

No. 737,484.

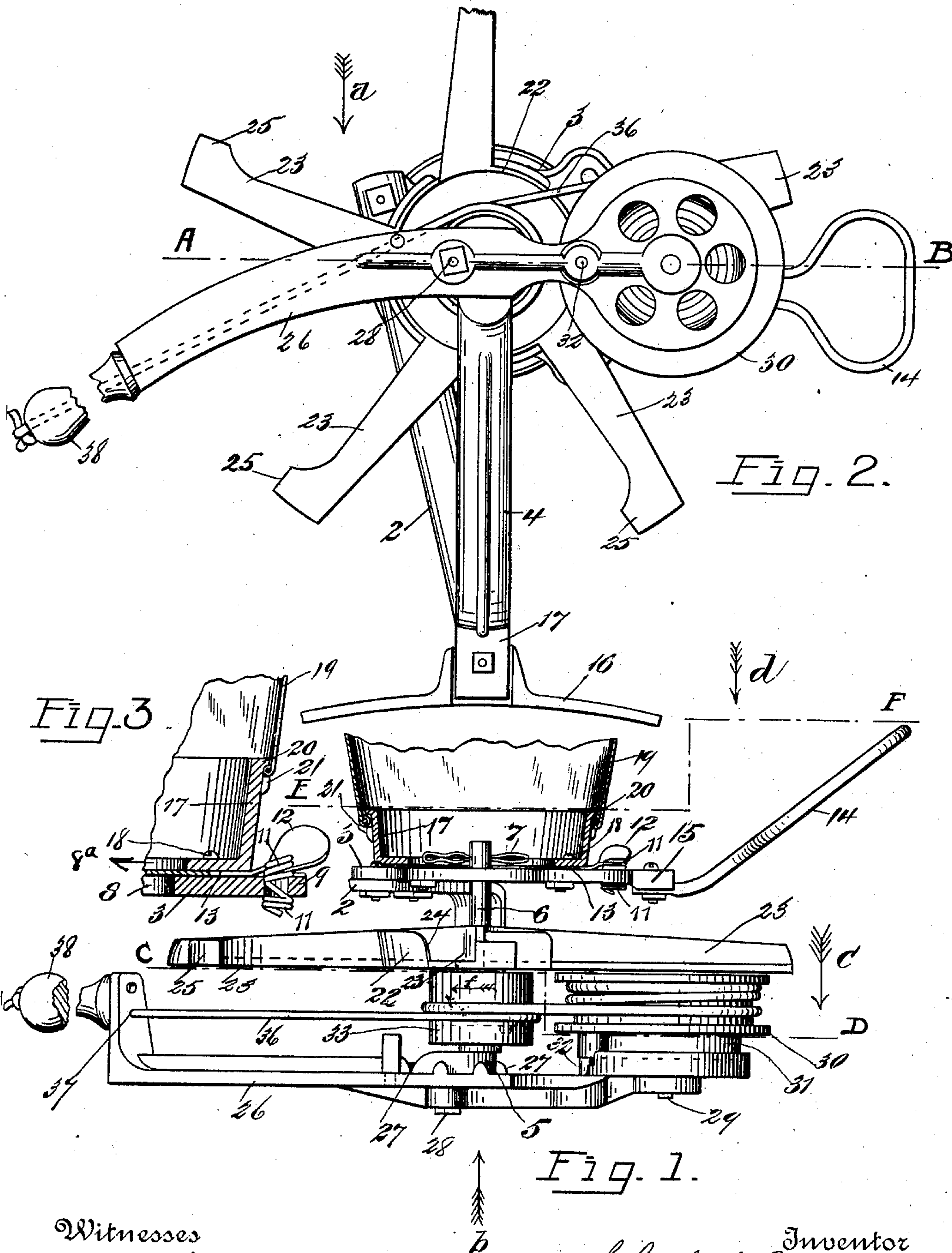
PATENTED AUG. 25, 1903.

C. J. RINDERKNECHT.
BROADCAST SEEDER.

APPLICATION FILED JULY 26, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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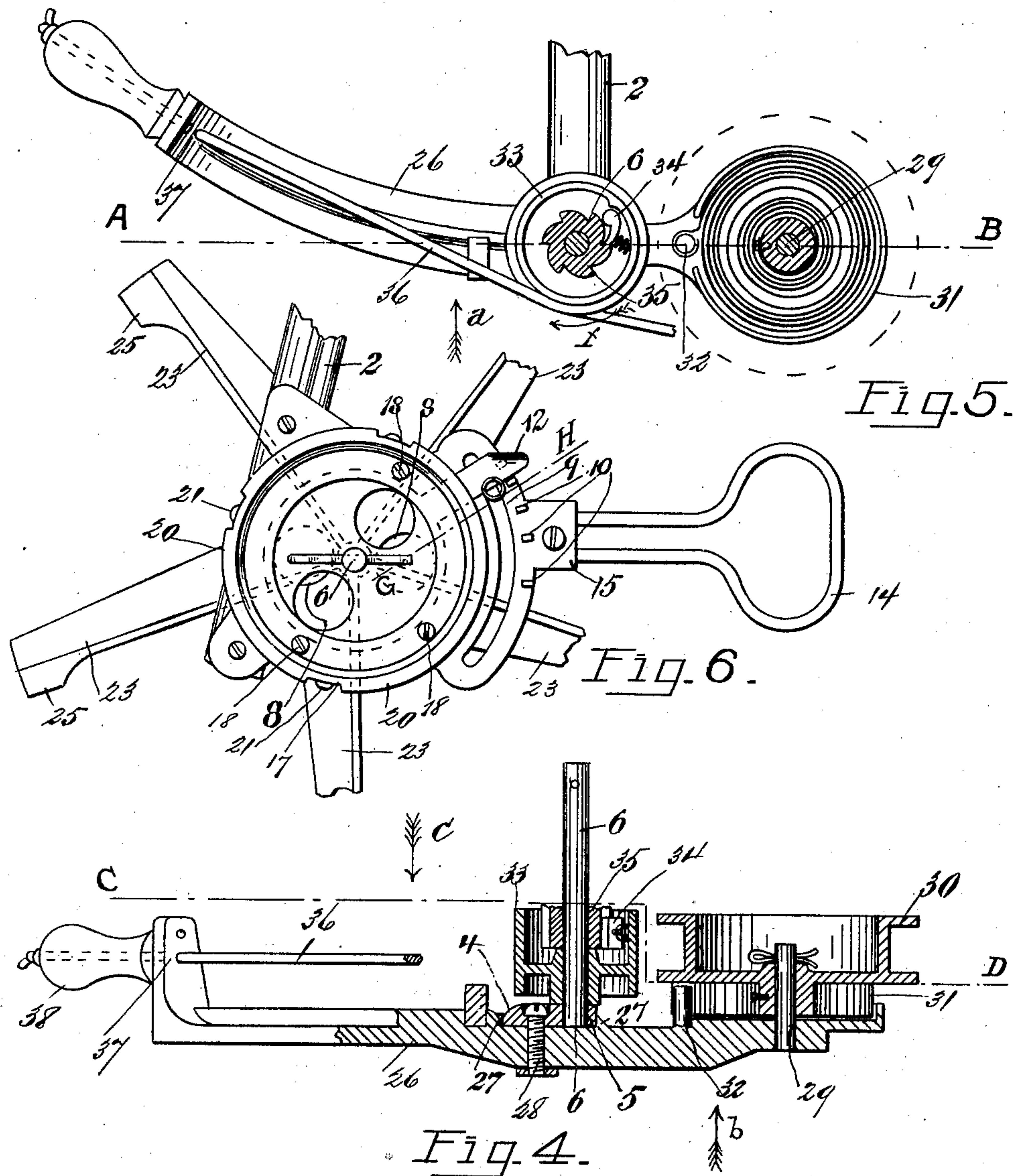
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WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES J. RINDERKNECHT, OF INDIANAPOLIS, INDIANA.

BROADCAST SEEDER.

SPECIFICATION forming part of Letters Patent No. 737,484, dated August 25, 1903.

Application filed July 26, 1902. Serial No. 117,126. (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 that class of broadcast seeders which are operated manually; and it consists in an improved means for driving the same, as will be hereinafter more fully described, and particularly pointed out in the claims.

The object of this invention is to provide a simple, cheap, and durable driving means that will be easily operated and whereby the range of casting and the capacity of the machine will be increased. I attain these objects by means of the apparatus illustrated in the accompanying drawings, in which similar numerals of reference designate like parts throughout the several views.

Figure 1 is a part sectional elevational view of the machine and taken through the line A B (see Figs. 2 and 5) and looking in the direction of the arrow *a*. Fig. 2 is an inverted plan view of the same and looking in the direction of the arrow *b*. (See Figs. 1 and 4.) Fig. 3 is a detail broken-off sectional view of the base or hopper-ring and taken through the line G H. (See Fig. 6.) Fig. 4 is a sectional elevation of the lower or driving mechanism of the machine and taken through the line A B (see Figs. 2 and 5) and also looking in the direction of the arrow *a*. Fig. 5 is a broken sectional plan view of the driving mechanism of the machine, taken through the line C D (see Figs. 1 and 4) and looking in the direction of the arrow *c*; and Fig. 6 is a plan view of the machine, taken below the line E F and looking in the direction of the arrow *d*. (See Fig. 1.)

The main frame is bifurcated, and to the top side of the end of the top arm member 2 thereof is secured the hopper-plate 3, and integral with the lower arm member 4 is formed the step-bearing 5, in which the bottom end of the distributor or main shaft 6 has its bearing and rotates therein, and the top end of said shaft 6 is journaled in the center of the

hopper-plate 3 and projects therethrough a sufficient distance to permit the said end of the shaft 6 to be drilled to receive the retaining split pin 7, by which latter the seed contained in the throat of the hopper is agitated to permit its free flow to and through the valve-openings 8, formed in said hopper-plate on diametrically opposite sides of the shaft 6 and at right angles with the direction of travel of the operator.

On the side of the hopper-plate 3 is formed the slotted segment 9, which is provided with the raised stops 10, spaced or graduated at suitable distances apart, as shown, and in the slotted portion of said segment is the movable spring-stop 11, 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 said spring-stop, and thus the top coils are free to receive the handle end of the shifting lug 12 of the valve 13 between them to retain it in position.

A suitable handle 14 is securely bolted to the handle-receiving lug 15, formed integral on the hopper-plate 3, and is provided for the operator to grasp to hold the machine securely while operating the same, and the breastplate 16 is preferably pivotally mounted on the lug 17, formed integral on the main frame 1, to permit the entire machine to be swung in a horizontal direction to the right or to the left to permit the machine to distribute the seed over a greater surface when so required.

The register-valve 13 is held in contact with the hopper-plate 3 by the hopper-rim 17, which latter is securely held to said plate by suitable screws 18. The seed-bag 19 is preferably reduced in area at its bottom end the more readily to be fastened or secured to the hopper-ring 17, and the said reduced end is doubled or hemmed and folded over said hopper-ring 17 and wrapped with strong cord or wire, preferably the latter, then folded over, as shown in Figs. 1 and 3. The hopper-ring 17 is provided with the top flange 20 for the purpose of effectually preventing the neck or reduced portion of the seed bag or

sack from slipping off said ring 17, and the keepers 21 are formed integral on said ring and are provided for the purpose of retaining the bottom end of said bag or sack in position on said hopper-ring 17. A suitable shoulder-strap (not shown) is secured to the top side of said seed bag or sack 19 by means of which the operator supports said sack and the machine secured thereto.

The register-valve 13 is bored centrally to receive the top end of the shaft 6 to form a pivotal center therefor and to retain said valve in its central position. Valve-openings 8^a are formed in said valve and are adapted to register with the valve-openings 8, formed in the hopper-plate 3.

The revoluble seed-receiving cup or seed-receiver 22 is keyed or otherwise secured on the top end of the shaft 6 in position thereon to receive the seed as it falls through the valve-openings 8 of the hopper-plate 3. The distributing-arms 23 are formed integral on the seed-receiving cup 22, and the said arms 23 are each of an L-section and extend from the interior of said seed-receiving cup 22 at a slightly-tangential angle and project outwardly through the notches 24 of said seed-receiving cup 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 the surface of ground to be covered. On the outer ends of each of the distributing-arms 23 are formed the weights 25, which are provided for the purpose of increasing the momentum of said distributing-arms and securing a steadier rotation.

The arm 26, by which the driving mechanism is supported, is provided with the retaining-lugs 27, which are formed integral therewith and at a point intermediate the ends thereof and are adapted to receive and accurately fit over the sides of the step-bearing 5 to retain the said arm 4 in position, and said arm 26 is securely bolted to said step 5 by a securing-bolt 28. On the end of said arm 26 is secured the stud 29 in position thereon parallel with the shaft 6, and on the said stud 29 is journaled the spring-drum 30, which is provided with the reacting or coiling spring 31, the inner end or core end of which is secured to the barrel of the said drum 30, and the outer looped end thereof is looped over the securing-screw 32, secured on said arm 26.

The pawl-drum 33 is mounted loosely on the shaft 6, and inclosed therein is the spring-pawl 34, which is adapted to engage the ratchet-wheel 35, secured on said shaft and formed integral on the bottom side of the seed-receiving cup 22, so that when the said drum 33 is rotated in the direction indicated by the arrow *f* (see Figs. 1 and 5) the seed-distributing piece, which comprises the seed-receiving cup 22 and the seed-distributing arms 23, is rotated in a like direction.

A cord or band 36 has its one end secured

on the drum 30 and is wound around the same a sufficient number of times or turns to completely take up the slack and impart the required degree of tension to the band 36 to operate promptly, and the said band is now wound once around the drum 33, and the free end thereof is passed through the eye 37, formed integral on the end of the arm 26, and a handle 38 is secured to this end of the band 36.

The operation of the mechanism is accomplished by pulling the handle 38 steadily to draw the band 36 through the eye 37, which movement causes the said band to turn the drum 33 in the direction indicated by the arrow *f* to rotate the seed-distributing arms 23 in the same direction, and on releasing the said band 36 the reacting spring 31 of the spring-drum 30 operates to rotate said drum 30 to take up said band 36 and to wind it thereupon. The distributing-arms 23, owing to their impetus, rotate continuously while the band 36 is being taken up, and after which winding up of the band the latter is again steadily drawn out to impart fresh impulse to said distributing-arms 23 to maintain their proper speed, and by the above-described method of driving a higher and more regular speed of said distributing-arms 23 is obtained with a much less degree of exertion on the part of the operator, and thus the seeder is rendered more effective.

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 hopper base-plate having valve-outlet openings and a rotating seed-distributing means situated beneath said hopper, of a drum rotatably mounted beneath and centrally with said seed-distributor, a ratchet inclosed within said drum and formed integral on the bottom side of said seed-distributor, a pawl pivoted to said drum and arranged to engage said ratchet-wheel to rotate said distributor in one direction and means whereby said pawl-carrying drum is alternately rotated in opposite directions.

2. In a broadcast seeder, the combination with a seed-hopper, a hopper base-plate having valve-outlet openings, and a rotating seed-distributor, of a pawl-carrying drum rotatably mounted beneath and centrally with said rotating seed-distributor, a ratchet-wheel formed centrally on the bottom side of said rotating seed-distributor, a pawl on said pawl-carrying drum and arranged to engage said ratchet-wheel, and a driving-band encircling said pawl-carrying drum.

3. In a broadcast seeder, the combination with a seed-hopper, and a hopper base-plate having valve-outlet openings, and a rotating seed-distributor, of a pawl-carrying drum rotatably mounted beneath and centrally with said rotating seed-distributor, a ratchet-

5 wheel formed centrally on the bottom side of said rotating seed-distributor, a pawl on said pawl-carrying drum and arranged to engage said ratchet, a take-up drum, a band encircling said take-up and said pawl-carrying drums, as described, and means for guiding and retaining said driving-band in position to wind on said drums.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHARLES J. RINDERKNECHT. [L. s.]

Witnesses:

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