

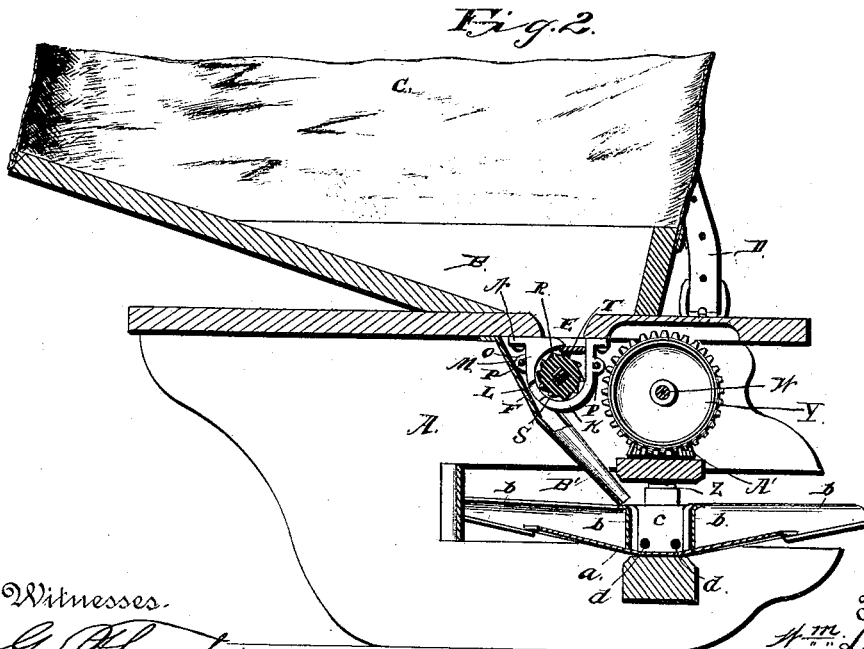
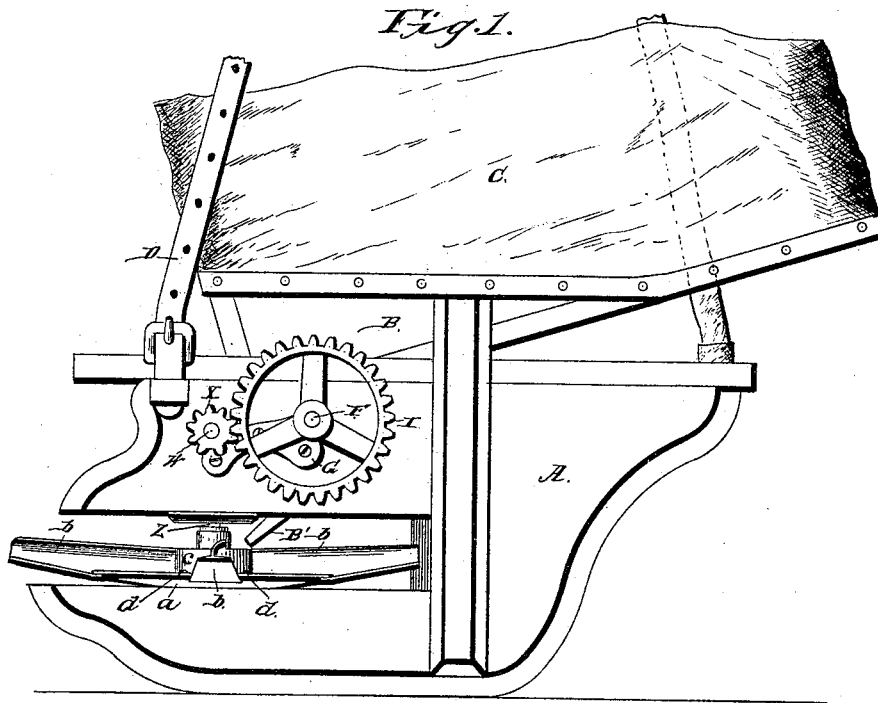
(No Model.)

2 Sheets—Sheet 1.

W. L. MILLER.
BROADCAST SEED SOWER.

No. 386,339.

Patented July 17, 1888.



Witnesses.

Geo. H. Hooper
E. J. Siggers

Inventor.

W. L. Miller

By his Attorneys.

C. H. Hooper & Co.

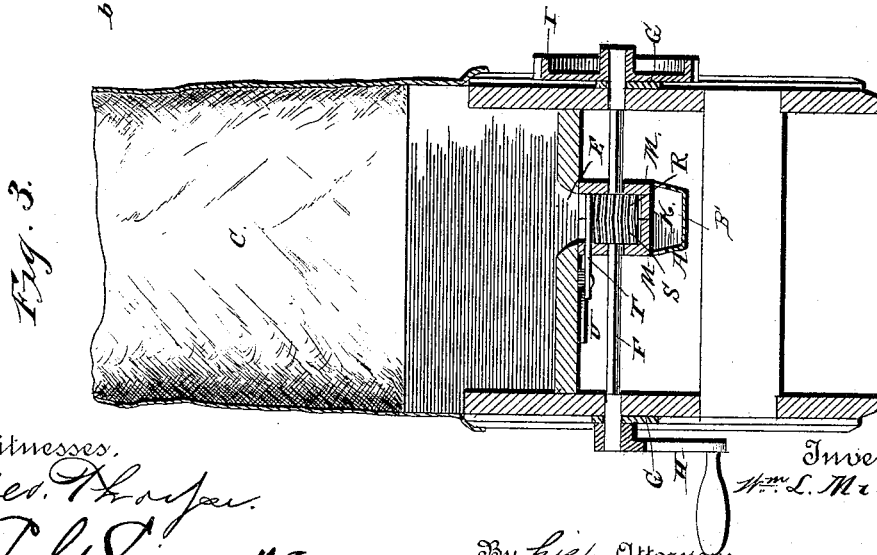
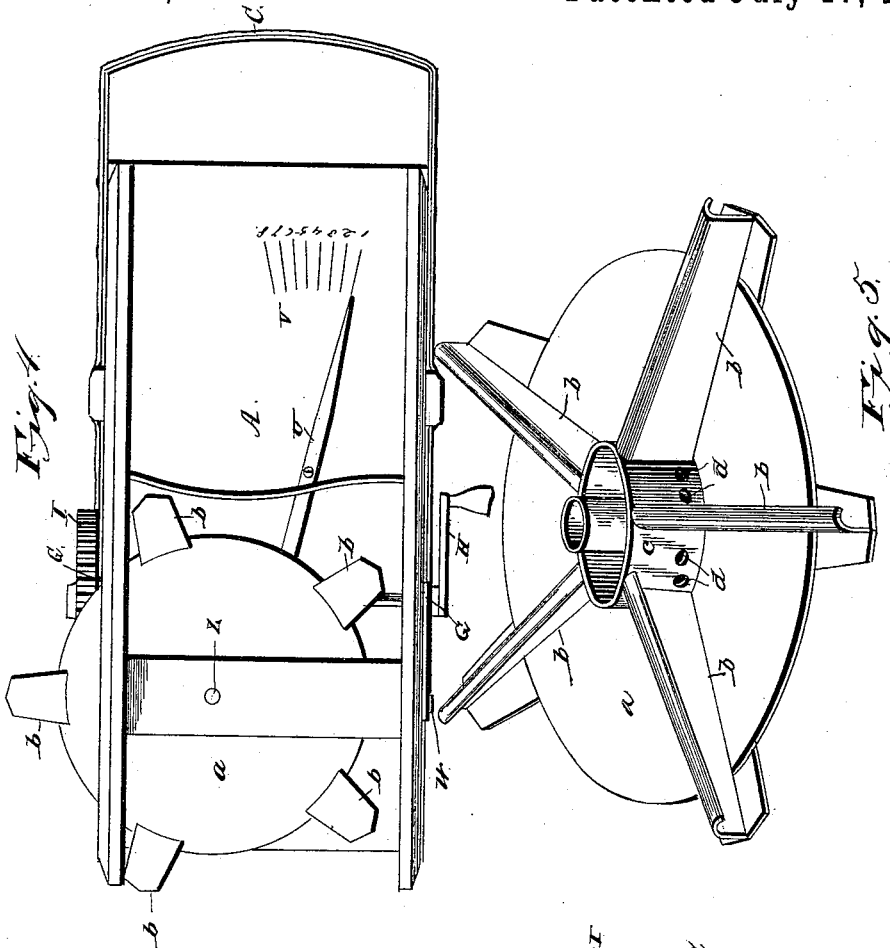
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BROADCAST SEED SOWER.

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Witnesses,
Geo. Thayer.
J. G. Siggers.

Inventor,
W. L. Miller.
By his Attorney,
C. A. Howard & Co.

UNITED STATES PATENT OFFICE.

WILLIAM L. MILLER, OF VAN BUREN, INDIANA.

BROADCAST SEED-SOWER.

SPECIFICATION forming part of Letters Patent No. 386,339, dated July 17, 1888.

Application filed February 29, 1888. Serial No. 265,664. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. MILLER, a citizen of the United States, residing at Van Buren, in the county of Grant and State of Indiana, have invented a new and useful Improvement in Broadcast Seed-Sowers, of which the following is a specification.

My invention relates to an improvement in broadcast seed-sowers; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

My present invention is an improvement in the broadcast seed-sower described in Letters Patent of the United States, No. 367,830, granted to me August 9, 1887; and the object of my improvements are, first, to provide the seed-disk with a device whereby the seeds are fed evenly and regularly thereto; secondly, to simplify the construction of the force-feed seed-wheel and adapt the same to feed the seeds to the disk with increased regularity; and, third, to effect an economy and increased simplicity in the construction of the frame or case.

In the drawings, Figure 1 is an elevation of the broadcast seed-sower embodying my improvements. Fig. 2 is a vertical central longitudinal sectional view of the same. Fig. 3 is a transverse sectional view of the same. Fig. 4 is an inverted plan view, and Fig. 5 is a detail perspective view, of the centrifugal seed-wheel.

A represents a box or case of suitable size and dimensions, to the upper side of which is directly attached a hopper, B, the lower side of which hopper is inclined, as shown.

C represents a bottomless sack, the lower edge of which is attached to the upper edge of the hopper. The said sack is adapted to receive a quantity of seeds and feed them to the hopper.

D represents a strap, which is attached to opposite corners of the front and rear sides of the box or case, and is adapted to pass over the shoulders of the operator, and thereby suspend the seed-sowing machine. In the bottom of the hopper is a discharge-opening, E.

F represents a transverse shaft, which is arranged under the discharge-opening of the hopper, extends through the sides of the box

or case, and is journaled in bearings formed in plates or castings G, which are screwed to the outer sides of the box or case. To one end of said shaft is rigidly secured a crank, H, by means of which the shaft may be rotated, and to the opposite ends thereof is rigidly secured a spur-wheel, I.

K represents a circular case, which depends from the bottom of the hopper and communicates with the discharge-opening thereof, and is provided on its rear side with a discharge-opening, L. The said case is formed of two sections or castings, M, which are provided on one end with lugs or ears N, bearing against the bottom of the hopper and screwed thereto, and are provided at their meeting edges on their front and rear sides with ears O, through which rivets P extend. The ends of the said rivets are swaged on the outer sides of the said ears, so as to firmly secure the sections of the case together.

R represents a force-feed seed-wheel, which is cylindrical in shape, as shown, and is keyed to the center of the shaft F before the sections of the case are secured together. The said case incloses and conceals the said seed-wheel, and the latter is provided with peripheral oblique angular grooves S, which extend from end to end of the seed-wheel, and are adapted to cause the seeds to move toward the center of the seed-wheel when the latter is in rotation, so as to force the said seeds to and through the discharge-openings in the case.

T represents a cut-off slide, which enters an opening in one end of the case L, and is arranged between the seed-wheel and the discharge-opening in the hopper. An operating-lever, U, is centrally pivoted on the bottom of the hopper, and has its front end pivotally connected to the slide, and thereby adapted to actuate the latter, the rear or outer end of said lever forming an index or pointer which is adapted to sweep over a graduated scale, V, on the bottom of the hopper. By moving the said lever the slide may be so adjusted under the discharge-opening of the hopper as to close the same or partly open it to any desired extent, and thereby regulate the quantity of seeds fed to the seed-wheel, and thus enable the operator to sow any desired quantity of seeds to the acre.

W represents a transverse shaft, which is ar-

2 ranged at a suitable distance in front of the shaft F and on a slightly-lower plane, said shaft W extending through the sides of the case or frame A and bearing in openings in the plates or castings G. To one end of the said shaft W is keyed a spur-pinion, X, which engages the spur-wheel I, and near the center of the said shaft W is keyed a beveled gear-wheel, Y.

10 Z represents a vertical shaft, which is journaled near the front end of the box or frame A, and near one side of the same, and is provided at its upper end with a beveled pinion, A', that meshes with the wheel Y. To the lower

15 portion of said shaft Z is secured a concavo-convex seed-disk, *a*, which is provided with vertical radial wings or flanges *b*, which project beyond the edge of the seed-disk and have their upper sides curved forwardly in the direction in which the seed-disk rotates, as shown. At the center of the said seed-disk, on the upper side of the same, is formed a cup, *c*, which is concentric with the shaft Z, and arranged at a suitable distance from the same, and to

25 the said cup the inner ends of the radial wings are secured. In the sides of the cup, at suitable distances apart, are openings *d*, which communicate with the spaces between the inner ends of the wings.

30 B' represents an inclined spout, which has its upper end screwed to the bottom of the hopper, is arranged under the discharge opening of the case L, and is adapted to discharge the seeds which fall from the said case into the center cup of the seed-disk.

35 When the crank is turned, the shaft F causes the force-feed seed-wheel to rotate under the discharge opening in the hopper, so as to convey the seed therefrom to the spout, and the shafts W and Z are rotated at a much higher rate of speed than the shaft F. This causes the seed-disk *a* to whirl very rapidly, and the seeds which are supplied to the central cup of the seed-disk drop through the opening *d* there-

40 in onto the seed-disk between the radial wings, and said wings by centrifugal force serve to throw the said seeds to a distance from the machine and scatter them evenly over a considerable area. The upper curved edges of the

50 wings of the seed-disk catch the seeds as they are projected radially by the centrifugal action of the seed-disk and insure their being thrown

to a considerable distance from the machine. The central cup with which the seed-disk is provided causes the seed to be fed with increased regularity to said seed-disk, as before stated, enabling the latter to thereby distribute the seeds more evenly over the ground.

Having thus described my invention, I claim—

1. The horizontally-arranged concavo-convex whirling seed-disk having the central cup or receptacle in which the seeds are fed and provided with openings in its sides, and the radial wings or blades projecting from said cup beyond the radius of the disk and having their lower edges upwardly inclined, substantially as described.

2. The horizontally-arranged concavo-convex whirling seed-disk having the central perforated cup, and the radial wings projecting from the cup beyond the radius of the disk and having their lower edges upwardly inclined, in combination with devices to feed the seeds to the said central cup, substantially as described.

3. The combination of the rotating shaft F, having the force-feed seed-wheel, the case inclosing said seed-wheel and secured to the bottom of the hopper, the horizontally-arranged seed-disk *a*, geared to the shaft F, and having the central cup and the radial wings or blades, and the spout to convey the seeds from the case as they fall from the seed-wheel to the cap of disk *a*, substantially as described.

4. The combination, in a broadcast seed-sowing machine, of the case or frame A, the hopper on the upper side of the same, plates or castings G, secured to the sides of the frame or base, the transverse shafts F and W, journaled in said castings and geared together, said shaft F having the seed-wheels arranged under the discharge opening in the hopper, and the horizontally-arranged seed-disk *a*, adapted to whirl and geared to the shaft W, and the spout to convey seeds from the seed-wheel to the seed-disk, substantially as described.

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

WILLIAM L. MILLER.

Witnesses:

S. G. BALDWIN,
 WILL H. CHARLES.