

No. 811,203.

PATENTED JAN. 30, 1906.

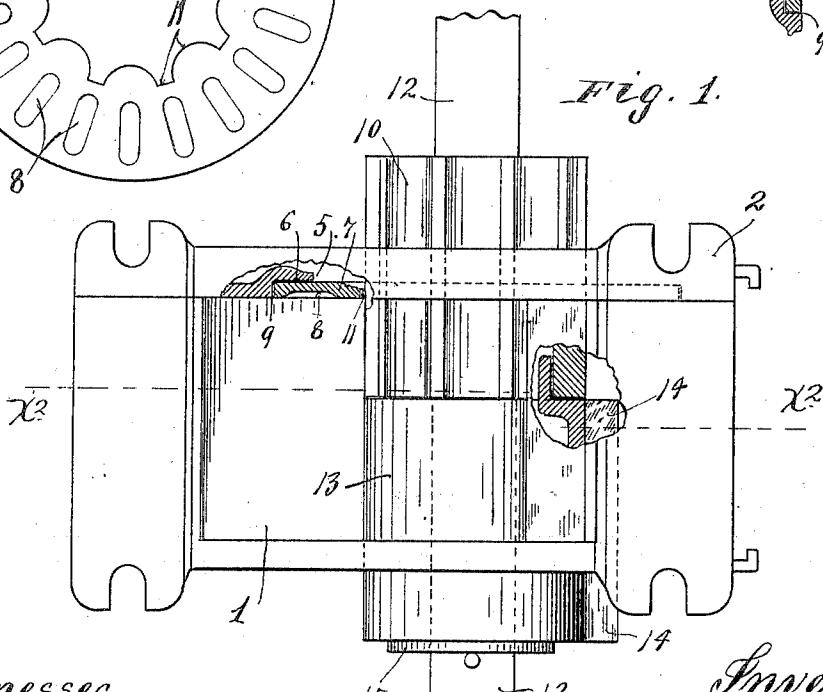
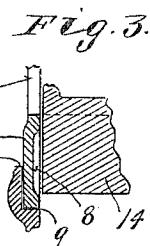
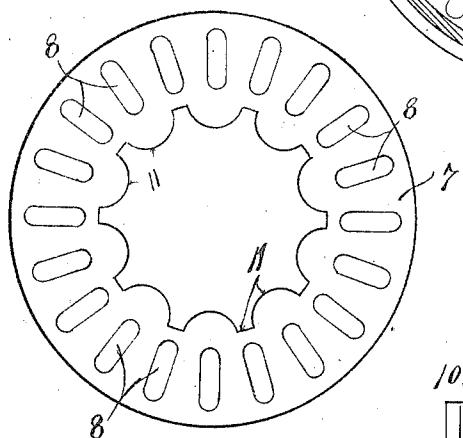
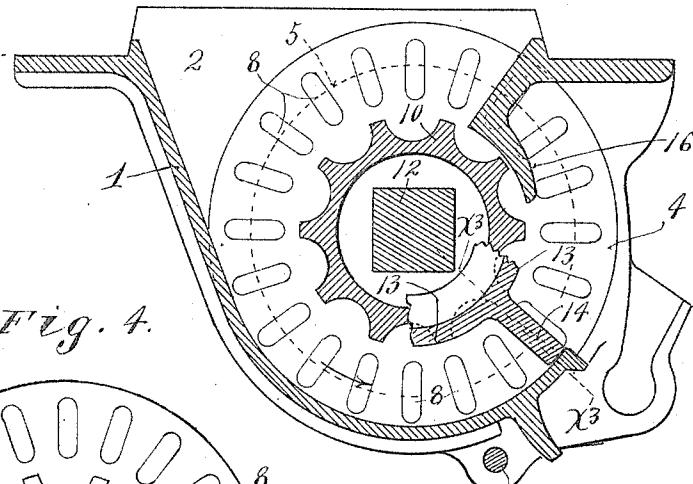
S. E. DAVIS.

FEEDING DEVICE FOR SEEDERS OR DRILLS.

APPLICATION FILED DEG. 1, 1905.

WEDNESDAY, JULY 1, 1863.

Fig. 2.



Witnesses.
a. K. Opsahl.
E. W. Jeppe森.

14 Inventor.
Spencer E. Davis.
By his Attorney:

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Inventor.
Spencer E. Davis.
By his Attorneys:
Williamson, Michael

UNITED STATES PATENT OFFICE.

SPENCER E. DAVIS, OF MINNEAPOLIS, MINNESOTA.

FEEDING DEVICE FOR SEEDERS OR DRILLS.

No. 811,203.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed December 1, 1905. Serial No. 289,782.

To all whom it may concern:

Be it known that I, SPENCER E. DAVIS, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Feeding Devices for Seeders or Drills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an improved feeding device for drills or seeders; and to this end it consists of the novel devices and combinations of devices herein-after described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view of a feeding device designed in accordance with my invention, some parts being broken away. Fig. 2 is a vertical section taken on the line $x^2 x^2$ of Fig.

25 1. Fig. 3 is a detail in vertical section on the line $x^3 x^3$ of Fig. 2; and Fig. 4 is a detail view showing the so-called "feed-ring," looking at the inner face thereof.

The seed-containing receptacle is in the form of a cup 1, having an approximately semicylindrical bottom and a separately-constructed side plate 2, and which side plate is rigidly secured to the body of the said cup by any suitable means—as, for instance, by 35 a rivet or bolt 3. The body of the cup is open, so that it may receive the seeds or grain from a suitable supply device, such as the seed-box of a drill or seeder. In its front portion, just above its semicylindrical bottom, the 40 cup is provided with a transversely-extended discharge-opening 4. The side plate 2 of the cup is formed with a large central opening 5, and surrounding this opening it is formed with a countersunk seat 6. Working closely 45 within the seat 6 and with its inner face flush with the inner surface of the cup side 2 is a so-called "feed-ring" or "rosette" 7, that is formed with radial seed-pockets 8 in its inner face. The peripheral portion of the feed-

50 ring 7 works down into a nearly semicircular groove 9, formed between the semicylindrical bottom of the cup and the detachable side 2, as best shown in Fig. 3. The seed-pockets 8 of the feed-ring 7 extend radially 55 with respect to the axis thereof, and at their ends and sides they join the inner face of said

feed-ring on curved lines and without abrupt shoulders. The importance of this construction will be considered later on. The outer extremities of the pockets 8 are so located that when they pass through the lower portion of the cup they will extend completely to the supporting-surface of the semi-cylindrical bottom of the said cup. This is important, as it causes the pockets to pick up seeds from the very bottom of the cup and, furthermore, extends the agitation which they produce in passing through the body of the seeds completely to the bottom of the cup.

A corrugated hub or cylinder having 70 grooves 10, frequently designated as a "feed-bucket," fits in a corresponding perforation 11 of the feed-ring 7 and is mounted to slide freely endwise through said ring while causing said ring to rotate therewith. The corrugated hub or bucket 10 is mounted to rotate and move endwise with the shaft 12, and which shaft receives rotary motion and endwise adjustments in the usual or in any suitable way.

Mounted on the shaft 12, adjacent to the hub 10, is a cut-off hub or follower 13, which is provided with a radially cut-off gate or rib 14. The hub 13 and its gate or rib 14 fit and slide through a correspondingly closely fitting seat 85 in the integrally-formed side of the cup and are thereby held against rotation, but are free for axial adjustments. Said hub 13 is loose on the shaft 12, but is held for endwise movements therewith by a collar 15. The 90 gate 14 inclines downward and forward, and its upper surface extends in a plane radiating approximately from the axis of the shaft 12 and intersecting the lower extremity of the discharge-opening 4 of the cup. The cup 95 above the opening 4 is provided with a short transversely-extended segmental web 16, which closely bears against the outer surface of the hubs 10 and 13 and prevents the seed or grain from running down and out through the opening 4 in the upper portion of the cup. The feed-ring, it will be understood, is rotated in the direction of the arrow marked thereon in Fig. 2. It is also evident that the quantity of seed or grain that will be fed 105 from the cup will depend very largely upon the distance which the hub 13 and cut-off gate 14 will move away from the feed-ring 7. In brief, by axial adjustments of the hubs 10 and 13 any desired quantity of seed or grain 110 may be fed or discharged from the cup.

As already noted, the seed-pockets 8 are of

such concave form, being free from shoulders and angles, that they will not cut or pinch the seeds or grain when the inner end of the cut-off gate 14 is adjusted closely to or 5 against the inner face of the feed-ring 7. It should be noted that the inner face of the feed-ring 7 is flat or approximately flat and smooth, except for the shallow pockets or depressions 8, and that the inner end of the cut- 10 off gate or rib 14 is so constructed that it may be forced against the said smooth face when only very small seeds are to be fed. In view of this construction, even when the said cut-off gate is moved into close engagement with the 15 smooth face of said feed-ring, the seeds will not be cracked or ground, as is the case where feed-rings are used which have ribs that project from their faces. In Fig. 3 the said cut-off gate 14 is shown as adjusted nearly, but 20 not quite, into contact with the smooth-faced portion of said disk. The concave form of the pockets 8 better adapt the pockets to discharge the seeds, especially small seeds. The radial pockets discharge the grain held there- 25 by very quickly after having passed the said gate. As said seed-pockets work to the very bottom of the cup, they not only better stir up the grain, but as they feed the grain or seeds from the very bottom of the cup they 30 do not tend to crowd the grain downward into the bottom of the cup. These shallow concave pockets are also better adapted to feed Texas oats or other bearded or fuzzy grains or seeds.

35 What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a cup having a curved bottom extending to a discharge-opening, of a feed-ring working in one side of 40 said cup and having in its inner face a plu-

rality of concave pockets that extend to the face of said ring on curved lines and without angles or shoulders, a corrugated feed-hub mounted to slide through, but to rotate with said feed-ring, and a non-rotary hub having 45 a cut-off gate or flange, coöperating with said feed-hub and feed-ring, substantially as described.

2. The combination with a cup having an approximately semicylindrical bottom ex- 50 tending to a discharge-opening, of a rotary feed-ring countersunk in one side thereof with its periphery working in a seat extending below the bottom of the cup, said feed-ring having in its inner face a plurality of radially-extended concave pockets formed on curved lines that join the face of said feed-ring without angles or shoulders, and the outer extremity of which pockets pass to the bottom of said cup, under a rotary motion of said 55 feed-ring, substantially as described.

3. The combination with a cup having a curved bottom extending to a discharge-opening, of a feed-ring working in one side of 60 said cup, said feed-ring having an approxi- 65 mately flat inner face formed with shallow depressed pockets, but smooth except for said pockets, a corrugated hub having a cut-off gate or flange coöperating with said feed-hub and feed-ring, the inner end of said gate 70 or flange being adapted for close coöperation with the smooth inner-faced portion of said feed-ring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

SPENCER E. DAVIS.

Witnesses:

MALIE HOEL,
F. D. MERCHANT.