

No. 649,953.

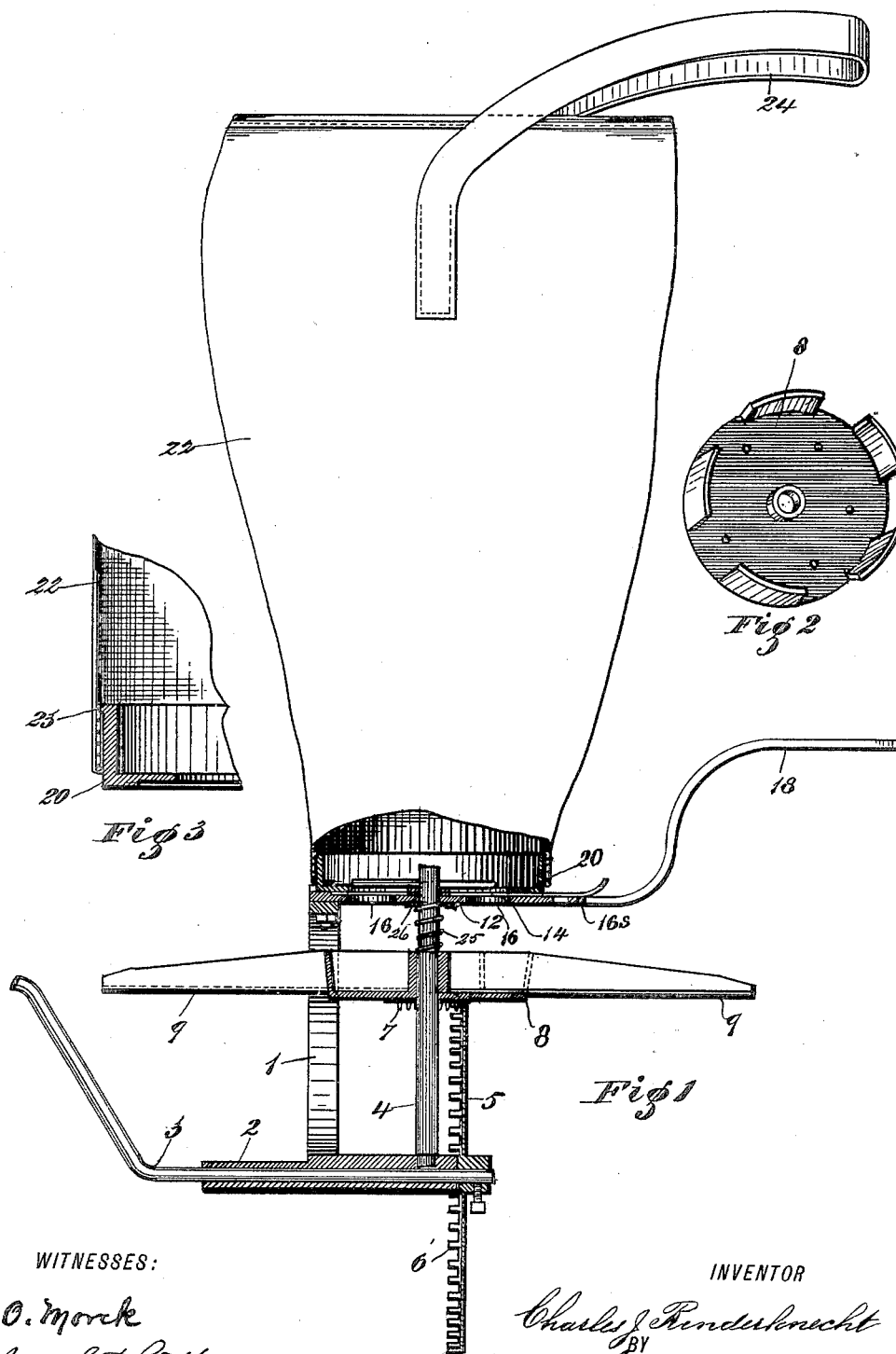
Patented May 22, 1900.

C. J. RINDERKNECHT.
BROADCAST SEEDER.

(Application filed Nov. 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Wm O. Morck

Jas. G. Smith

INVENTOR

Charles J. Rinderknecht

BY
Thompson & Rice
ATTORNEY.

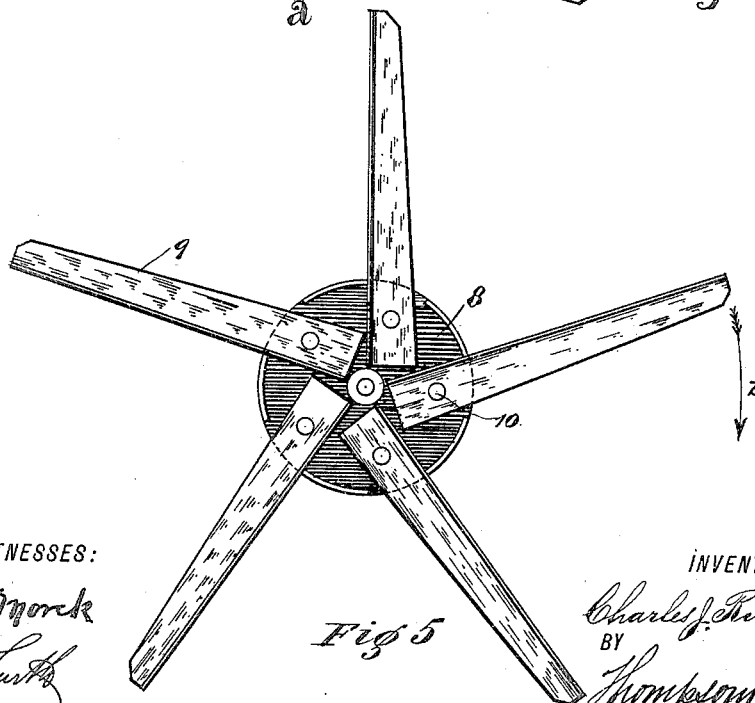
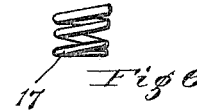
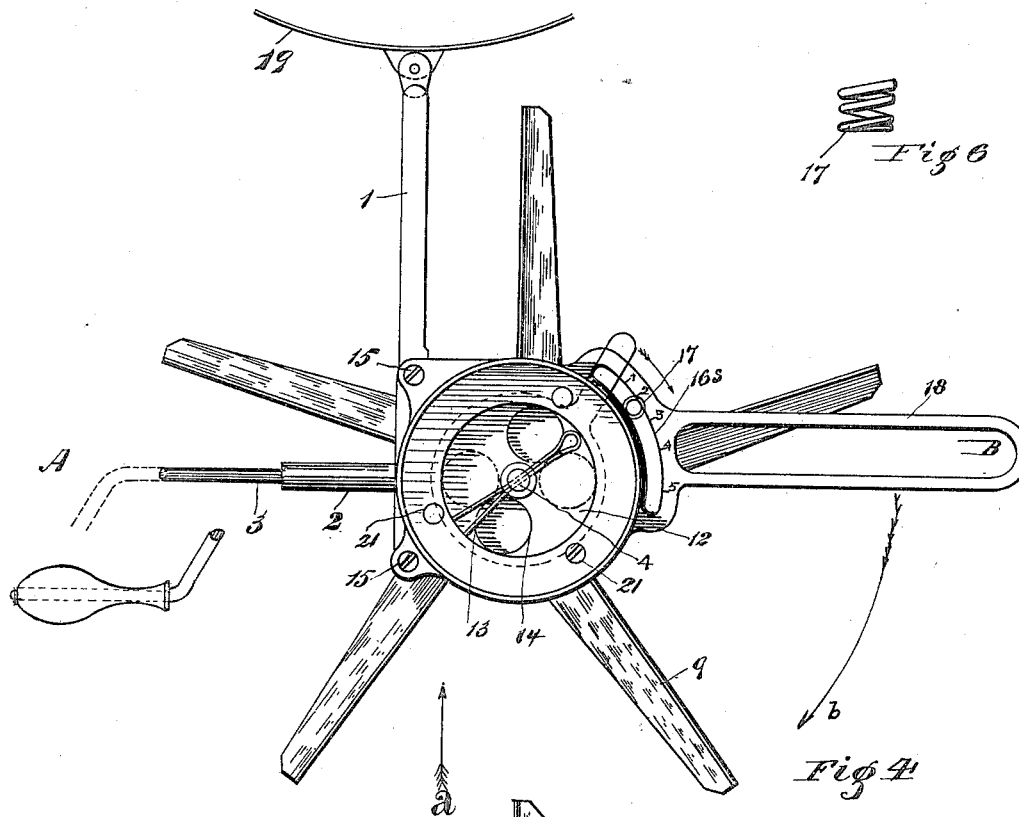
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2 Sheets—Sheet 2.



WITNESSES:

Wm. O. Moore
Jno. C. Hurst

Fig 5

INVENTOR

Charles J. Rinderknecht
BY
Thompson & Rice
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES J. RINDERKNECHT, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF
ONE-HALF TO WILLIAM MOHS, OF SAME PLACE.

BROADCAST SEEDER.

SPECIFICATION forming part of Letters Patent No. 649,953, dated May 22, 1900.

Application filed November 1, 1899. Serial No. 735,549. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. RINDERKNECHT, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented new and useful Improvements in Broadcast Seeders, of which the following is a specification.

My invention relates to certain new and useful improvements in broadcast seeders; and it consists in a new and improved construction of mechanism hereinafter more fully set forth.

The objects of my invention are to construct a more simple, durable, and efficient machine and one that will distribute the varieties of seed, which it is designed sow, regularly and uniformly over the surface of the ground upon which the seed is to be scattered. I attain these objects by means of the device illustrated in the accompanying drawings, in which similar numerals of reference designate like parts throughout the several views.

Figure 1 is a partial sectional elevational view of the machine, taken through the lines A B (see Fig. 4) and looking in the direction of the arrow 2. Fig. 2 is a detail perspective view of the revoluble seed-receiver. Fig. 3 is an enlarged sectional detail view of the hopper-ring. Fig. 4 is a broken plan view of the machine with the seed bag or hopper removed to show the hopper-valve. Fig. 5 is a detail plan view of the distributing-wheel or distributor, and Fig. 6 is a detail view of the adjustable valve-stop.

The frame 1 of the machine is provided with the shaft journal-bearing 2, formed integral therewith and in which the crank-shaft 3 is adapted to rotate, and in the said bearing, at right angles therewith, is formed a step-bearing, which latter is adapted to receive the bottom end of the shaft 4, in which it revolves. The crank-shaft 3 is provided with a drive-wheel 5, which is secured thereon to turn therewith, said drive-wheel having its peripheral edge bearing against the under side of the revoluble seed-receiving cup 8 to drive the latter by frictional contact rather than by its gear-teeth and said wheel having the face-teeth 6 adapted to engage or mesh with the pin-teeth 7, formed integral with the

bottom face of the seed-receiving cup or revoluble receiver 8, and which teeth are provided for the purpose of preventing a loss of motion by a slipping of the said seed-receiving cup on said drive-wheel. The seed-receiver 8 has its cupped sides notched to permit the distributing-arms 9 to project there-through and to permit the escape of the seed when fed into said receiving-cup or receiver to and along the distributing-arms 9. The distributing-arms are each of an L-section and extend from the interior of said seed-receiver 8 at a slightly-tangential angle and project outwardly through the notches of said receiver a sufficient distance to secure the proper amount of centrifugal force to be imparted to the small particles or seeds to uniformly distribute or scatter them over a surface of ground. Each of the arms 9 is secured to the bottom of the seed-receiver 8 by a suitable rivet 10. The top end of the shaft 4 is journaled in the center of the hopper-plate 12 and projects therethrough a sufficient distance to permit the said end of the shaft to be drilled to receive the retaining split pin 13, by which latter the seed contained in the throat of the hopper is agitated to permit its free flow to the valve-openings of the register-valve 14. The hopper-plate 12 is securely bolted to the frame 1 by thesecuring-screws 15, and the said hopper-plate is provided with the valve-openings 16, which latter are disposed on diametrically-opposite sides of the shaft 4 and at right angles with the direction of travel of the operator. On the side of the hopper-plate is formed the slotted segment 16^s, which is graduated as shown, and in the slotted portion of the said segment is the movable spring-stop 17, which latter is arranged to be passed through said slot and secured therein by its own tension—that is, in such a manner that the sides of the slotted portion of the segment will be clamped by and between the last two top and bottom coils of the said spring-stop, and thus the top coils are free to receive the handle end or shifting-lug of the valve 14 between them to retain it in position. It will be readily seen that this valve-stop is simple in the extreme and affords a means of readily setting the valve to any degree of opening required be-

low full opening. A suitable handle 18 is formed integral on the said hopper-plate 12, and is provided for the operator to grasp to hold the machine securely and firmly while rotating the crank-shaft 3 by means of its crank, and the breastplate 19 is preferably connected pivotally to the frame 1 to permit the entire machine to be swung in a horizontal direction right or left to permit the machine to distribute the seed over a greater surface when so required.

The register-valve 14 is held in contact with the hopper-plate 12 by the hopper-ring 20, which latter is securely held to said plate by suitable screws 21. The seed hopper or bag 22 is preferably reduced in area at its bottom end the more readily to be fastened or secured to the hopper-ring 20, and the said end is doubled or folded over said hopper-ring 20 and wrapped with strong cord or wire and then folded over, as shown in Fig. 3. The hopper-ring 20 is provided with a top flange 23 for the purpose of effectually preventing the neck or reduced portion of the hopper 22 from slipping off the ring 20. A suitable shoulder-strap 24 is secured to the opposite top sides of the hopper 22, by which the operator supports the machine when using the same.

In order that the vertical shaft may be readily removed out of its frame 1 and free from its top and bottom bearings without disturbing any of the other parts, I provide the coil-spring 25 and the friction-washer 26, both of which surround the shaft 4 between the distributor 8 and the hopper-plate 12 for the purpose of taking up the lateral play of the shaft and at the same time forming a yielding retainer for said shaft 4.

Having thus fully described this my invention, what I claim as new and useful, and desire to cover by Letters Patent of the United States therefor, is—

1. In a broadcast seeder, the combination with a seed-hopper, and a bottom feed-valve, of a revoluble seed-receiver beneath said feed-valve, said receiver having a series of side openings or notches, a series of L-sectioned arms projecting through and out of said openings, downwardly-projecting teeth integral with said seed-receiver, a vertical seed-receiver shaft, a crank-shaft at right angles with said vertical shaft, and a drive gear-wheel having its peripheral edge contacting with the bottom side of said seed-receiver, and having face-teeth adapted to mesh with the pin-teeth of the latter, substantially as and for the purpose set forth.

2. In a broadcast seeder, the combination with a seed-holding receptacle or hopper, a hopper-plate, and a register-valve having a

side lug or projecting arm, of a segment integral with said plate and exterior of said hopper, a coil stop-spring embracing said segment and adapted to receive the projecting arm of said register-valve to retain the latter in position, substantially as and for the purpose set forth.

3. In a broadcast seeder, the combination with a seed-holding receptacle or hopper, a hopper-plate having valve-openings, a rotative register-valve, a rotative distributor beneath said hopper-plate, pin-teeth projecting from the under face of said distributor, and means for retaining said register-valve in a desired position, of a crank-shaft beneath said rotative distributor, a drive gear-wheel having its peripheral edge bearing against the bottom of said rotative distributor and having its face-teeth meshing with the pin-teeth of said distributor, and a supporting-frame connecting said hopper-plate and said shaft-bearing.

4. In a broadcast seeder, the combination with a seed-holding receptacle or hopper, a hopper-valve a rotative distributor, and suitable distributor-driving mechanism, of a breastplate pivotally connected to said frame whereby the latter may be swung horizontally, and means whereby said frame is held firmly in position, all substantially as and for the purpose set forth.

5. In a broadcast seeder, the combination with a seed-holding receptacle or hopper, a rotative register-valve at the bottom of said hopper, a rotative seed-agitator in the bottom interior of said hopper and above said register-valve and a hopper-plate having valve-openings, of a segment on said hopper-plate exterior of the hopper and concentric with the axis of said register-valve, and means for retaining said register-valve in any desired position substantially as and for the purpose set forth.

6. In a broadcast seeder, the combination with a seed-holding receptacle or hopper, and a bottom feed-valve, of a revoluble shaft centrally beneath and depending from the base of said hopper a bottom step and a frame connecting said bottom step with the base of said hopper, a seed-distributor on said shaft and a coil-spring surrounding said shaft between said valve and said distributor, all substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 30th day of September, A. D. 1899.

CHARLES J. RINDERKNECHT.

Witnesses:

THOMPSON R. BELL,
ETHEL MAY LONG.