(No Model.)

J. J. HAMILTON & J. W. HULL.

SEED SOWER.

No. 420,450. Patented Feb. 4, 1890.

Fig. 1.

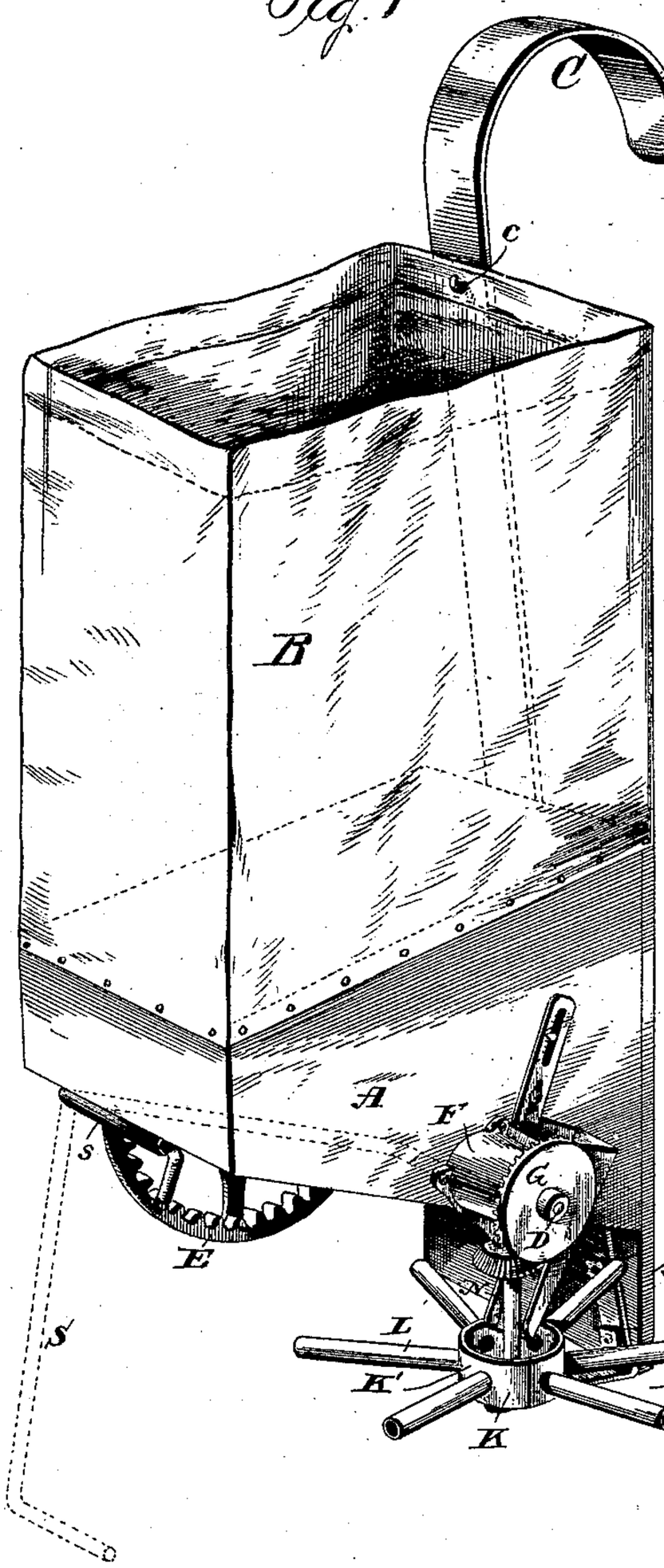


Fig. 2.

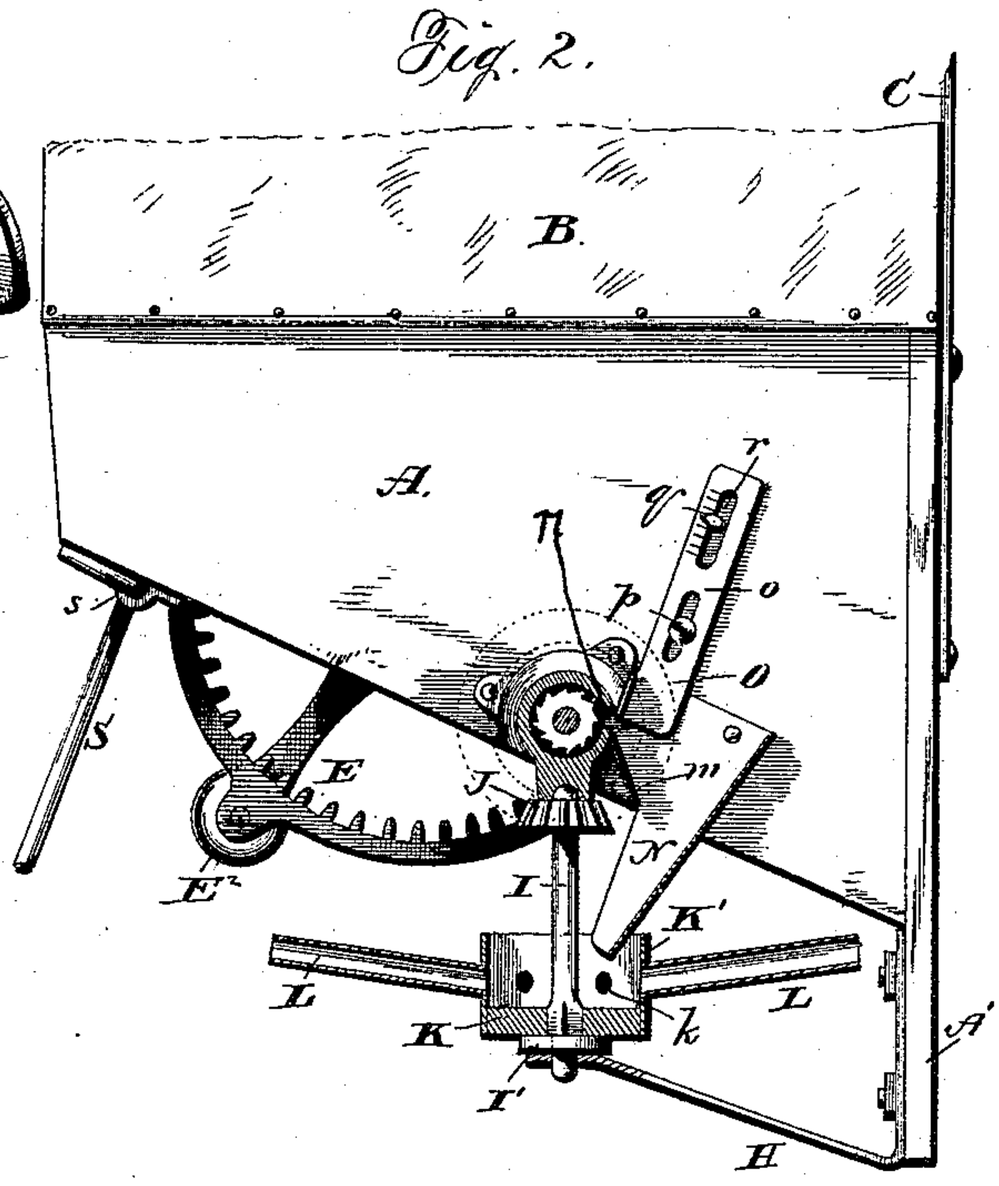


Fig. 3.

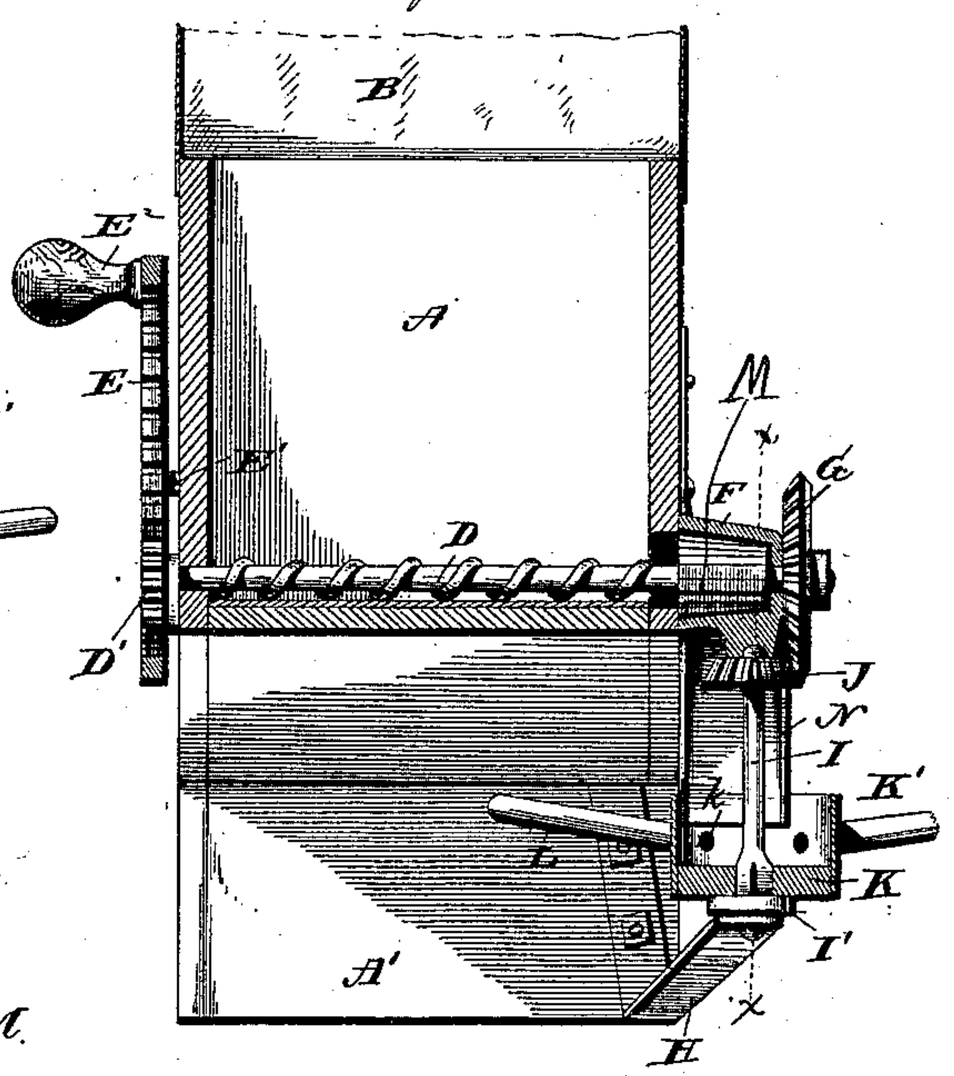
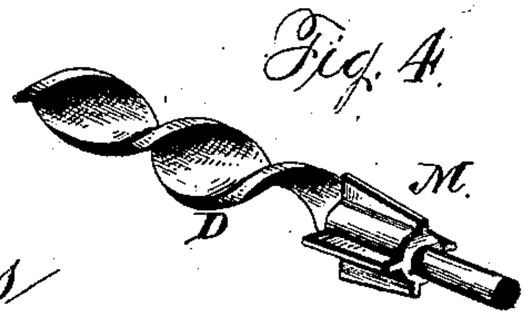


Fig. 4.



Witnesses
Chas. J. Williamson
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Inventors.
James J. Hamilton.
John W. Hull.
per Chas. H. Fowler.
Attorney.

UNITED STATES PATENT OFFICE.

JAMES J. HAMILTON AND JOHN W. HULL, OF NEW CASTLE, INDIANA.

SEED-SOWER.

SPECIFICATION forming part of Letters Patent No. 420,450, dated February 4, 1890.

Application filed July 29, 1889. Serial No. 319,047. (No model.)

To all whom it may concern:

Be it known that we, JAMES J. HAMILTON and JOHN W. HULL, citizens of the United States, residing at New Castle, in the county of Henry and State of Indiana, have invented certain new and useful Improvements in Seed-Sowers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in seed-sowers of that class called "hand broadcast-seeders;" and it has for its object to provide a simple, cheap, durable, and efficient device of this character with few parts, and those arranged in a manner to secure the best results.

The invention consists in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a seeder constructed in accordance with our invention. Fig. 2 is a side view, partly in section, of the same, with the canvas receiver broken away. Fig. 3 is a transverse section through the same, the line *x x* in this figure indicating the line on which the sectional part of Fig. 2 is taken. Fig. 4 is a detail of a portion of the conveyer employed for large seed.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a suitable box-hopper, shaped as shown, and provided with a downward extension A′.

B is a canvas or other suitable fabric secured to the upper edges of the box, as seen best in Fig. 1, and of suitable height to retain the seed.

C is a bar secured at its lower end to the rear side of the box and extending above the top thereof, as shown, and curved to conform to the shape of the shoulder of the operator, and is designed to rest over the shoulder to support the seeder.

D is a shaft suitably journaled at the lower end of the box, and carrying at one end a small pinion D′, which meshes with the interior gear of the main wheel E, which is journaled on a suitable stub-shaft E′ on the side of the box, and provided with a knob or handle E^2, by which it is designed to be operated.

Secured to the side of the box opposite the operating-wheel is a conical cup or housing F, in the outer wall of which the shaft D has a bearing, as shown in Fig. 3. Outside this cup the said shaft carries a bevel-pinion G, as shown.

Secured to the extension A′ of the box is an iron H, bent as shown, with a lateral portion, the outer end of which forms a bearing for the lower end of the vertical shaft I, said shaft carrying a collar I′ next to the said iron, the shaft extending upward, and at its upper end having a bearing in an enlargement of the cup F, as shown in Fig. 3. The upper end of this shaft carries a bevel-pinion J, which meshes with the bevel-pinion G, as shown. The lower end of this shaft I has a squared portion on which is fitted the distributer-wheel K, which has an upwardly-extending flange or rim K′, provided with holes *k*, which communicate with the tubes L, as shown, so that in the revolution of the wheel the seed therein will be forced out through the tubes by centrifugal action.

The shaft D is a worm-conveyer, as shown in Fig. 3, it being shown as adapted for small seed—such as grass—and in this instance consists of a small shaft with a wire wound therearound. When the device is to be used for the sowing of large seed, it is desirable to have a large conveyer, so in that case we employ the form illustrated in Fig. 4, which is a worm-shaft of larger diameter, it being simply placed in position in place of the shaft shown in Fig. 3.

The shaft D carries within the cup F a conical flanged wheel M, the flanges or wings of which serve to convey the seed into the feed-spout N through an opening in the side of the cup. The feed-spout N is attached to the side of the box A, and its lower end extends within the rim of the wheel K. This spout has an inclined portion *m*, which extends be-

neath the opening *n* in the cup F, as shown in Fig. 2, to prevent waste of the seed.

O is a seed regulator or gate secured to the side of the box, with its lower end projecting to the discharge-opening in the cup, and is made adjustable to regulate the amount of discharge, the arm *o* thereof being longitudinally slotted, as shown in Figs. 1 and 2, there being two slots, the one to receive a set-screw *p*, by which it is adjusted and held in its adjusted position, and the other slot is graduated, as shown at *q*, and moves over a pointer or index-hand *r*, so that the required amount may be determined and the feed or seed regulator set for that amount.

The bar C is provided near its upper end with a hook *c*, on which the canvas B may be hooked to hold it in its extended position.

S is an arm journaled in a bearing *s* on the bottom of the boss, and is designed to be turned down, as shown in dotted lines in Fig. 1, to support the box while it is being filled, being turned up out of the way, as also shown by dotted lines in the same figure, when the device is in use.

The operation is simple and apparent, and a description thereof is deemed unnecessary.

What we claim as new is—

1. The combination, with the box, the shaft D, the cup F, and the feed-spout N, of the vertical shaft I, supported at its lower end on a support attached to an extension of the box, the distributer-wheel K, carried thereby, the bevel-pinion J on the vertical shaft, and the bevel-pinion G on the shaft D, meshing therewith, substantially as set forth.

2. The combination, with the box, the cup having side opening, the distributer-wheel, and means for operating the same, of the spout having an inclined portion *m* beneath the discharge-opening in the cup, and extending in an opposite direction to the incline of the spout N, substantially as and for the purpose specified.

3. The combination, with the box and the support H, secured to an extension thereof, of the vertical shaft having a bearing at its lower end in said support, the distributer-wheel carried by the said shaft, and the cup on the box formed with a bearing for the upper end of said shaft, as set forth.

4. The combination, with the box and the iron H, secured to an extension thereof, of the cup on the box formed with an enlargement, the vertical shaft having bearings in said iron and enlargement and having a squared portion, the distributer-wheel on said squared portion, the shaft D, the bevel-pinion thereon, and the bevel-pinion on the vertical shaft, substantially as and for the purpose specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

JAMES J. HAMILTON.
JOHN W. HULL.

Witnesses:
JAS. A. HAMILTON,
LEVIN SWIGGETT.