

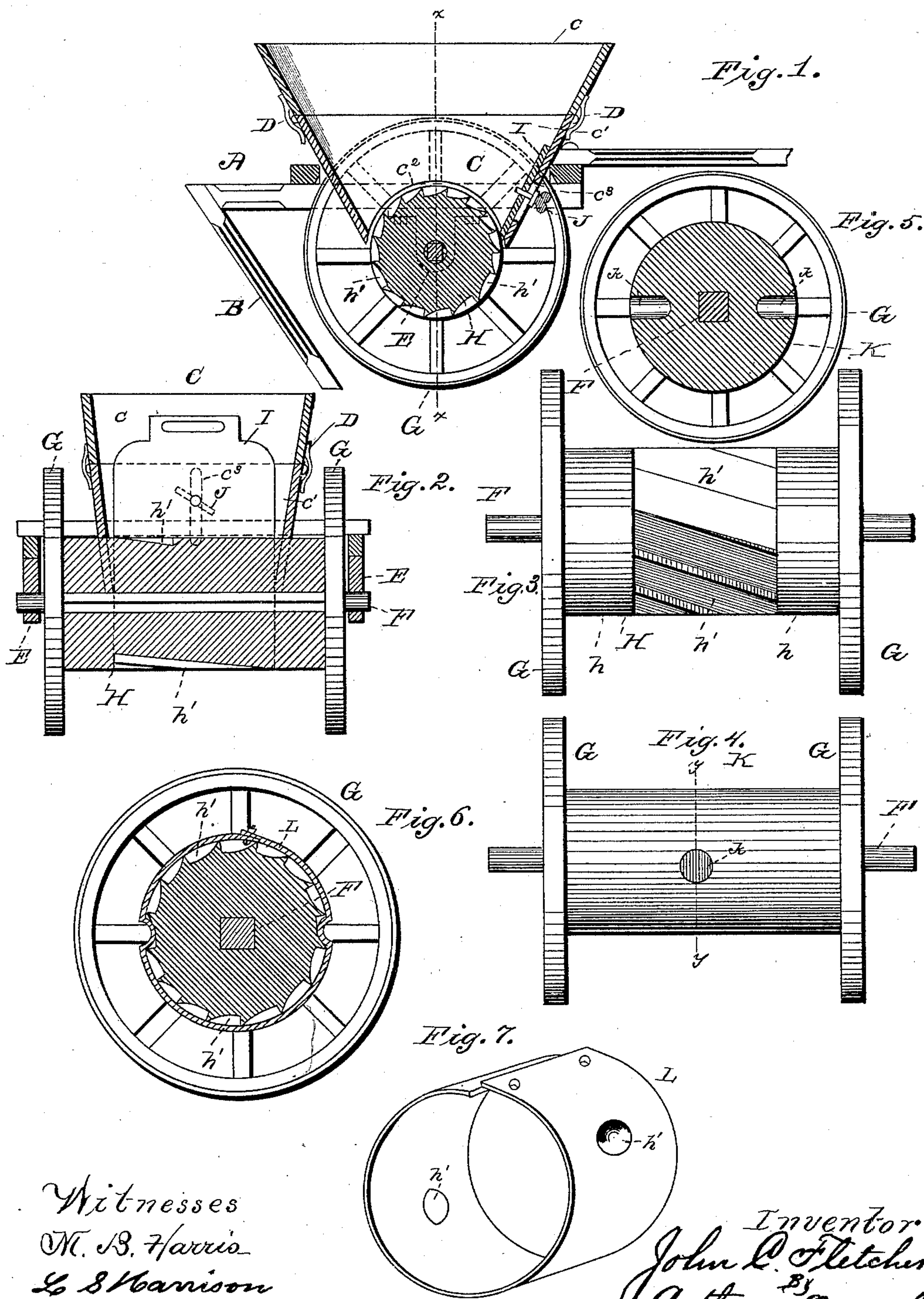
(No Model.)

J. C. FLETCHER.

COMBINED GUANO DISTRIBUTER AND PEA PLANTER.

No. 436,598.

Patented Sept. 16, 1890.



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COMBINED GUANO-DISTRIBUTER AND PEA-PLANTER.

SPECIFICATION forming part of Letters Patent No. 436,598, dated September 16, 1890.

Application filed June 3, 1890. Serial No. 354,099. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. FLETCHER, a citizen of the United States, residing at Adamsville, in the county of Marlborough and State of South Carolina, have invented certain new and useful Improvements in Combined Guano-Distributers and Pea-Planters; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention has relation to improvements in an implement adapted for the purpose of distributing guano, and also with slight change to be equally adapted for the purpose of planting peas.

The object of my invention is to provide a construction whereby the small lumps of guano are thoroughly comminuted or ground up and directed from the bottom of the hopper to the soil in a continuous stream.

A further object is to provide a construction whereby the machine may be readily converted into a pea-planter.

With the above objects and others in view the invention consists in the improved construction and combination of parts, as hereinafter more fully pointed out and described.

In the accompanying drawings, Figure 1 is a longitudinal sectional view. Fig. 2 is a cross-section on the line $x x$, Fig. 1. Fig. 3 is a detail of the guano-roller. Fig. 4 is a detail view of the pea-roller. Fig. 5 is a cross-sectional view of the pea-roller on the line $y y$, Fig. 4. Fig. 6 is a cross-section of the guano-roller with the annular band secured thereto, and Fig. 7 is a detail view of the annular band.

Like letters of reference refer to like parts throughout the several views.

Referring to the drawings, the letter A indicates the frame or body provided with the usual furrow openers or plows B.

The letter C indicates the hopper, the upper section c thereof being made detachable, as clearly shown in the drawings, end spring-

plates D D serving to hold the same firmly in place upon the lower section c' when adjusted to the same.

Depending from opposite sides of the frame of the machine are hangers E E, in which the axle F is journaled. Mounted fast upon this axle are the driving-wheels G G, and intermediate these wheels, preferably integral therewith, is the guano feeding roller H. This roller is of the peculiar form shown in the drawings, and has the opposite ends of its periphery perfectly flat or smooth, as indicated at $h h$, while intermediate these smooth surfaces is an annular depression having formed therein a series of oblique ridges or projections h' , which are in the form of a spiral bend or flexure. This peculiar form of the ridges—that is, oblique and spiral form—is an important feature of my invention, inasmuch as it serves not only to finely grind and crush the guano before its discharge from the hopper, but at the same time discharges the same in a continuous and uninterrupted stream, thus providing for an equal distribution of the fertilizer over the soil.

It will be noticed that the sides of the hopper are concaved at $c^2 c^3$, so as to fit neatly over the outer smooth surface of the roller with as little space intervening as possible, but not close enough to the roller as to contact and interfere with its free rotation.

An adjustable feed-plate I is arranged in the forward portion of the lower section c' of the hopper, and is provided with a set-screw J, which passes through an elongated slot c^3 in the forward end, by means of which the amount of guano discharged from the hopper may be conveniently regulated.

In Figs. 4 and 5 I have illustrated a form of roller (designated by the letter K) which may be employed when it is desired to plant peas. This, like the guano-roller, is arranged between the driving-wheels and integral therewith, but is smooth throughout the entire surface of its periphery, except at diametrically-opposite points, where it is provided with depressions $k k$. In order to adjust this roller to the machine all that is necessary to be done is simply to remove the guano-roller and its driving-wheels and re-

place the same by the pea-roller. The adjusting-plate is then adjusted close enough to the roller to prevent the peas from escaping at the forward end.

5 As the above construction, however, comprehends interchangeable sets of feed-cylinders, I have provided a construction which will entirely dispense with this necessity of using an extra roller. This consists of an
10 annular band L, which is wide enough and of such circumference as to completely close the central depression of the guano-roller. This band of course is provided with the depressions, and its edges are secured together in
15 any desirable manner.

As the same necessity for a large hopper in the case of distributing guano does not exist when planting peas, the upper section of said hopper may be dispensed with, which can be
20 done by simply releasing the springs, as hereinbefore described. As the roller revolves, the depressions in the same are alternately filled by the peas, and consequently a like quantity is discharged after the roller has
25 turned such a distance as to bring one of the depressions outside of the hopper.

From the above description the construction, operation, and advantages of my invention will be readily understood.

30 Besides the advantages already pointed out it will be seen that it is exceedingly simple in construction, inexpensive of production, and little liable to derangement, there being no chains, gearing, or other parts liable to get
35 out of order.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a frame and hopper, a shaft or axle, driving-wheels fast thereon 40 and having an intermediate feed-roller integral therewith, said feed-roller having the ends of its periphery smooth, with an annular depression intermediate, said depression having formed therein a series of spiral ridges, substantially as set forth. 45

2. The combination of a frame, a shaft or axle, driving-wheels fast thereon and having an intermediate feed-roller integral therewith, said feed-roller having the ends of its 50 periphery smooth with an annular depression intermediate, said depression having formed therein a series of spiral ridges, a hopper having the lower ends of its sides concaved to fit over the smooth edges of the roller, and also 55 provided at its forward end with an elongated slot, and an adjustable plate provided with a set-screw passing through said elongated slot, substantially as set forth.

3. The combination of a frame, a shaft or 60 axle having driving-wheels mounted fast thereon, said wheels having an intermediate feed-roller, which is provided with an annular depression having formed therein a series of spiral ridges, and adapted to receive an annu- 65 lar band surrounding the roller or feed cylinder, said band provided with diametrically-opposite seed-depressions, whereby the machine may be converted into a pea-planter, substantially as set forth. 70

In testimony whereof I affix my signature in presence of two witnesses.

JOHN CECIL FLETCHER.

Witnesses:

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