

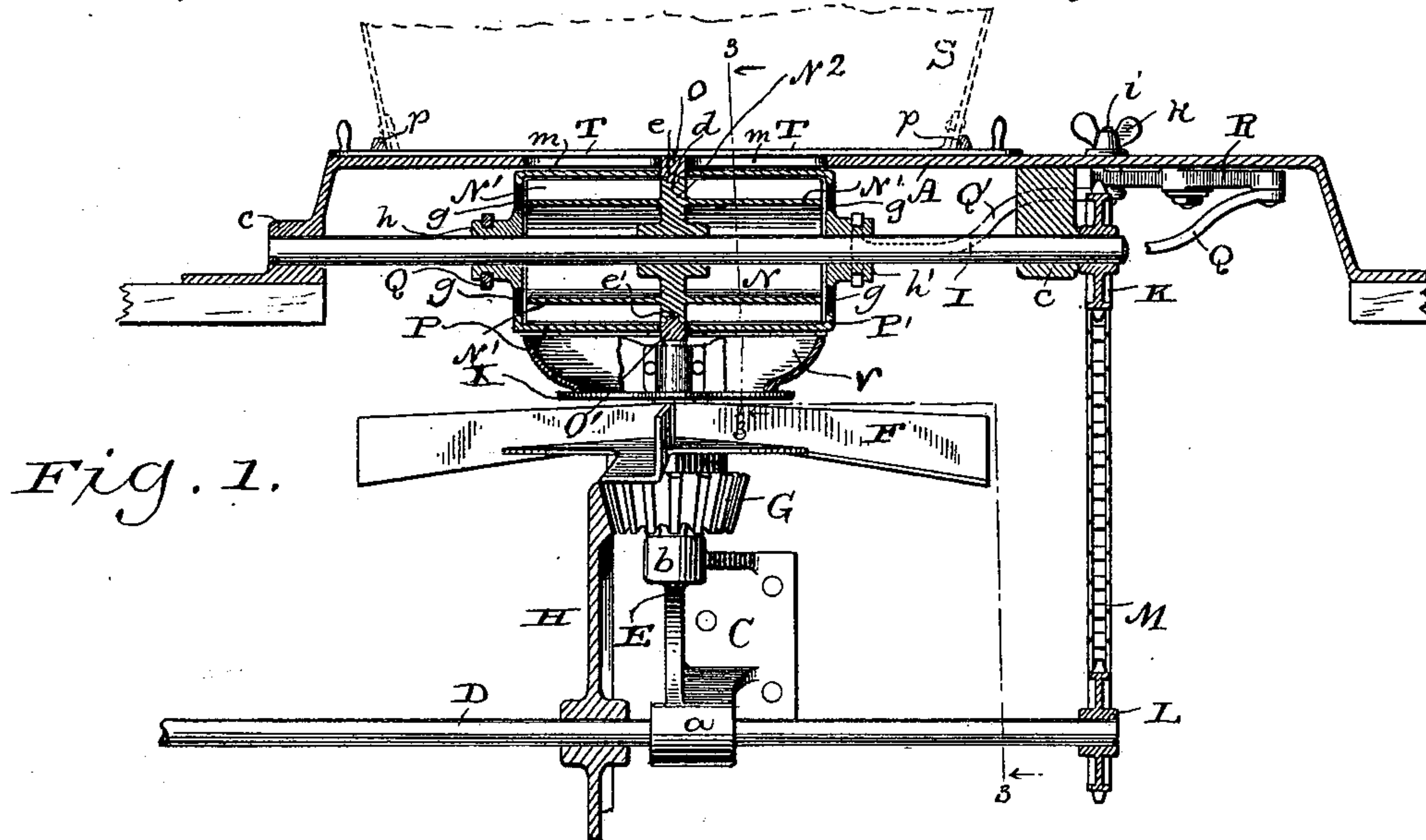
(No Model.)

2 Sheets—Sheet 1.

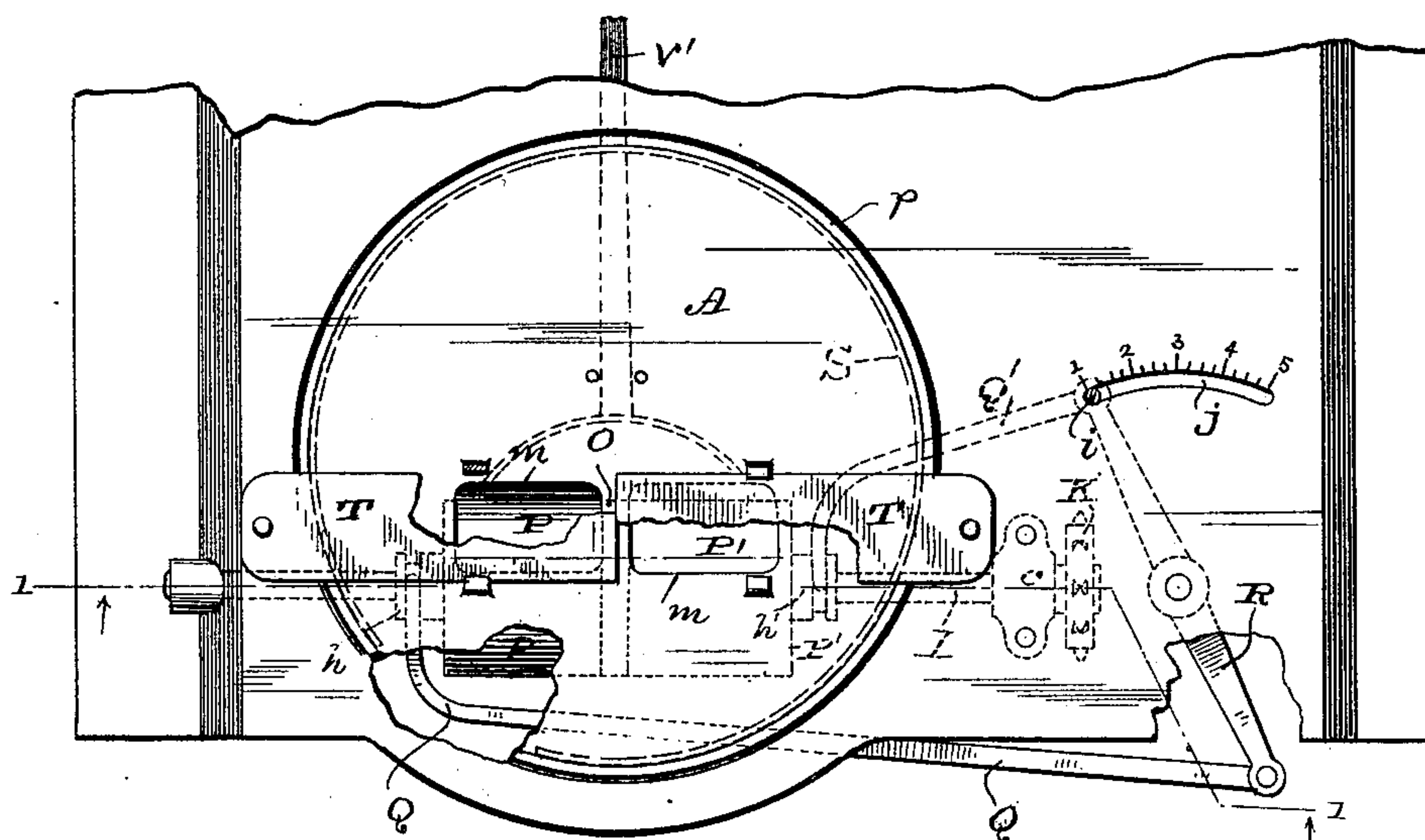
M. FREEMAN.  
SEED SOWER.

No. 403,882.

Patented May 21 1889.



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

MICHAEL FREEMAN, OF RACINE, WISCONSIN, ASSIGNOR TO THE S. FREEMAN & SONS MANUFACTURING COMPANY, OF SAME PLACE.

## SEED-SOWER.

SPECIFICATION forming part of Letters Patent No. 403,882, dated May 21, 1889.

Application filed September 24, 1888. Serial No. 286,145. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL FREEMAN, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Seed-Sowers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to seed-sowers; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings and subsequently claimed.

In the drawings, Figure 1 represents a sectional view of my seed-sower, taken on line 1 1 of Fig. 2; Fig. 2, a plan view with parts broken away; Fig. 3, a sectional view taken on line 3 3 of Fig. 1; Fig. 4, a detail view of the adjustable seed-cup; and Fig. 5, a sectional view taken on line 5 5, Fig. 3, with parts broken away.

Referring by letter to the drawings, A represents the floor of my seeder, and B the vertical support for the same. Fast on the vertical support B is a bracket, C, provided with a bearing, *a*, for a drive-shaft, D, and another bearing, *b*, for the lower end of the shaft E of a distributor, F, the latter shaft being provided with a bevel-pinion, G, that meshes with a bevel gear-wheel, H, on the drive-shaft.

Depending from the floor A of my seeder are bearings *c* for a shaft, I, that is parallel to the drive-shaft D and has fast thereon a sprocket-wheel, K, over which latter and another sprocket-wheel, L, carried by the drive-shaft D, is arranged a drive-chain, M.

Fast on the shaft I is a hollow cylindrical casting, N, provided with a series of radial wings, N'; and a central stay-piece, N<sup>2</sup>, the latter being provided with a groove, *d*, that engages a rib, *e*, on a block, O, that depends from the floor A of the seeder, this block having a detachable section, O', likewise provided with a rib, *e'*, the latter forming a continuation of the rib *e*. The detachable section O' of the block O is also provided with a bearing, *f*, for the upper end of the distributor-shaft E.

The radial wings N' are arranged on opposite sides of the central stay-piece, N<sup>2</sup>, that, with said wings, forms part of the hollow cy-

lindrical casting N, and arranged to slide on the shaft I in opposite directions are shells P P', having their outer ends headed and the heads provided with openings *g*, these shells serving as cut-offs for said winged casting. The hubs *h h'* at the outer ends of the respective shells P P' are yoked to levers Q Q', and the latter are respectively united to the opposing ends of an arm, R, that is pivotally connected to the floor A of the sower and provided with a screw-threaded projection, *i*, that extends up through a slot, *j*, in said floor, to engage a set-nut, *k*. By actuating the pivotal arm R the shells P P' can be moved to uncover the cylindrical casting N, and in order to accurately gage the desired amount of exposure of said shell I provide one edge of the floor-slot *j* with a series of graduations, as illustrated in Fig. 2, the arm R being held in its adjusted position by means of the set-nut *k* on the screw-threaded projection *i* above described.

The floor A of the seeder is provided with seed-openings *m*, that lead from the hopper S of the machine, and designed to slide on said floor are the usual cut-off plates, T, for said seed-openings.

Depending from the floor A, adjacent to the seed-openings *m* therein, is an angular flange, U, the lower edge of the latter being arranged to impinge against the shells P P' when the latter are closed in toward each other, to bring their inner open ends against the box formed by the ribbed sections *o o'*, as illustrated in Fig. 1, thereby forming a trough for the seed that falls from the hopper when the cut-off plates T are drawn out.

Suspended from the floor A by a hanger, W, is a cup, V, having a movable bottom, X, pivotally connected to the distributor-shaft E, and provided with bottom openings, *n*, a central spreading-rib, *n'*, and a handle, V', the latter being shown in Fig. 3 as passed through a slot or guide, *o*, in the vertical support B, so as to be convenient to the driver of the machine. The openings *n* in the seed-cup V lead to the distributor F, and thus the seed is either sown equally on both sides the center of the machine or more or less on either side of the same, accordingly as the bottom X of



said cup is pivotally adjusted on the distributor-shaft.

My machine being of that class of seed-sowers that are generally arranged on an ordinary farm-wagon, the shaft D is driven by the usual sprocket-gear connecting it with one of the wagon-wheels, this arrangement of parts being too well known to need illustration or further description in this application.

In the operation of my invention, when the cut-off plates T are drawn out, the seed in the hopper S will descend through the openings *m* in the floor A of the machine into the pocket formed by the angular flange U and the sliding shells P P'. The pivoted arm R being operated, the shells P P' will move in opposite directions to expose the cylindrical casting N, that is provided with the radial wings N', the amount of exposure being regulated as above described, this exposure being more or less, according to the variety of the seed or the amount per acre it is desirable to sow. The seed from the trough above described will now descend into the pockets formed by the wings N' on the cylindrical casting N, and as the latter is being revolved by the rotation of the shaft I said seed is carried around and delivered into the cup V, from whence it passes out through the openings *n* onto the distributor F. The flow of the seed to the distributor is regulated entirely by the adjustment of the shells P P', and as said adjustment can be accurately fixed the advantage derived is apparent without further description.

The flow of seed may be readily cut off either by the plates T or the shells P P'; but said plates are usually employed. When the shells P P' are closed in against the ribbed box formed by the sections O O', the compression of air caused by this operation will blow any seed or other particles remaining in the pockets formed by the radial wings N' on the casting N out through the openings *g* in the headed outer ends of said shells.

By the above description it will be seen that I provide a very simple seed-sower, capable of being readily regulated to sow any given quantity of seed per acre, and also to throw said seed equally on both sides of the center of draft or more or less on either side of said center, while at the same time the machine is positive in its action, and has no parts liable to get out of order.

The floor A of my seeder is preferably cast with a ring, *p*, having a beveled inner periphery, and within this ring is fitted the lower end of the hopper S. Bolted or otherwise suitably secured to the inside of the hopper S at its lower end is another ring, *q*, the latter being provided with an inwardly-extended flange, *r*, through which and the seed-er-floor A are passed bolts *s*, to secure said hopper in position.

By the construction just described I do

away with the flange that usually extends outward from the bottom of the hopper, and am thus enabled to safely pack more hoppers one upon the other for transportation and storage than can be done with those of the ordinary construction, while at the same time a tighter joint between a machine-floor and hopper is obtained.

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

1. In a sower, the combination of a revoluble casting provided with a central stay-piece and a series of radial wings, arranged on opposite sides of the stay-piece, cut-off shells for the winged portions of the casting, and means, substantially as described, for rotating said casting and laterally adjusting the shells in opposite directions, as and for the purpose set forth.

2. In a sower, the combination of a revoluble casting provided with a series of radial wings and a central annular groove, a ribbed box for engagement with the groove, cut-off shells for the winged casting, and means, substantially as described, for actuating said casting and adjusting the shells, for the purpose set forth.

3. In a sower, the combination of a revoluble casting provided with a series of radial wings and a central stay-piece having an annular groove, a ribbed box for engagement with the groove, cut-off shells for the winged casting, and means, substantially as described, for actuating said casting and adjusting the shells, for the purpose set forth.

4. In a sower, the combination of a revoluble casting provided with a series of radial wings, cut-off shells for the winged casting having closed outer ends provided with openings, and means, substantially as described, for actuating the casting and adjusting the shells, as and for the purpose set forth.

5. In a sower, a revoluble casting comprising a central stay-piece and radial wings arranged on opposite sides of the stay-piece, cut-off shells for the winged portions of the casting, and means, substantially as described, for actuating the casting, laterally adjusting the shells, and for locking the latter in their adjusted position, as set forth.

6. In a sower having its floor provided with a slot, the combination of a revoluble casting provided with a central stay-piece and a series of radial wings arranged on opposite sides of the stay-piece, cut-off shells for the winged portions of the casting, levers connected at their inner ends to said shells, an arm pivoted to the machine-floor and connected at its extremities with the outer ends of said levers, a screw-threaded projection on the pivoted arm passed up through the slot in said machine-floor, and a set-nut arranged on said projection, substantially as set forth.

7. In a sower, the floor thereof provided with a slot and graduations for the same, in combination with a revoluble casting pro-



vided with a central stay-piece and a series of radial wings arranged on opposite sides of the stay-piece, cut-off shells for the winged portions of the casting, levers connected at their inner ends to said shells, an arm pivoted to the machine-floor and connected at its extremities with the outer ends of said levers, a screw-threaded projection on the pivoted arm passed up through the slot in said machine-floor, and a set-nut arranged on said projection, substantially as set forth.

8. In a sower, the combination of the machine-floor provided with seed-openings, cut-off plates for said openings, an angular flange depending from said floor adjacent to the openings therein, a revoluble casting provided with a series of radial wings, cut-off shells for the winged casting designed to close in against the lower edge of said flange to form a trough therewith, and means, substantially as described, for actuating the casting and adjusting the shells, as and for the purpose set forth.

9. In a sower, the combination, with the distributor and a feeding mechanism, of a cup having a movable bottom pivotally connected to the distributor-shaft and provided with discharge-openings, substantially as set forth.

10. In a sower, the combination of a revoluble casting provided with a series of radial wings and a central stay-piece, a box surrounding the stay-piece and provided with a bearing for the distributor-shaft, cut-off shells for the winged casting, and means, substantially as described, for actuating said casting and adjusting the shells, as and for the purpose set forth.

11. In a sower, the combination, with the distributor and a feeding mechanism, of a cup having a movable bottom pivotally connected to the distributor-shaft and provided with discharge-openings, and a handle projecting from said bottom of the cup, substantially as set forth.

12. In a sower, the combination of a revoluble casting provided with a series of radial wings, adjustable cut-off shells for the winged casting, a seed-cup arranged below said casting and provided with a pivotally-adjustable bottom having openings therein, and a distributor arranged below the seed-cup, substantially as set forth.

13. In a sower, the combination of the machine-floor provided with seed-openings, cut-off plates for the openings, a revoluble casting provided with a series of radial wings, adjustable cut-off shells for the winged casting,

a seed-cup arranged below said casting and provided with a pivotally-adjustable bottom having openings therein, and a distributor arranged below the seed-cup, substantially as set forth.

14. In a sower, the combination of the floor A, provided with seed-openings, the shaft I, having bearings depending from said floor, the casting N, fast on said shaft and provided with radial wings N' and stay-piece N<sup>2</sup>, a box surrounding the stay-piece and provided with a bearing for the upper end of a distributor-shaft, the drive-shaft D, bevel-gear to said distributor-shaft, sprocket-gear connecting the shafts D I, and adjustable shells surrounding the winged casting, substantially as set forth.

15. A sower comprising the floor A, provided with seed-openings m, depending bearings b, and angular flange U, the shaft I, arranged in said bearings, the casting N, fast on said shaft and provided with radial wings N', the cut-off shells P P' for said casting, the arm R, pivoted to the machine-floor, levers Q Q', connecting the ends of said levers with the cut-off shells, the seed-cup V, distributor F, and the drive-shaft D, geared to said distributor and shaft I, substantially as set forth.

16. In a sower, the combination, with a distributor and a feeding mechanism, of a cup having a movable bottom pivotally connected to the distributor-shaft and provided with a central spreading-rib and bottom openings, and a handle projecting from said bottom of the cup, substantially as set forth.

17. In a sower, the floor thereof provided with a ring, a hopper having its lower end fitted within the ring, and another ring secured to said lower end of the hopper and bolted to said floor, substantially as set forth.

18. In a sower, the floor thereof cast with a ring, a hopper having its lower end fitted within the ring, and another ring detachably connected to said lower end of the hopper and provided with an inwardly-projecting flange for attachment to said floor, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Racine, in the county of Racine and State of Wisconsin, in the presence of two witnesses.

MICHAEL FREEMAN.

Witnesses:

ANNA MIRON,  
N. E. OLIPHANT.