

2 Sheets—Sheet 1.

No. 477,325.

Patented June 21, 1892.

FIG. 1.

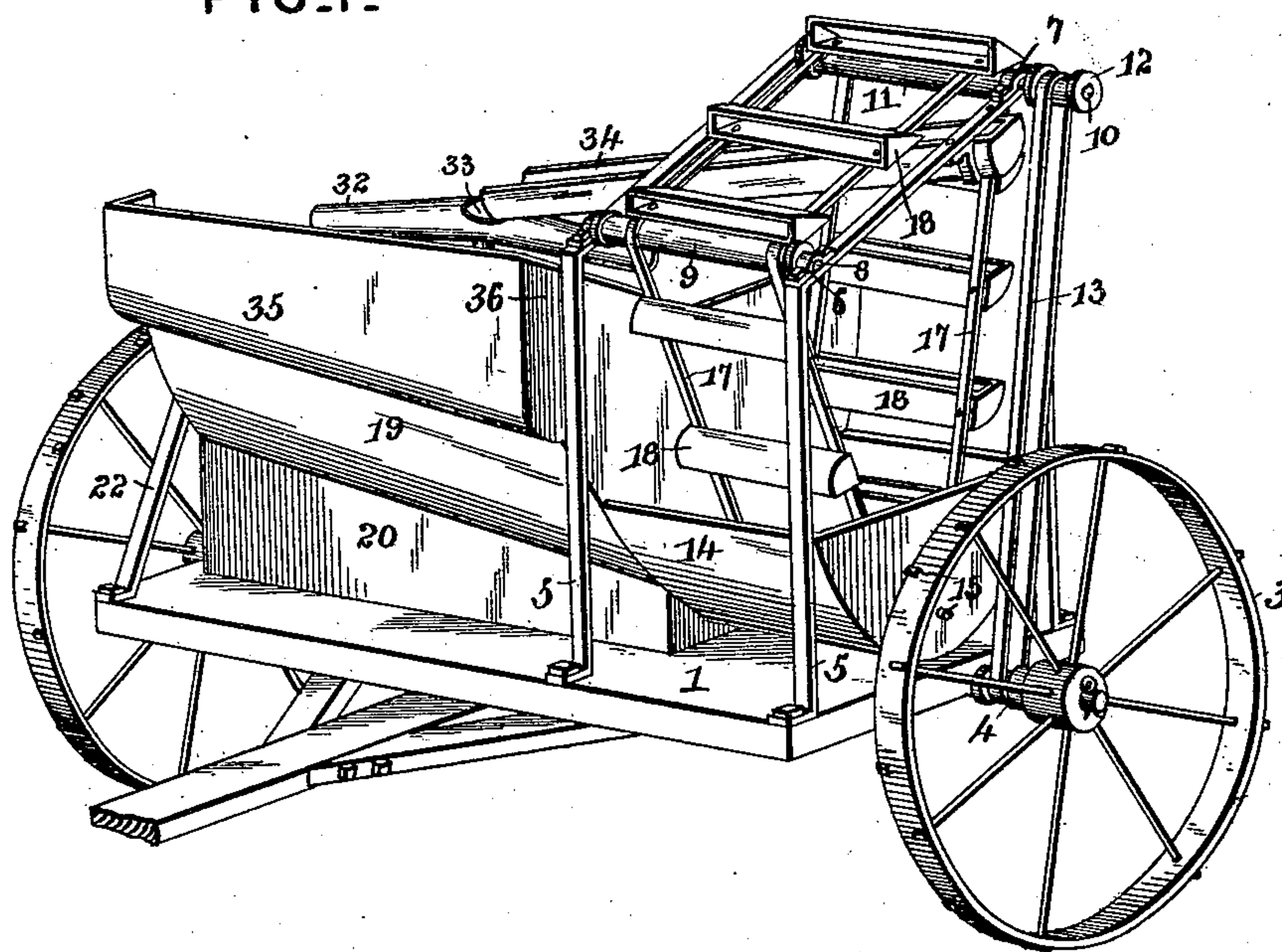
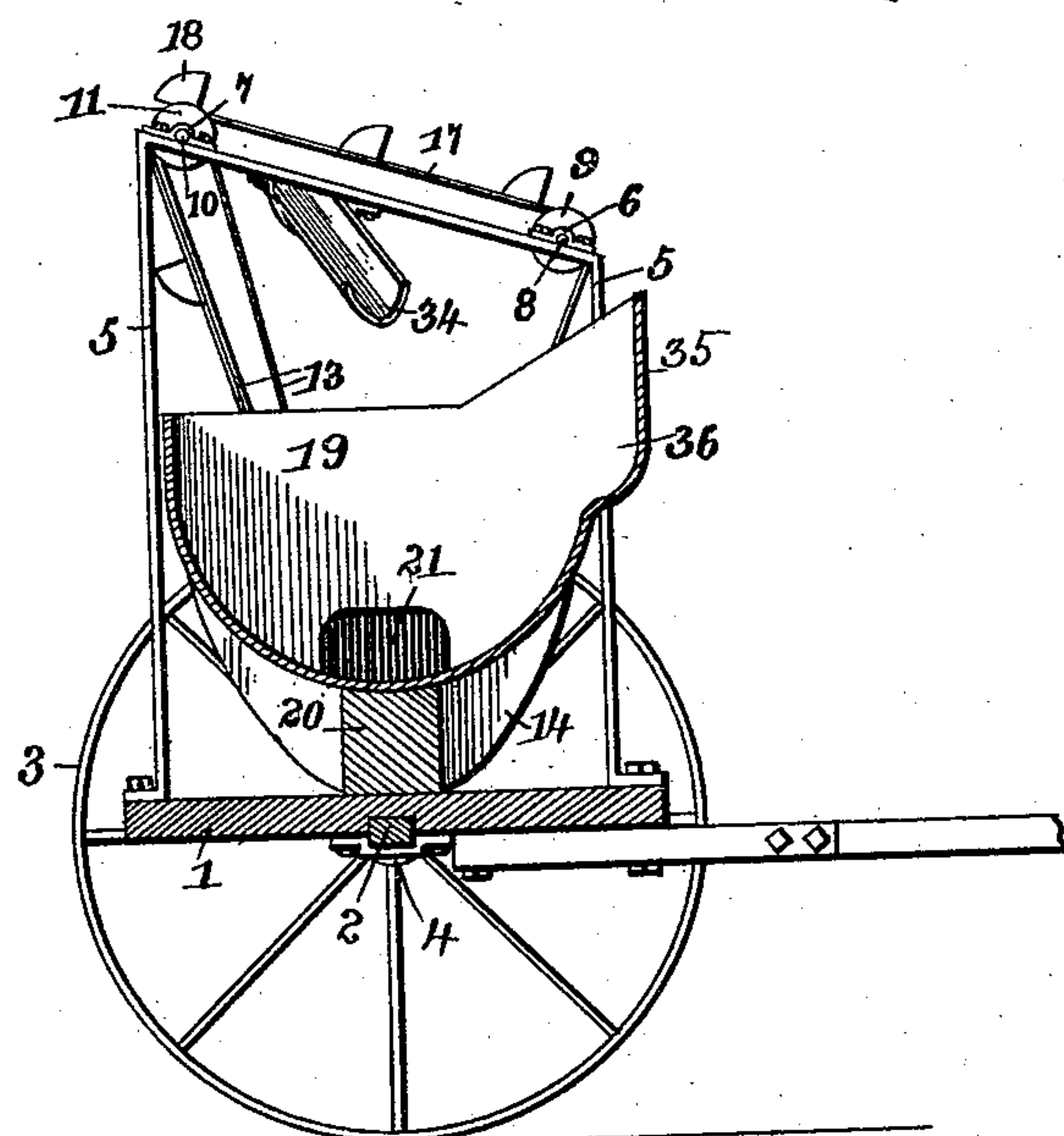


FIG. 3.



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(No Model.)

2 Sheets—Sheet 2.

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BROADCAST SEEDER.

No. 477,325.

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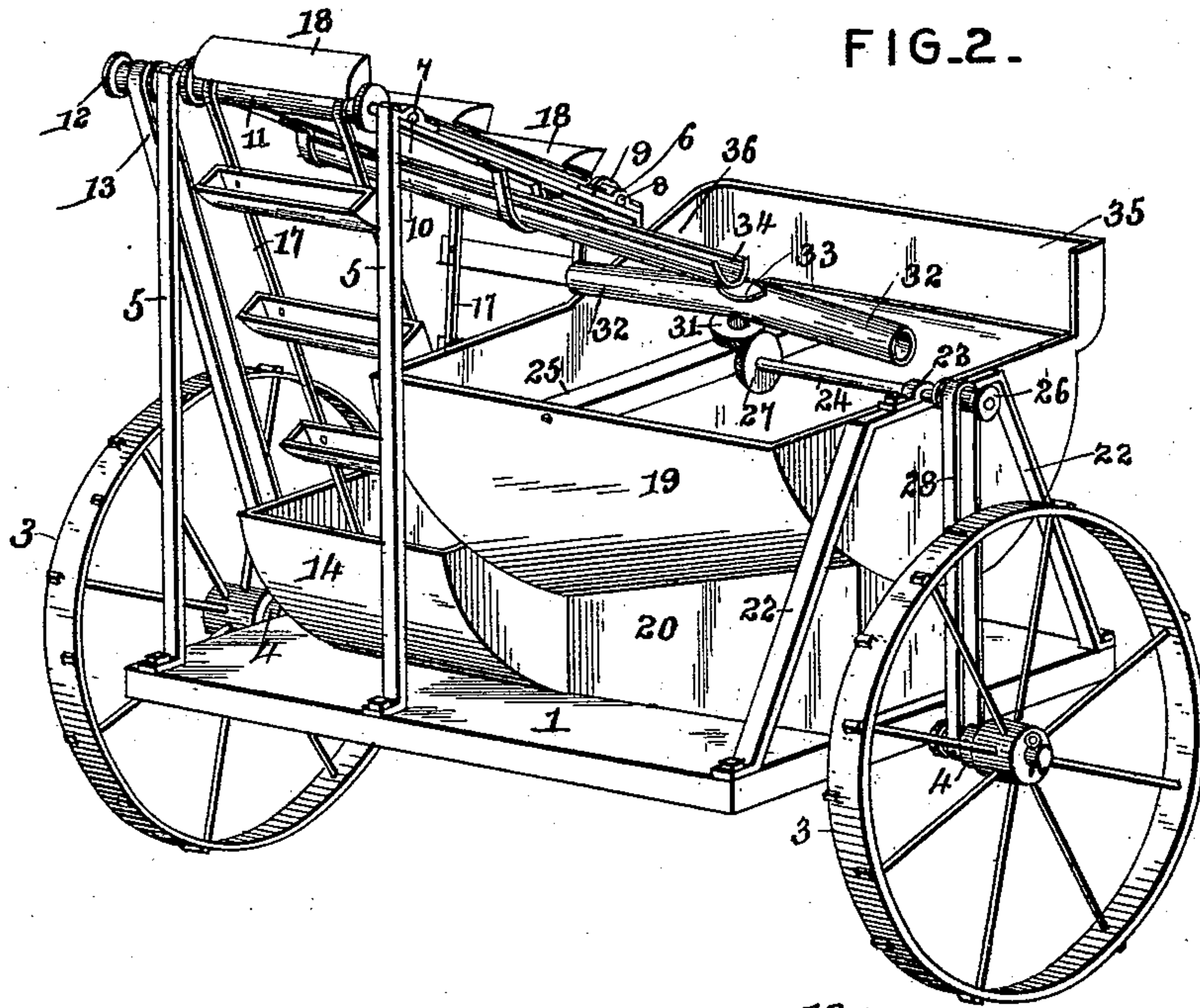
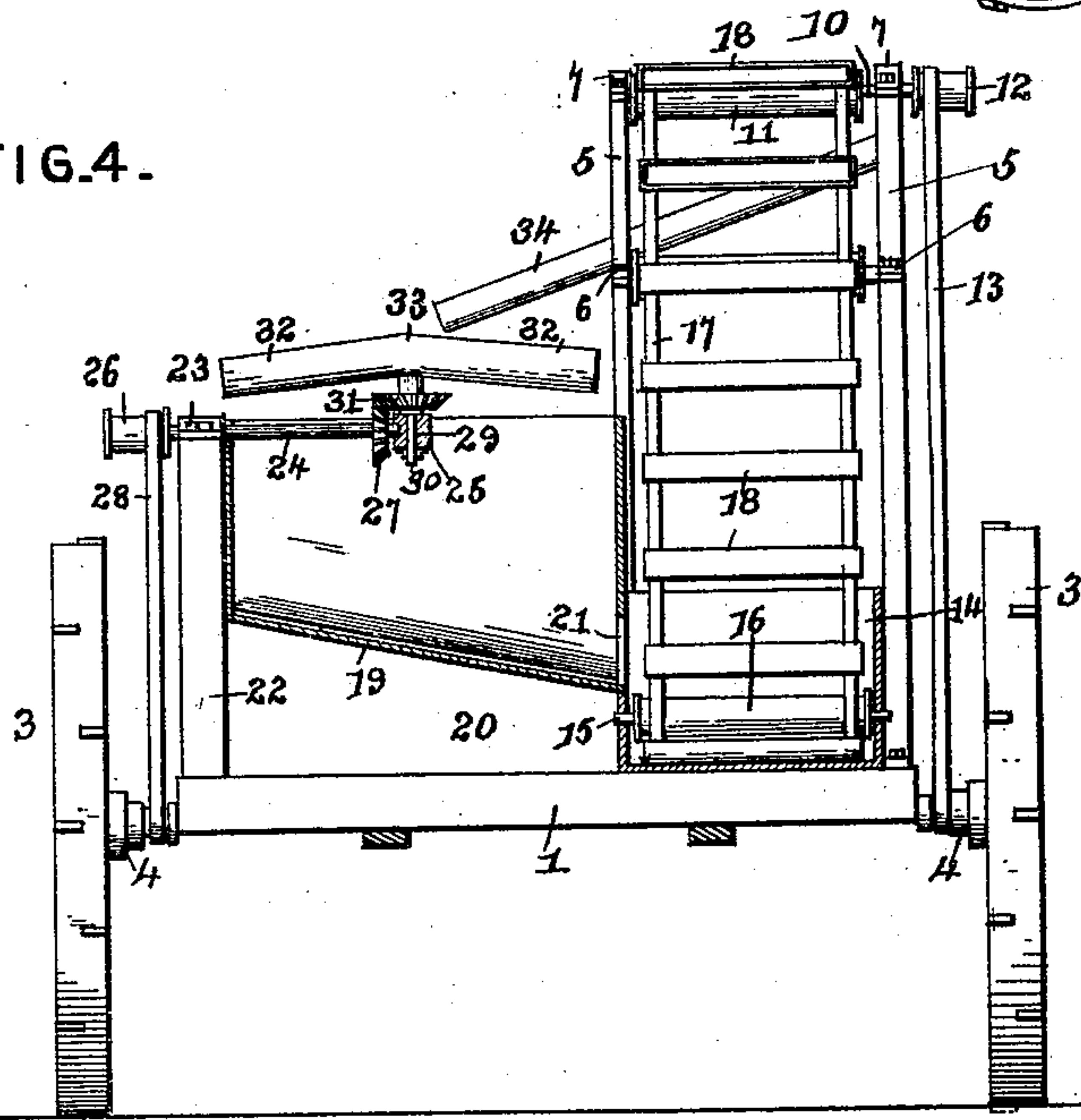


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID G. DANIELS, OF GRAND TUNNEL, PENNSYLVANIA.

BROADCAST SEEDER.

SPECIFICATION forming part of Letters Patent No. 477,325, dated June 21, 1892.

Application filed February 18, 1892. Serial No. 421,990. (No model.)

To all whom it may concern:

Be it known that I, DAVID G. DANIELS, a citizen of the United States, residing at Grand Tunnel, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Broadcast Grain-Sower, of which the following is a specification.

This invention relates to that class of seeders or grain-sowers known as "broadcast;" and the objects in view are to provide a machine of this class that shall be cheap and simple in construction and which will effectually sow the seed in an indiscriminate manner and over an area to be determined by the operator.

Other objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a seeder constructed in accordance with my invention. Fig. 2 is a rear perspective view. Fig. 3 is a longitudinal section. Fig. 4 is a transverse section.

Like numerals of reference indicate like parts in all the figures of the drawings.

The bed 1 of the machine has projecting from opposite sides axles 2, upon each of which is mounted a ground-wheel 3, the hubs at the inner sides of which are provided with step-pulleys 4. The front of the bed 1 is provided with suitable draft appliances.

From one end of the bed 1 there rises a pair of standards 5, said standards being provided with a pair of opposite front bearings 6 and rear bearings 7. In the front bearings 6 a transverse shaft 8 is journaled, and upon the same is mounted for movement therewith a pulley 9, located between the standards. In the rear bearings a shaft 10 is journaled, the same extending, as shown, beyond the outer standard. This shaft has mounted upon it between the standards a pulley 11, corresponding with the pulley 9, and upon the extended portion of the shaft there is mounted a pulley 12, which is connected by a belt with any one of the step-pulleys 4 at that side of the machine. By arranging a belt 13 on the various pulleys 4 it will be obvious that the speed of the shaft 10 may be changed. Upon the bed, between the pair of standards, a feed-box 14 is mounted, and in the opposite sides

of the same is journaled a transverse shaft 15, which carries a pulley 16. A pair of belts 17 pass around the pulleys 9, 11, and 16, and are connected at intervals by elevating-buckets or seed-cups 18.

19 designates a hopper, which is preferably semi-cylindrical, is inclined, and is supported upon the bed 1 by an inclined block 20. The hopper is provided with an opening 21 at one end, which communicates with the feed box or chamber 14, so that by reason of this opening and the inclination of the hopper seed is fed into the feed-box. At the opposite end of the bed to that at which the seed-elevator is located there is mounted a vertical standard 22, which at its upper end is provided with a bearing 23, in which a transverse shaft 24 is journaled, the inner end of the shaft taking bearing in a transverse bar 25, which spans the hopper. At the outer end of this shaft 24 a pulley 26 is located, and at the inner end a spur-wheel 27. The pulley 26 is connected by a belt 28 to the step-pulley 4 at that side of the machine, and by arranging the belt 28 in the various step-pulleys it will be obvious that the speed of rotation of the shaft 24 may be regulated.

The cross-bar 25 is provided with a vertical bearing 29, and in the same a shaft 30 is journaled for rotation. The shaft 30 is provided with a spur-gear 31 near its upper end, the teeth of which engage with and are driven by those of the gear 27. Above the gear 31 the shaft has mounted thereon a rotatable broadcast-sowing device, which I will now proceed to describe. This device consists in a pair of opposite preferably funnel-shaped arms 32, which radiate from the shaft and are connected at their inner ends by a central filler or feeder 33. An inclined trough 34 leads to a point directly above the filler and from a point directly under the seed-elevator, so that seed discharged by the buckets or cups into the inclined trough will be conducted by the latter to the filler, and thereby fed into the seed arms or tubes 32 and distributed by centrifugal force. At the front of the hopper there is mounted a curved inclined guard or apron 35, and the same is provided at its lower edge and at its inner side with a curved return chute or trough 36.

In operation the machine is drawn along in

the usual manner and grain is fed from the hopper 19 to the trough 14, where it is gathered up by each succeeding cup or bucket as it passes through the same and is delivered 5 by them into the trough, down which it passes into the feeder, which, being rotated, discharges the grain into the discharge-tubes, which latter by centrifugal force scatter the grain to the rear of the machine as they successively come opposite the same. The grain 10 that passes from the tubes when they are disposed toward the front is thrown against the guard 35, falls from thence into the trough 36, and, the latter being inclined, is conducted back into the hopper to again pass 15 to the feed-box 14 and to be returned to the distributing-tubes. As before stated and as at once obvious, by regulating the speed of the distributing-tubes the centrifugal force 20 for discharging the grain therefrom may be increased or decreased, and thus the area over which the grain is scattered be increased or decreased. By arranging the belt for driving the elevator the same may be made to 25 travel fast or slow, and thus the quantity of grain delivered to the distributing-tubes may be increased or decreased, and in this manner the amount of grain sown may be regulated, and the machine thus adapted to sow thick 30 or sparse, as desired.

Having thus described my invention, I claim—

1. In a seeder of the class described, the combination, with the vertical rotating shaft, 35 the seed-tubes mounted thereon, and means for operating the shaft, of a hopper, seed-conducting devices for carrying seed from the hopper to the tubes, and means for regulating the speed of the seed-conducting devices, substantially as specified. 40

2. In a seeder of the class described, the combination, with the hopper, the vertical shaft arranged thereover, the seed-tubes on

the shaft, adapted to rotate therewith, and means for rotating the shaft, of seed-conduct- 45 ing devices between the hopper and the tubes, and an apron or guard located in front and at one side of the path traversed by the tubes, and an inclined trough located within the same and adapted to conduct seed back into 50 the hopper, substantially as specified.

3. In a seeder of the class described, the combination, with the bed, the ground-wheels, the pulleys thereon, the inclined hopper, the seed-box with which the hopper communi- 55 cates, the opposite standards having front and rear bearings, shafts mounted therein and in the seed-box, pulleys mounted on the shafts, a pair of belts mounted on the pulleys, cups connecting the belts, and a drive-belt between 60 the hub-pulley and the rear shaft, of the standard located at the opposite side of the bed, the cross-bar spanning the hopper, a transverse shaft journaled in a bearing-standard and cross-bar and provided at its inner end with 65 a gear and at its outer end with a pulley, a belt connecting the latter with the hub-pulley of the ground-wheel at that side of the machine, a vertical shaft journaled in the cross- 70 bar, seed-tubes mounted on the upper end of the shaft, an intermediate feeder, a gear located below the tubes upon the vertical shaft and engaged and operated by the gear at the inner end of the transverse shaft, the inclined chute leading from a point below the cups to 75 a point above the feeder, the curved apron located in front of the seed-tubes upon the hopper, and the inclined return-trough located below the apron, substantially as specified.

In testimony that I claim the foregoing as 80 my own I have hereto affixed my signature in the presence of two witnesses.

DAVID G. DANIELS.

Witnesses:

ANNE WILLIAMS,
THOS. S. WILLIAMS.