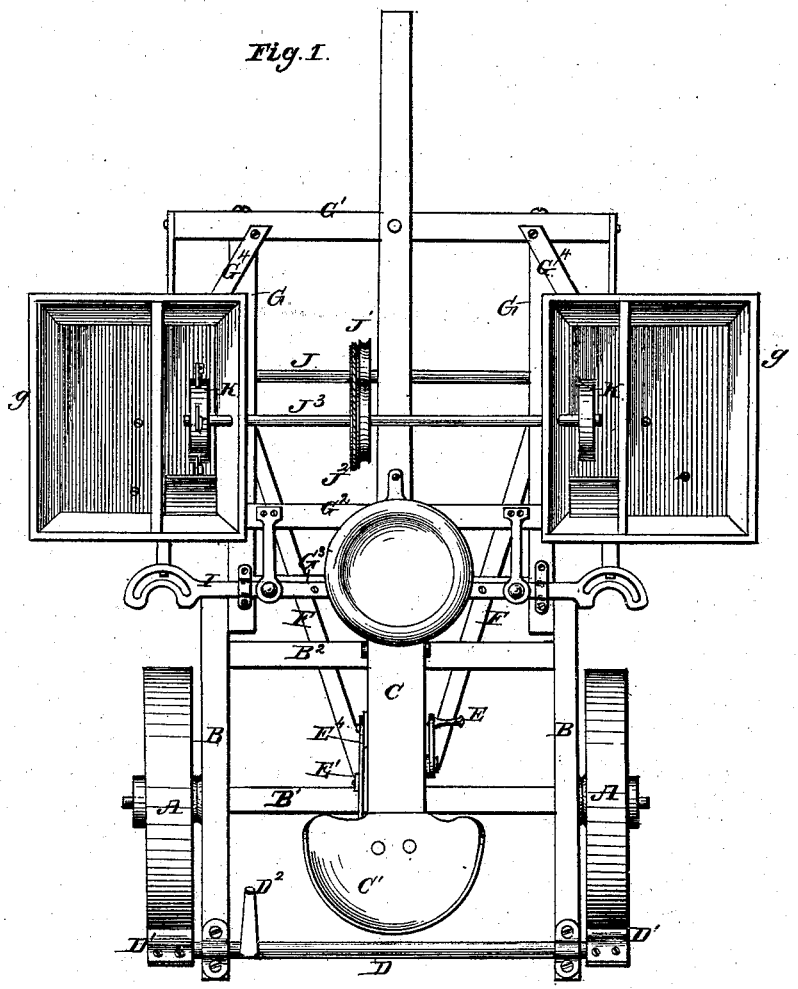
2 Sheets—Sheet 1.

R. L. CLEVELAND.
Seed-Planter.

No. 205,174. Patented June 25, 1878.

Fig. 1.



Attest.

J. W. Ford
D J Stewart Jr.

Inventor.

Rienzi L. Cleveland

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Fig. 2.

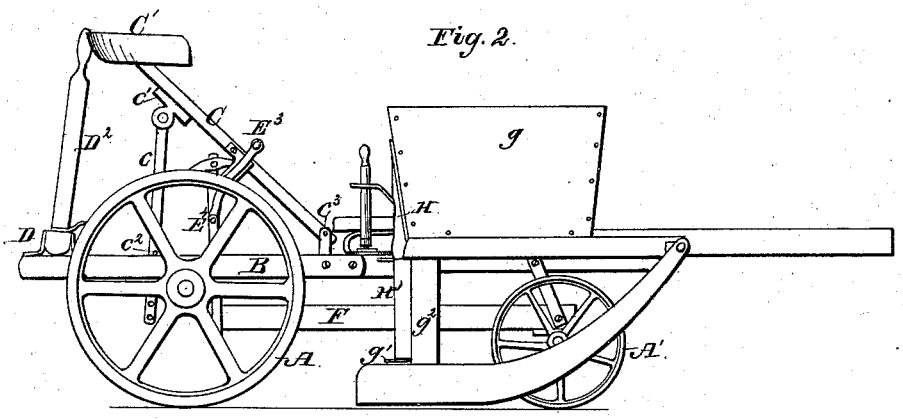


Fig. 3.

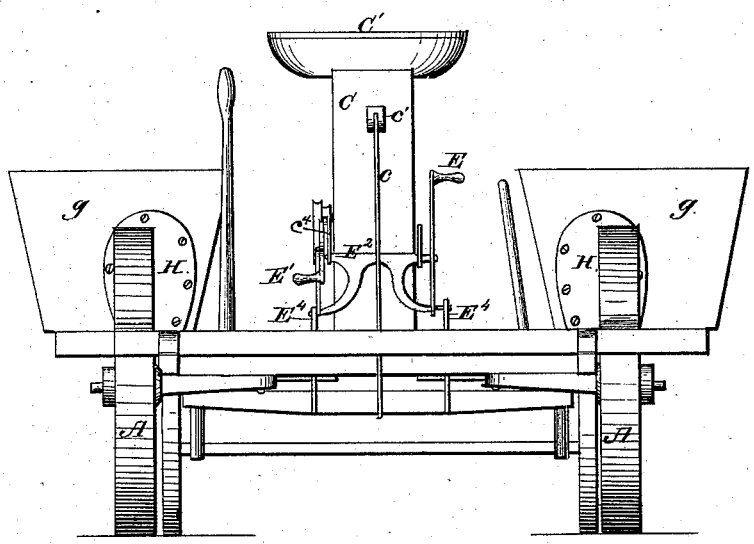
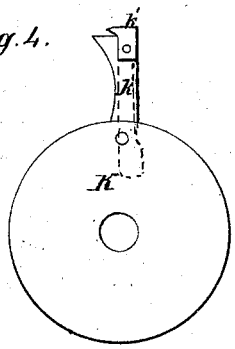


Fig. 4.



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UNITED STATES PATENT OFFICE.

RIENZI L. CLEVELAND, OF DURAND, ILLINOIS.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. **205,174**, dated June 25, 1878; application filed June 18, 1877.

To all whom it may concern:

Be it known that I, RIENZI L. CLEVELAND, of Durand, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Seed-Planters; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 is a plan view of the invention. Fig. 2 is a side view of the same. Fig. 3 is a rear view, and Fig. 4 is a view of the seed-delivering wheel detached.

Similar letters of reference denote corresponding parts in all the figures.

The object of the invention is to provide a seed-planter that will regularly and uniformly, at stated intervals, deposit the seed in the ground at the will of the operator, and that shall be easy of adjustment as well as simple in construction and operation; and consists, first, in an improved method of automatically picking up the seed from the grain-receptacle, one kernel at a grasp, and regularly depositing the same within the delivery-tubes; second, in the manner of discharging the seed from the receiving-tube by a rearwardly-swinging movement of the same upon the hinged connection with the conducting-spout attached to the grain-box; third, in the combination of the parts, and in the general construction of the machine as a whole, all of which will be hereinafter described.

In the drawings, A represents the carrying-wheels, mounted upon the axles secured to the driver's frame. A′ are the seed-picker drive-wheels, located beneath the forward or runner frame, which also gage the depth of the runner-furrows. B are the longitudinal or side beams of the rear frame. B^1 is the center cross-bar, and B^2 the forward cross-bar, to which the seat-plank C is secured by a pivotal connection. C^1 is the driver's seat, located upon the upper end of the seat-plank. *c* is the seat-supporting bar, having perforations at its lower end, and depending from the seat-plank by a hinged connection, and by means of which the seat can be made adjustable in the height. c^1 is an eared piece, uniting the supporting-bar C and the seat-plank by a hinged connection. c^2 is a slotted standard secured to the cross-bar B^1, and within the slot of which the perforated or lower end of bar *c* is made fast, and by means of which a vertical adjustment is given to the driver's seat. c^3 is an eared piece, uniting, by a hinged connection, the lower end of the seat-plank with the forward cross-bar of the driver's frame.

D is a bar resting in bearings upon the rear ends of the longitudinal beams B, in such a manner that only a partial revolution can be given the said bar, and provided with scrapers D^1, secured in any suitable manner upon the ends thereof. D^2 is an upright hand-lever rising from the bar D, and by means of which the driver may, with his hand, bring the scrapers in contact with the wheels when it is desired to clean the same. E is a foot-lever, by which, through the connections hereinafter described, the runner-frame is raised from the ground. E^1 is a lever, corresponding in form with lever E, by means of which the runner-frame is lowered and held to its work. E^2 is a rolling piece, (which acts as a crank for raising the runner,) pivoted to hangers E^3, and by which the parts are secured to the seat-plank. E^4 are connecting-links, uniting the rolling crank E^2 with the diverging supplementary frame, designated F. c^4 is a short link, connecting the rolling crank and foot-lever E^1.

When it is desired to raise the runner-frame, the right foot of the driver is placed upon the lever E and the forward end pressed down, which raises the rear end, and with it the runner-frame, from the point of the rigid tongue resting in the neck-yoke, and by means of which the said frame is suspended above the surface of the ground. When the frame is to be lowered, the left foot of the driver is placed upon the lever E^1, and the same is depressed in a rearward direction.

G are longitudinal beams of the runner-frame, and are hinged at their rear ends to the forward ends of the beams B, forming a part of the rear frame. G^1 is the forward cross-beam of the said runner-frame, and G^2 the cross-beam upon which are mounted the seed-boxes *g*. G^3 is the cross-beam to which is secured, by a hinged connection, the supporting-frame F. G^4 are diagonal braces, running from the ends of the beam G^2 to the forward portion of the frame. H are seed-delivery spouts, se-

cured to the rear ends of the seed-boxes g, and through which the seed is carried to the dropping-tubes H′. These dropping-tubes are hinged at their upper ends to the seed-spouts, in such manner that a swinging longitudinal motion may be given them, but not a lateral motion. g^1 are stationary plates secured to the vertical parts g^2, which connect the rear ends of the runners with the frame-work. These plates form the bottom of the dropping-tubes, and upon which the separated seed rests just before the same is deposited in the earth. I is the tube-operating lever, having curved slotted ends, within which the spurs upon the end of the dropping-tubes enter.

It will be observed that, as the slide I is moved to the right or to the left, the lower ends of the dropping-tubes swing out from over the bottom plate, and allow the seed to fall into the open furrow made by the runner. If desired, springs may be used to more quickly force the tube back to its place over the bottom plate.

J is a shaft, carrying the wheels A′, and mounted in boxes upon the forward ends of the diverging portions of the supplementary frame F. J^1 is a cone-pulley, mounted upon the shaft J, which connects by a belt with a corresponding pulley, designated J^2, upon a parallel shaft, J^3. K are the seed-wheels, having upon their peripheries vibrating grasping-jaws, by means of which the corn is picked up, one kernel to each grasp, and carried to and depressed within the tube without the intervention of springs, trippers, or cams, as is usually done in this class of machines. k is the portion of the grasping-jaw which has its inner end pivoted to the wheel K, and k' the other portion of the jaw, pivoted to the part k at its outer end. This part last mentioned has the leg (shown in dotted lines) extending within the wheel K, and carrying upon its free end a weight which vibrates within the wheel, which is slotted and made hollow for that purpose. Cavities are made in the jaws within the mouth, to more surely retain the kernel while being grasped.

It will be observed that as the seed-wheels turn over in the line of the mouth of the jaws the weighted end of the pivotal jaw causes the mouth to open by gravity alone, and when the downward center of the revolution is passed the same law of gravitation causes the jaws to close, and the kernel will be carried until the same is released by the opening in the downward movement. Any number of pairs of jaws may be used, as desired.

Cross-partitions, having openings at the bottom, may be used in the seed-boxes, so that the seed-wheels will not become clogged in their movement, all of which will be readily understood without further description.

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

1. In a seed-wheel adapted to pick up a single kernel at a grasp, the combination of the hollow wheel, the vibrating jaw, pivoted to the same at a point near the periphery of the wheel, and the pivotal jaw, having the weighted inwardly-extending end, arranged and operating substantially as described and set forth.

2. The gage and seed-driving wheel A′, mounted in bearings secured to the runner-frame, in combination with the inwardly-extending weighted and vibrating jaws, all arranged and operating substantially as described, and for the purpose set forth.

3. In a seed-planter adapted to plant the seed in hills, the combination of the rearwardly-swinging seed-tubes, through which the seed passes, the stationary plates g^1, and the actuating-lever I, arranged and operating substantially as described.

4. The combination of the hollow rearwardly-swinging seed-tube, pivoted to the seed-spout, whereby the seed can, by the swinging movement, be carried back and off its resting-place upon the stationary bottom, the actuating slide or lever having the curved slotted ends, within which the stud rising from the seed-tube enters, and the stationary plate or tube bottom g^1, all these parts arranged and operating substantially as described.

This specification signed and witnessed this 3d day of May, 1877.

RIENZI L. CLEVELAND.

Witnesses:

G. W. FORD,

D. J. STEWART, Jr.