HAGERSTOWN, MARYLAND.

Letters Patent No. 104,854, dated June 28, 1870.

IMPROVEMENT IN MACHINE FOR DISTRIBUTING FERTILIZERS.

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, JOHN F. KELLER, of Hagerstown, in the county of Washington and State of Maryland, have invented certain Improvements in Machines for Distributing Fertilizers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a sectional elevation on line *xx* of fig. 2.

Figure 2 is a plan and bottom view of the machine.

The same letters are used in both figures to designate like parts.

My invention relates to that class of machines which is used, either in connection with seeders or separately, for distributing guano or other fertilizers; and

My improvements consist in the combination and arrangement of the several parts of which it is composed, as hereinafter more fully set forth.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, in the drawing, represents the frame or bed of the machine, which may be of wood, and have the form shown, or any such form which shall adapt it to receive and support the several parts which are to be attached to it.

B is a box or hopper, of suitable size for receiving the guano or other fertilizer to be distributed, mounted upon the bed A. Its bottom consists of a metallic plate with a central aperture, *b*, through which the guano is discharged into the tube B'.

To avoid, as much as possible, any clogging in the discharge-orifice and pipe, the former is countersunk on the under side, so as to terminate on top in a sharp edge, as shown in fig. 1, and the tube is made much larger in diameter than the aperture *b*.

A slide, *b'*, is to be arranged in the bottom plate, and extending through one side of the hopper, by which the discharge-orifice may be entirely or partially closed, and thus the amount of guano to be distributed regulated.

In order to insure a continuous discharge of the guano, it is necessary to constantly agitate or stir the contents in the bottom of the hopper. This I effect by means of the agitators or stirrers C C, which are two bars of metal, respectively secured at one end to vertical spindles, D D, extending through the bottom

of the hopper, at opposite ends thereof, from which they reach just beyond the central discharge-aperture, laying close to the bottom plate, as shown.

The spindles D D pass downward through the frame A, in which they have their bearings, and have segmental pinions, D' D'; formed upon their lower ends, just below the frame. The position of one pinion and stirrer with reference to the other is clearly shown in fig. 2, and they are operated by the following mechanism:

E represents a transverse horizontal shaft, hung in boxes pendant from the frame, and carrying a bevel-wheel, E¹, by which it is revolved, motion being received from the driving parts of the machine or truck upon which the frame A may be mounted. The ends of this shaft project a short distance through their boxes to receive cranks, E² E², which are secured upon it at right angles to each other.

F F represent two rack-bars, arranged upon the under side of the frame A, opposite and parallel to each other, and in such a manner that each engages with one of the segmental pinions D'.

These racks are secured to sliding beams, F¹, arranged in ways on the frame, and connected, by means of connecting-rods, F², to the cranks E². Thus, by rotating the shaft E, a reciprocating motion is imparted to the racks, which, in turn, oscillate the stirrers C C in such a manner as to move them in opposite directions during a portion of their oscillation, thus keeping the fertilizer in the bottom of the hopper thoroughly agitated.

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

1. The stirrers C C, when so arranged as to move in opposite directions during a portion of their oscillation, substantially as and for the purpose set forth.

2. The combination of the stirrers C C, segmental pinions D' D', with their spindles D D, and reciprocating racks F F, all arranged to operate substantially in the manner set forth.

Signed at Hagerstown, this 29th day of October, A. D. 1869, in the presence of two subscribing witnesses.

JOHN F. KELLER.

Witnesses:

CHARLES H. HENSON,
WM. BLIRSHING.