

No. 719,620.

PATENTED FEB. 3, 1903.

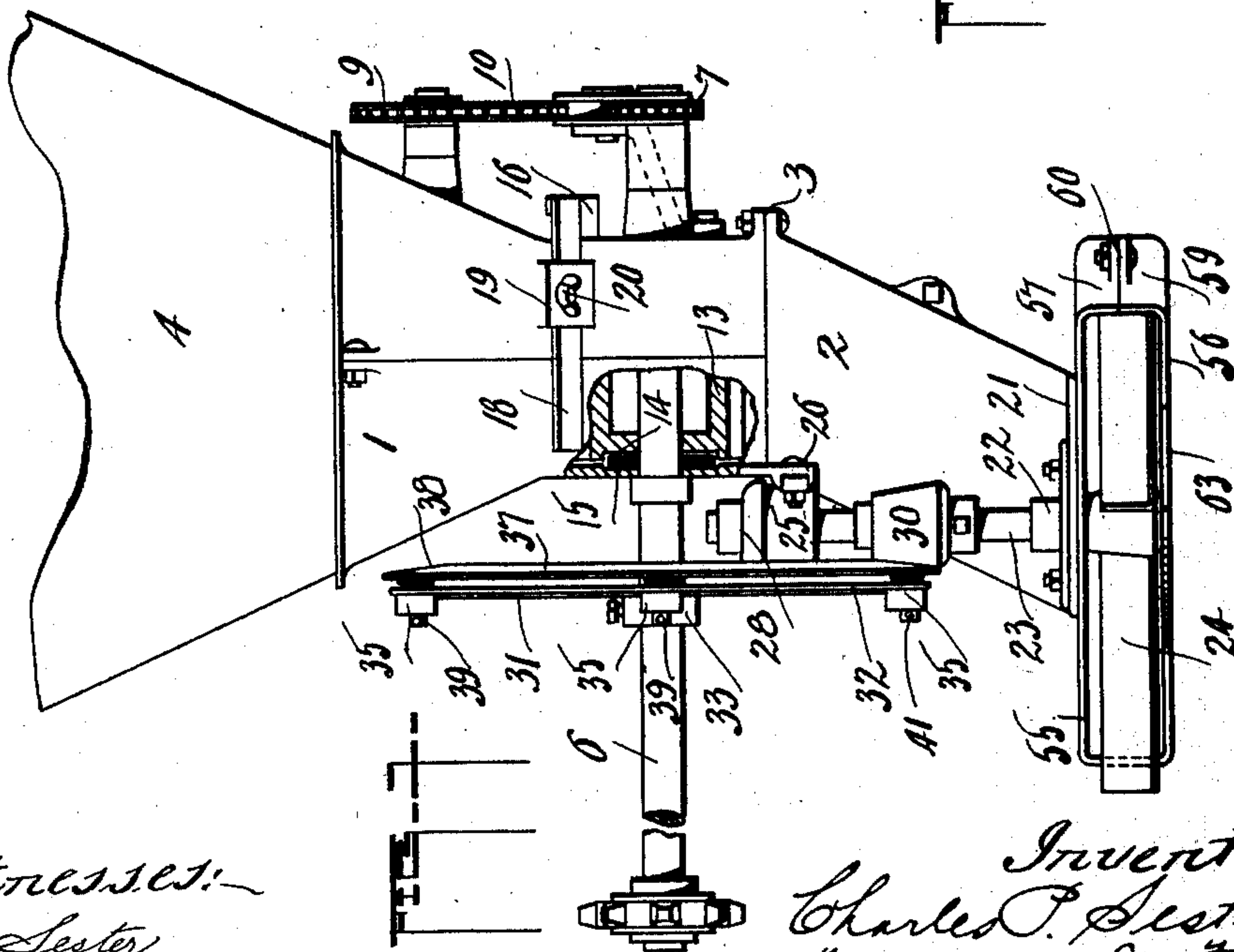
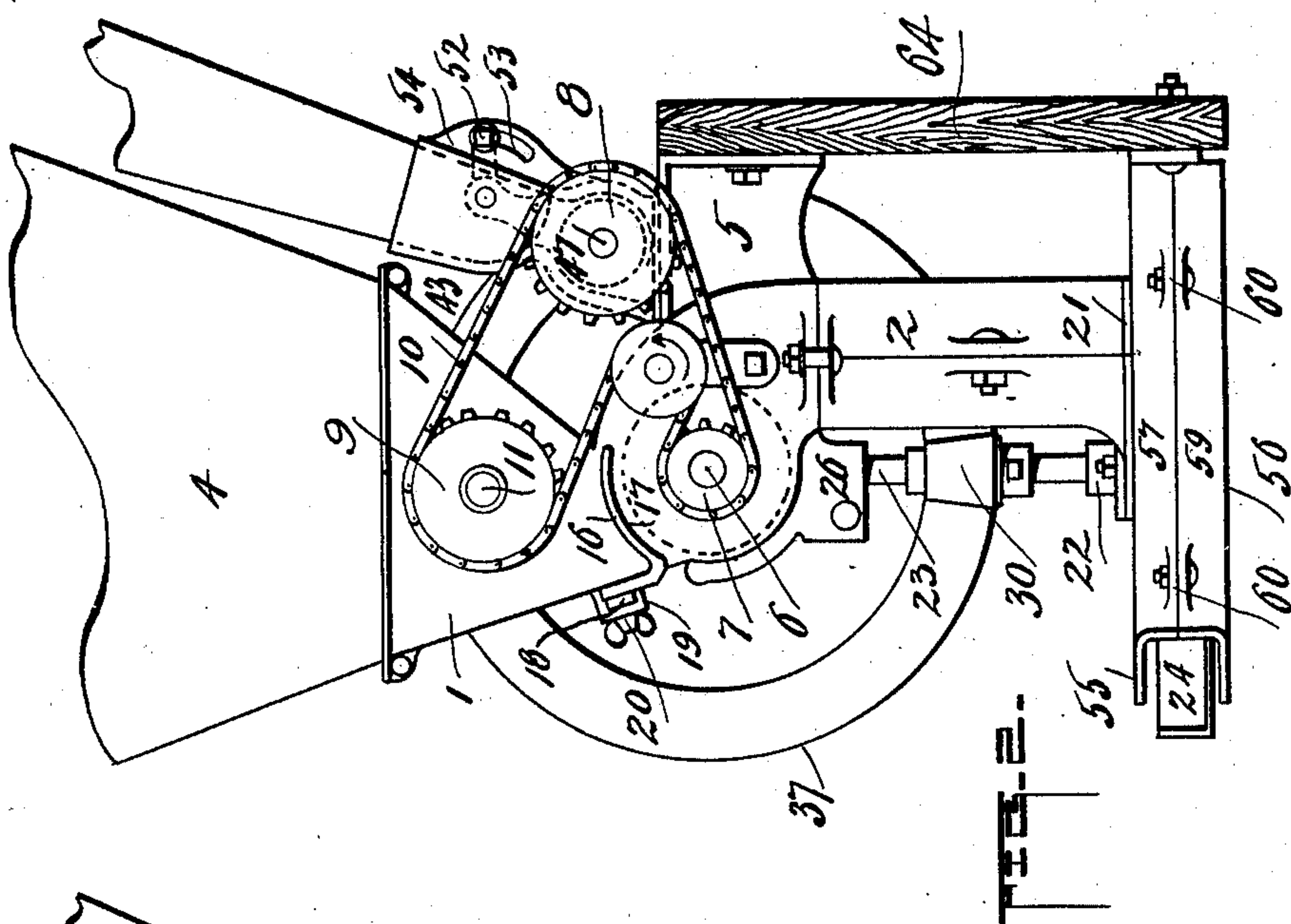
C. P. SESTER & F. J. FELDT.

BROADCAST SEEDER.

APPLICATION FILED JULY 21, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
S. Lester
A. B. La Conte

Inventors:
Charles P. Sester
Ferdinand J. Feldt
By Chas. La Conte, Attys.

No. 719,620.

PATENTED FEB. 3, 1903.

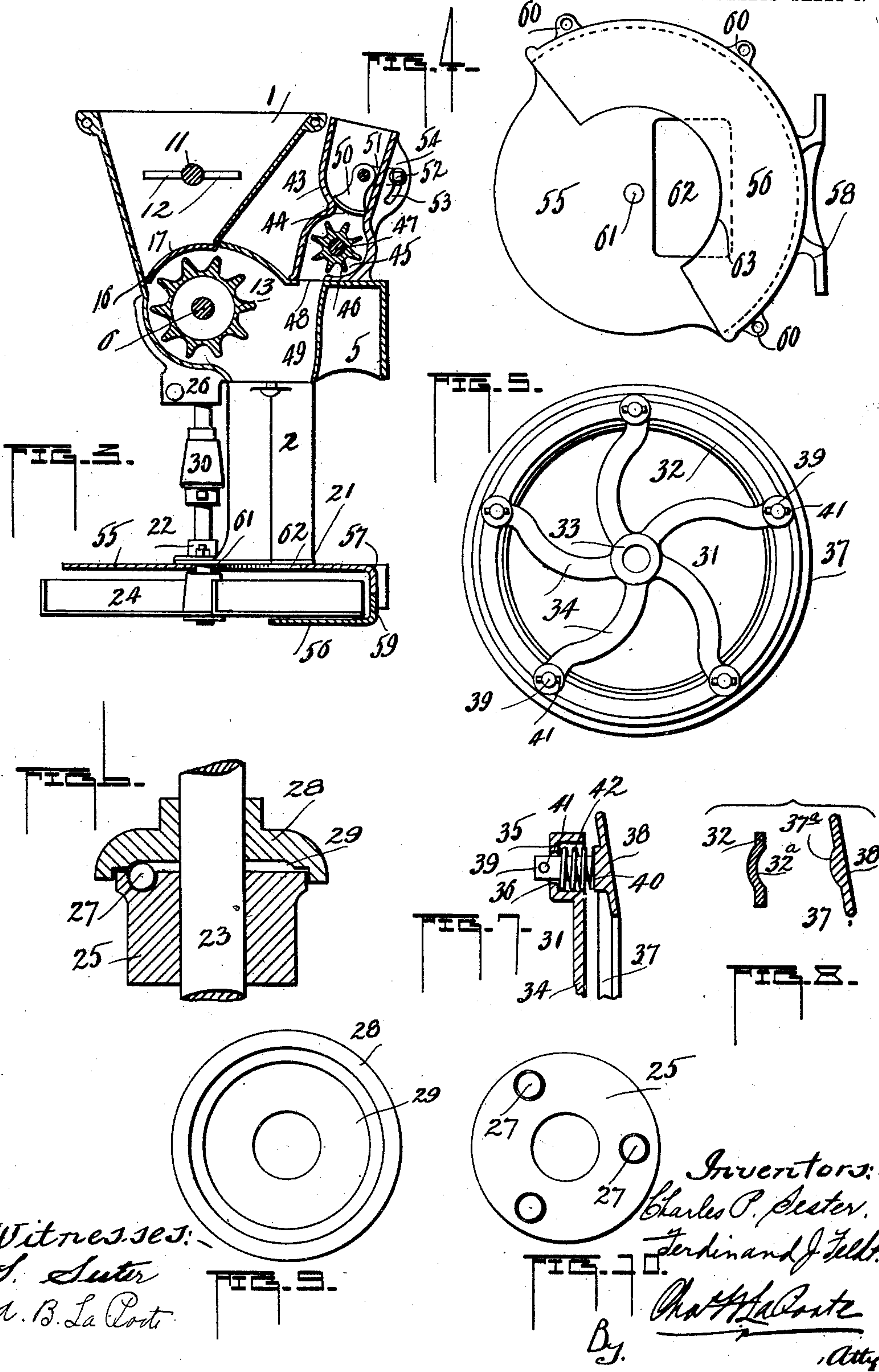
C. P. SESTER & F. J. FELDT.

BROADCAST SEEDER.

APPLICATION FILED JULY 21, 1902.

NO MODEL.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

CHARLES P. SESTER AND FERDINAND J. FELDT, OF PEORIA, ILLINOIS,
ASSIGNORS TO EAGLE MANUFACTURING COMPANY, OF PEORIA, ILLI-
NOIS, A CORPORATION.

BROADCAST SEEDER.

SPECIFICATION forming part of Letters Patent No. 719,620, dated February 3, 1903.

Application filed July 21, 1902. Serial No. 116,476. (No model.)

To all whom it may concern:

Be it known that we, CHARLES P. SESTER and FERDINAND J. FELDT, citizens of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Broadcast Seeders; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention has reference to broadcast seeders.

The aim of the present invention is to provide a fluted or serrated seeding-roller carried upon and rotating with the driving-shaft and operated by the power-shaft to have an overhead discharge.

A further object of the invention is the provision of a shield or casing for the fan of the seeder, whereby the seed or grain distributed by the fan may be directed away from the end gate, which is most generally used for supporting the seeding device and also to facilitate in casting the grain to a greater distance than is now accomplished.

The invention has for its further object a friction-drive between the drive and fan shafts, which comprises a pinion on the fan-shaft, a wheel on the drive-shaft, and a ring having an acting face supported and driven by said wheel for actuating the fan-shaft; and the invention comprises details herein-after set forth, and illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a rear elevation of our improved seeder with parts shown in section. Fig. 2 is a side elevation of the same. Fig. 3 is a section through the seeder. Fig. 4 is a bottom plan of the casing for the fan. Fig. 5 is an elevation of the drive on the driving-shaft. Fig. 6 is a section of a bearing for the upper end of the fan-shaft. Fig. 7 is a sectional detail of the drive on the drive-shaft. Fig. 8 shows a section of the wheel on the drive-shaft and ring which is supported by the wheel. Figs. 9 and 10 show plan of parts illustrated in Fig. 6.

Referring by numerals to the drawings, the seeder proper comprises the castings 1 and 2, each of which are made of duplicate parts for simplicity in construction and to make it convenient and easy to assemble the machine. Each have flanges 3 for connecting the parts together. To the part 1 is attached the ordinary hopper 4, as shown, and the said part is formed with an extended body 5, which not only supports the grass-seed attachment, to be described, but is secured to an end gate 64 for supporting the body of the seeder.

6 designates a power-shaft, which has bearing in the walls of and passes through the casting 1 of the hopper or casing and may have a suitable support for its outer end, and upon the opposite end of the shaft is a sprocket-pinion 7 for imparting power to the grass-seed attachment through a sprocket 8 and to a sprocket 9 through the chain 10. The sprocket 9 is carried by a short shaft 11, having bearing in and passing through the casting 1 above the shaft 6, and carries the short agitating-fingers 12, as shown.

13 indicates a fluted feed-roller carried on the power-shaft 6 and within the casing 1, as shown, and seated within recesses 14, formed in one end of the fluted roller 13 and the wall of the casing 1, is arranged a fibrous disk 15 to prevent wear upon the roller, which will be readily understood. It will be noticed that by placing the feed-roller 13 on the power-shaft the same will rotate in a direction opposite to that usually imparted to rollers of this type, and instead of carrying grain and seed down and around it throws the seed from it, permitting it to drop direct into part 2. In other words, the roller is operated to have an overhead discharge.

16 is a slide movable in a slot 17 and above the fluted roller for graduating the quantity of seed to be delivered to the distributing-fan, which governs the quantity of seed to be sown to the acre, and the outer end is attached to a slide 18, movable through an offset 19 of the casting 1. The adjustment of the slide 16 is readily apparent and the same fixed in adjusted positions by means of the thumb-nut 20.

On the lower end of the casting 2 is shown a plate or flange 21, and 22 is a bearing in which the lower end of a fan-shaft 23 is journaled, and rotatably secured to the lower end of the fan-shaft is a fan 24, revolving beneath the part 2, as shown. The fan-shaft at its upper end is journaled in a boxing 25. This boxing is supported by an extension 26 from the casting 1.

The boxing just referred to carries the ball-bearings 27, and 28 is a cap with a groove 29, fitting over the boxing 25, and in which the upper end of the fan-shaft is secured. This forms a practical ball-bearing for the fan-shaft and aids materially in the running qualities of the machine and gives a smooth bearing for the fan-shaft, which is under pressure of the friction-wheel to be described carried on the power-shaft in engagement with a friction-pinion 30 on the fan-shaft.

Referring to the frictional gear on the drive-shaft, the same consists of a wheel or similar device 31, comprising a rim 32, a hub 33 for fixing the same to rotate with the shaft 6, and spider-arms 34, connecting the rim and the hub, and 32^a is a circumferential groove arranged in the face of the rim 32 of the wheel. Arranged at suitable points in the rim are the hollowed-out bodies 35, with reduced openings 36, and 37 is a ring supported and driven by the wheel, having an acting or bevel face 38, and with the circumferential swelled ring portion 37^a, corresponding to the groove of the rim of the wheel, to facilitate in bringing the ring and rim of the wheel in close proximity, and extending out from the rear face thereof is arranged the short studs 39 and the shoulders 40, equal in number to the hollowed-out bodies 35 of the wheel. When assembled to form a complete gear, the studs 39 are passed through the bodies 35 and the openings 36 and a pin 41 passed through a perforation in the studs to hold them in proper relation with the wheel. Springs 42 are provided bearing around the studs and pressing against the shoulders 40 and the walls of the bodies 35. When placing the gear on the power-shaft, the wheel is fixed in a position relative to the pinion on the fan-shaft, so that the impingement of the two gears will contract the springs 42. This enables the bearing-surface of the bevel-ring to be firmly impinged against the face of the pinion on the fan-shaft, as the springs will continuously force the rim of the bevel-ring away from the face of the wheel. When it is desired to readjust the frictional gear by reason of wear of the bevel-faces of either the ring or pinion, the wheel is loosened and moved accordingly on the power-shaft. It is to be noticed that the point of bearing between the two gears as the same revolve will be in a line directed through the ring and pressure devices as they come into alinement with the pinion on the fan-shaft, which all the more firmly holds a frictional relation between said gears. The

ring is caused to rotate with the wheel through the bearing provided by the studs 39, passing through the bodies of the wheel, all of which is readily understood.

The grass-seed attachment referred to as being supported on the body 5 of the casting 1 comprises a hopper 43, having a contracted mouth 44, and the tubular portion 45, in which is journaled a fluted roller 46, carried by a short shaft 47, arranged with the sprocket-pinion 8 to be engaged by the sprocket-chain 12 for rotating the same.

48 is an opening in the extension 5, communicating with the fluted roller and a chute 49 in the casting 1, leading to the casting 2, at the head of which grain and grass-seed are mixed.

50 is a swinging valve controlling the inlet through the contracted mouth 44 in the hopper, and the same is swung through an arm or lever 51, connected with the valve and having a pin 52 sliding in a slot 53, arranged in a plate 54, forming a part of the hopper. In this manner the grass-seed may be fed in graduated quantities to the fluted roller 46.

Referring to the fan and casting 2, attention is directed to a shield or fan-covering composed of castings 55 and 56. The covering 55 is a plate substantially circular in appearance with a semicircular flange 57 and further provided with an extension 58, by means of which the covering may be secured to an end gate. This covering serves the purpose of a support for the lower end of the casting 2 by the same being bolted or otherwise suitably secured thereto. The covering 56 is a plate substantially semicircular in form with a flange 59, and each of the plates is provided with lugs 60 and the two assembled and secured together, as shown in Fig. 4, bolts passing through the matching lugs 60 for retaining the plates together. The plate 55 has an opening 61, through which the fan-shaft extends, and 62 is a rectangular opening in the body of the plate conforming to the bottom opening of the part 2 to permit grain or seed to drop through from casting 2 onto the fan 24. The plate 56 is provided with the semicircular cut-out portion 63, as shown. When assembling the parts, the plate 55 is secured to the end gate, with the flange portion thereof lying adjacent thereto, as shown, and the casting 2 is placed in the position shown and secured with the fan-shaft extending down through the covering 55. The fan 24 is then clipped onto the fan-shaft and fixed in position, when the covering 56 is secured to covering 55 in the manner stated. The flanges of each covering form a housing and are cut away at a proper angle to permit grain or seed falling on the fan to be directed away therefrom without interfering with either the housing or the end gate. The carrying of the fan in this particular way aids materially the distance to which the grain or seed may be cast from the fan, for the reason that the fan

will suck more or less air and act as a blower for distributing or casting the seed delivered thereto.

We are aware that various changes may be made in the construction of our seeder and details of construction and arrangement resorted to without departing from the scope of principle and invention herein, and we do not wish to be confined to the details herein.

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

1. In a seeding device, the combination of a hopper, a distributing-fan mounted upon a vertical shaft, a friction-pinion mounted upon the fan-shaft, a drive-shaft having a bearing in the seeder-frame, a friction-ring coacting with the aforementioned pinion, supported and driven by a wheel adjustably secured on the drive-shaft, and springs bearing between the ring and wheel, substantially as described.

2. In a seeding device, the combination of a hopper, a distributing-fan mounted upon a vertical shaft, a friction-pinion mounted upon the fan-shaft, a drive-shaft having a bearing in the seeder-frame and carrying a force-feed seeding device, a friction-ring coacting with the aforementioned pinion, supported and driven by a wheel adjustably secured on the drive-shaft, and springs bearing between the ring and wheel, substantially as specified and for the purpose described.

3. In a seeding device, the combination of a hopper, a driving-shaft, a fluted roller carried by said shaft and operated to have an overhead discharge, a wheel secured on the driving-shaft, a friction-ring supported and driven by said wheel, engaging devices between the ring and rim of the wheel, a fan-shaft and a friction-pinion on said shaft coacting with the friction-ring, substantially as described.

4. In a seeder, the combination of driving and fan-supporting shafts, of a combined friction-ring and driving-wheel supported on the driving-shaft, and a pinion on the fan-shaft in operative engagement with the friction-ring, a series of extensions from the ring passing through the rim of the wheel forming a support and drive for the ring with the wheel, and springs bearing around the extensions for pressing the ring against the pinion, substantially for the purpose specified.

5. In a broadcast seeding-machine, a rotary seed-distributor, means for supplying seed thereto, a friction-pinion and a coacting friction-ring for rotating said seed-distributor, means for supporting and driving said ring, and means for pressing said ring yieldingly against the pinion and in a line bearing through the point of contact of the ring and pinion, substantially as herein specified.

6. A broadcast seeding-machine, consisting of a rotary seed-distributor, a friction-wheel connected with said seed-distributor, a driving-shaft, a fluted force-feed seeding

device carried upon and rotating with the driving-shaft, a friction driving-ring adapted to frictionally engage the aforementioned friction-wheel, the said ring yieldingly carried and driven by a movable support rotating with the driving-shaft, substantially as specified.

7. In a seeding device, the combination of an end gate, seeding devices supported by said end gate, a distributing-fan and means for actuating said fan, and a fan-casing partially surrounding the fan and supported by the end gate, substantially as described and shown.

8. In a seeding device, the combination of an end gate, seeding devices supported by said end gate, a distributing-fan and means for actuating said fan, and a fan-casing formed of an upper plate having an opening communicating with the seeding devices, and a lower semicircular plate, abutting flanges of each plate forming a partial inclosure for a portion of the sweep of the fan, and supporting the casing on the end gate to the rear of the fan, substantially as described and shown.

9. In combination with an end gate, of seeding devices supported by the end gate, a spout leading from the seeding devices, a distributing-fan rotatably mounted beneath the spout, a shield beneath the spout and above the fan having an opening communicating with the spout, a shield beneath the fan and abutting flanges of each of said shields inclosing a portion of the sweep of the fan, substantially as described and shown.

10. In a seeding-machine, the combination of a driving-shaft, a fluted roller mounted on said shaft and operated to have an overhead discharge, and a fibrous disk carried by said shaft bearing between the end of the roller and the casing, substantially as described.

11. In a seeder the combination with a suitable casing and a hopper, a drive-shaft passing through the casing, a fluted force-feed device revolubly attached to said drive-shaft, recesses formed, one in the end of the fluted force feed and the other in the wall of the casing and a fibrous disk carried by the shaft and seated in said recesses, a rotary seed-distributor carried by a vertical shaft and means for actuating said distributor, substantially as described.

12. In a seeding device, the combination of a hopper-casing, a fan-shaft, a distributor mounted on the fan-shaft, a horizontally-arranged drive-shaft and driving connections between the fan and driving shafts, of a boxing for the upper end of the fan-shaft secured to the hopper-casing, ball-bearings arranged therein and a cap fitting over said boxing and bearings and in which the end of the fan-shaft is secured, substantially as described.

13. In a seeder, the combination of driving and fan-supporting shafts, a frictionally-driven pinion on the fan-shaft and suitable

drive on the driving-shaft, of ball-bearing journal for one end of the fan-shaft, arranged substantially as herein and for the purpose described.

- 5 14. In a seeding device, the combination of a hopper-casing, a fan-shaft, a distributing-fan on the fan-shaft, a drive-shaft and frictionally-engaged wheels on the fan and driving shafts, a shield for the fan for the purpose herein set forth, and a ball-bearing jour-
- 10

nal for one end of the fan-shaft, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES P. SESTER.
FERDINAND J. FELDT.

Witnesses:

ROBT. N. MCCORMICK,
CHAS. W. LA PORTE.