

J. F. WINCHELL.
Seeding-Machines.

No. 155,562.

Patented Sept. 29, 1874.

Fig. 1.

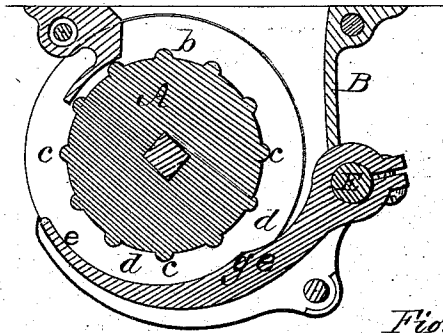


Fig. 2.

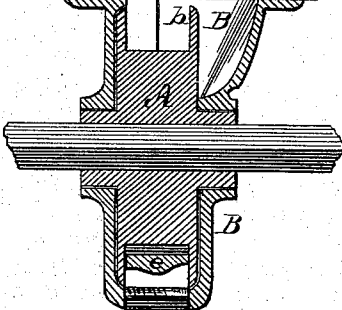


Fig. 3.

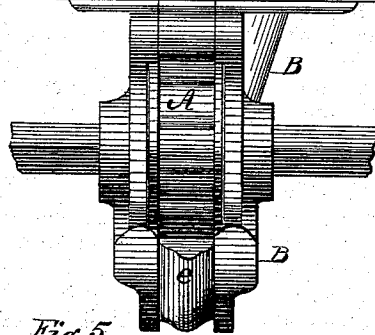


Fig. 4.

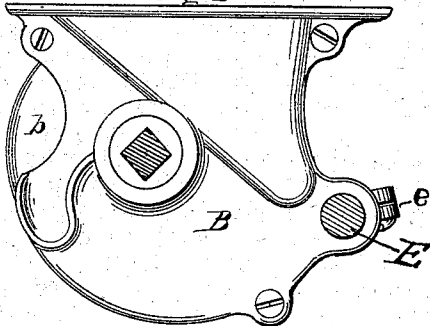
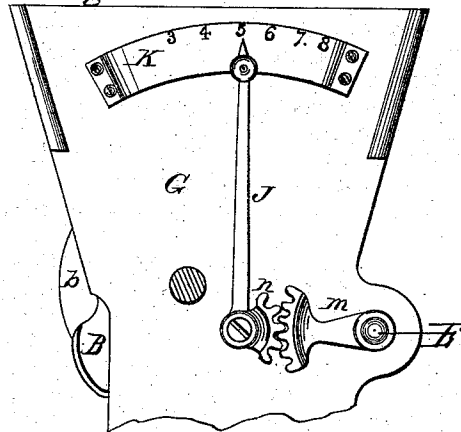


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES F. WINCHELL, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **155,562**, dated September 29, 1874; application filed May 19, 1874.

To all whom it may concern:

Be it known that I, JAMES F. WINCHELL, of city of Springfield, in the county of Clark and State of Ohio, have invented certain Improvements in Seeding-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention consists in mounting a feed-wheel in a case or cup of such construction that the space between the feeding-edge or periphery of the wheel and the interior of the cup may be varied at will, in order to vary the rate of feed without changing the speed of the wheel.

Figure 1 is a vertical central section through the center of my feeding devices; Fig. 2, a transverse vertical section through the center of the same; Fig. 3, a rear elevation of the same; Fig. 4, a side elevation of the same; Fig. 5, an end view of the seed-hopper, showing the adjusting mechanism and the reversible grass-seed hopper.

A represents the feed-wheel, made of a circular form, with flat sides, and a square groove around its entire edge or periphery, the sides of the groove or recess being formed by the radial flanges or rims *b*, extending outward from the body of the wheel. The face of the wheel at the bottom of the circumferential groove is provided with transverse ribs or teeth *c*, to assist in feeding the grain. This feed-wheel is substantially the same in form as others now in use, and of itself forms no part of my invention, which relates to the case or cup.

I consider the wheel above described the most desirable for use in my cup; but wheels of other forms may be used. For example, wheels having their grooves of a semicircular or *V* form in cross-section, and with or without the transverse ribs or teeth.

B represents my cup or case, in which the wheel is mounted in a vertical position. This cup is made of such form as to inclose and support the wheel, and has its top made of a flaring or hopper-like form, as usual, to receive the grain, and guide it down against the front edge of the wheel. The sides of the cup fit closely to the sides of the wheel, but a space or passage, *d*, exists in front of and under the edge of the wheel, as usual, to permit the escape of the grain, which is carried down through

this space by the edge of the wheel, and discharged at the rear through an opening in the case or cup, in the same manner as in all feeders of this class. The amount of grain discharged at any given speed of the wheel depends upon the size of the outlet space or passage *d*. In order therefore to permit the rate of feed to be increased or diminished without changing the speed of the wheel, I make the front and bottom portion, *e*, of the case—or, in other words, that portion of the case opposite the lower and front edge of the wheel—movable, so that the space *d* between it and the face or edge of the wheel may be increased or diminished at will. This adjustment of the edge of the case may be made in a variety of ways. In the drawings, I have made the sides of the case or cup flat, and pivoted the movable part or section *e* between them, as shown. The pivot is at the front upper end of the movable section or gate, whichever it may be termed, and is a rock-shaft, *E*, extending the entire length of the machine, and giving support to the entire series of sections *e*, so that by turning the shaft they will all be adjusted alike. By turning the shaft, the section or gate may be thrown up toward or down away from the feed-wheel, and thus the feed-passage *d* varied in size, and the rate of feed controlled with great nicety. The gate or section *e* has its upper face provided with a raised point or incline, *g*, which always stands closer to the edge of the feed-wheel than any other portion of the tongue. This incline or rise serves as a gage-point or cut-off, and is, in fact, the part which controls the feed. The parts are so shaped that the feed passage or space *d* decreases in its vertical width until it reaches the point *g*, and then increases again in width from that point to rear, in order to give the grain a free escape or clearance after it passes the gage-point. In the present instance the gate or section *e* is arranged to swing up in the grooved edge of the feed-wheel between the flanges or rims. This may or may not be the case, as desired. The rock-shaft *E*, on which the section or gate is mounted, extends out through the end of the grain-hopper *G* of the machine, and has secured to its end a toothed segment, *m*, which gears into a smaller segment, *n*, attached to a pivoted lever, *J*, on the end of the hopper, so

that by moving lever J the section or gate may be adjusted as desired. To the end of the hopper, under or opposite the end of the lever J, I secure a graduated plate or scale, K, serving as a guide by which to set the lever, in order to have the machine sow any given amount to the acre. This plate is arranged in such manner that there is a space under its edge, and the lever J is provided with a thumb-screw and a clip, which engages with the edge of the plate, so that by turning the screw the lever may be locked fast, and the section or gate *e* thus held from moving.

As before stated, the main feature of my invention consists in making the grain space or passage *d* between the case and the edge of the wheel variable in size. This may be accomplished in a great variety of ways; and I do not desire to limit myself to the precise construction and arrangement herein shown and described. It is obvious that instead of having the section or gate swing from a center, as shown, it may be arranged to slide to and from the wheel, and that any suitable devices may be used for giving it the required movement. It is also obvious that the movable portion of the case may be varied in form, as desired, and that instead of simply making the section movable, the whole lower portion of the case or cup may be made in one piece, and arranged to move. The form of the cup and the movable portion will depend somewhat upon the form of the wheel, which latter may be varied, as desired, provided the feeding is always done by its edge or periphery. The form of wheel shown is, however, considered the best, as its face and flanges afford a very large moving or carrying surface to feed the grain.

By constructing and arranging the parts substantially as described and shown, I produce a feed which is cheap and simple, which is cer-

tain and uniform in its operation, which permits the rate of feed to be increased and diminished to any required extent instantly, and without changing the speed of the feed-wheel, and which is adapted equally well for both wheat and oats.

Instead of making the case adjustable, the case may be made solid, and the feed-wheel adjusted therein, but not to advantage.

Having described my invention, what I claim is—

1. A feed for grain-drills, consisting of a rotating wheel and a case for the same, constructed to operate substantially as described, whereby the space between the periphery of the wheel and the case may be varied at will, to regulate the feed, as set forth.

2. In combination with a feed-cup and a feed-wheel mounted therein, substantially as described, the adjustable gate or section *e*, located so as to form the bottom of the case, over which the grain is fed by the wheel, in the manner set forth.

3. The adjustable gate or section *e*, provided with the projection *g*, arranged in relation to the wheel, substantially as described, whereby the space at that point through which the grain is fed is made narrower than at any point in rear of the same, as set forth.

4. In combination with the rock-shaft E, having the series of gates or sections *e* attached thereto, and provided with the segmental arm *m*, the index-lever J, provided with its segmental arm *n*, and a clamping device for securing it in position, whereby the feeding capacity of the machine may be adjusted and fixed as desired, substantially as set forth.

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