No. 813,054. PATENTED FEB. 20, 1906.

A. F. MILLS.

ADJUSTABLE FEED FOR GRAIN DRILLS.

APPLICATION FILED AUG. 19, 1905.

2 SHEETS—SHEET 1.

Fig. 1

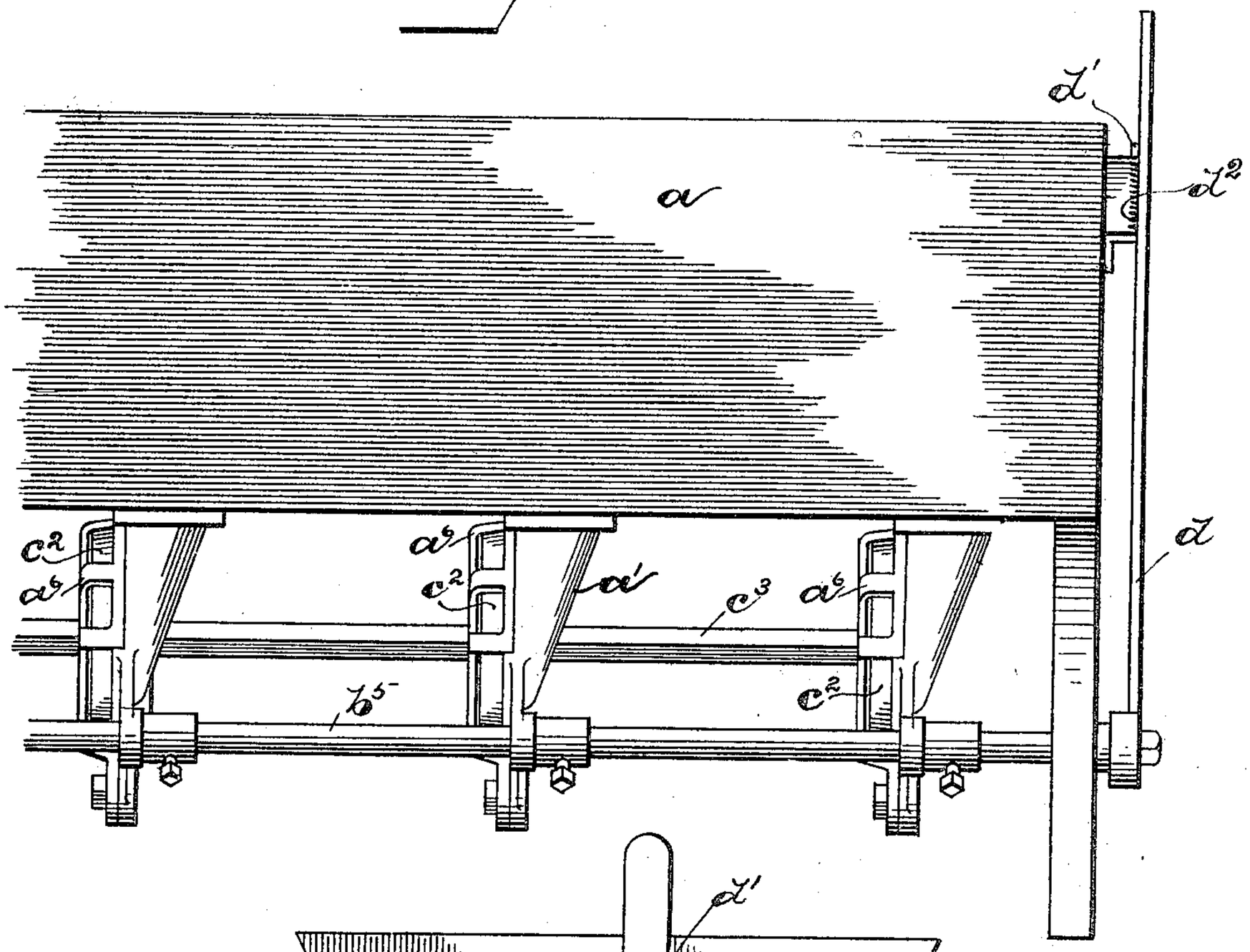
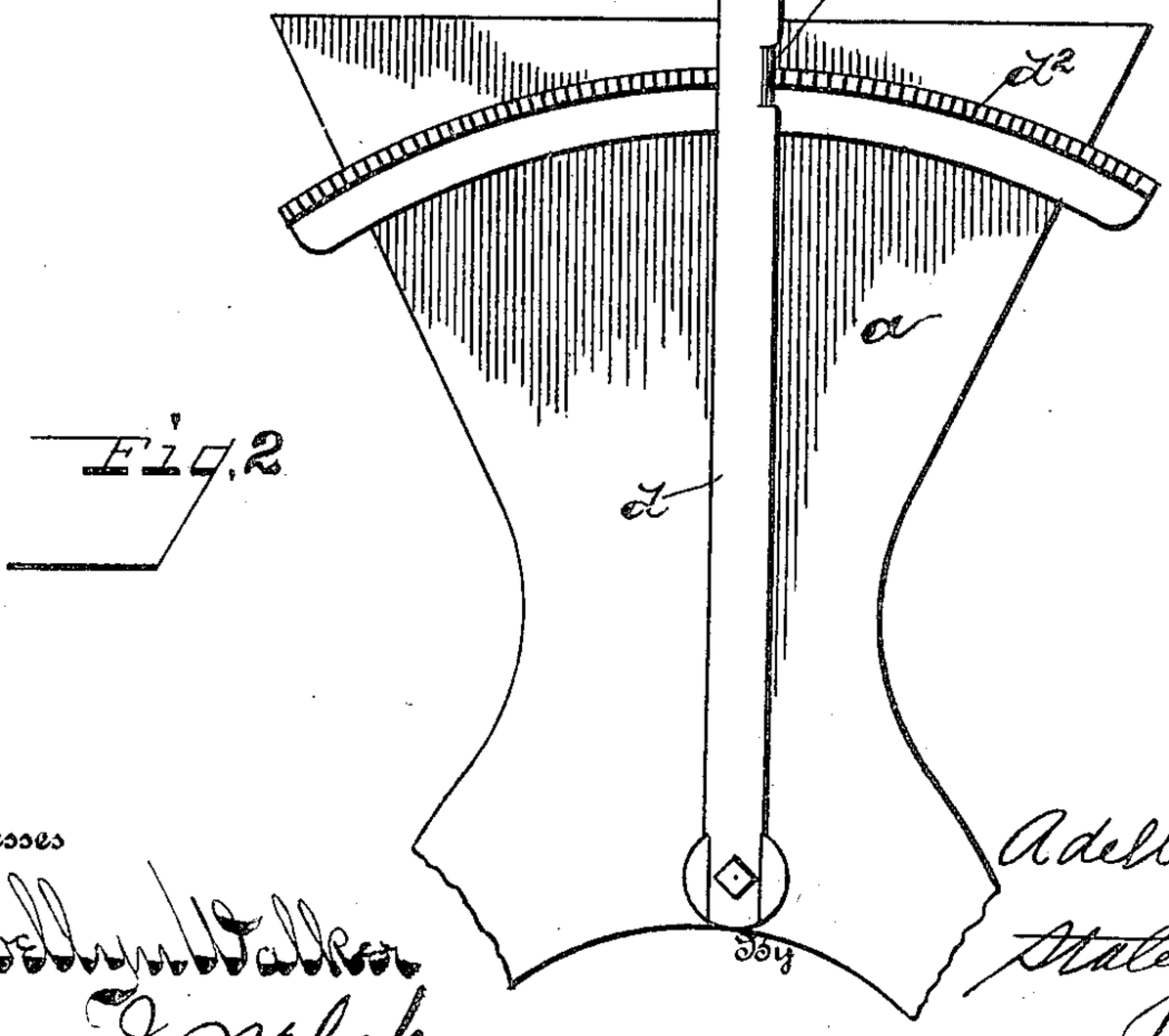


Fig. 2



Witnesses

J. Newell Mould Walker

Chas. F. Mich

Inventor

Adelbert F. Mills

Staley & Brownell

Attorneys.

No. 813,054. PATENTED FEB. 20, 1906.

A. F. MILLS.

ADJUSTABLE FEED FOR GRAIN DRILLS.

APPLICATION FILED AUG. 19, 1905.

2 SHEETS—SHEET 2.

Fig. 3.

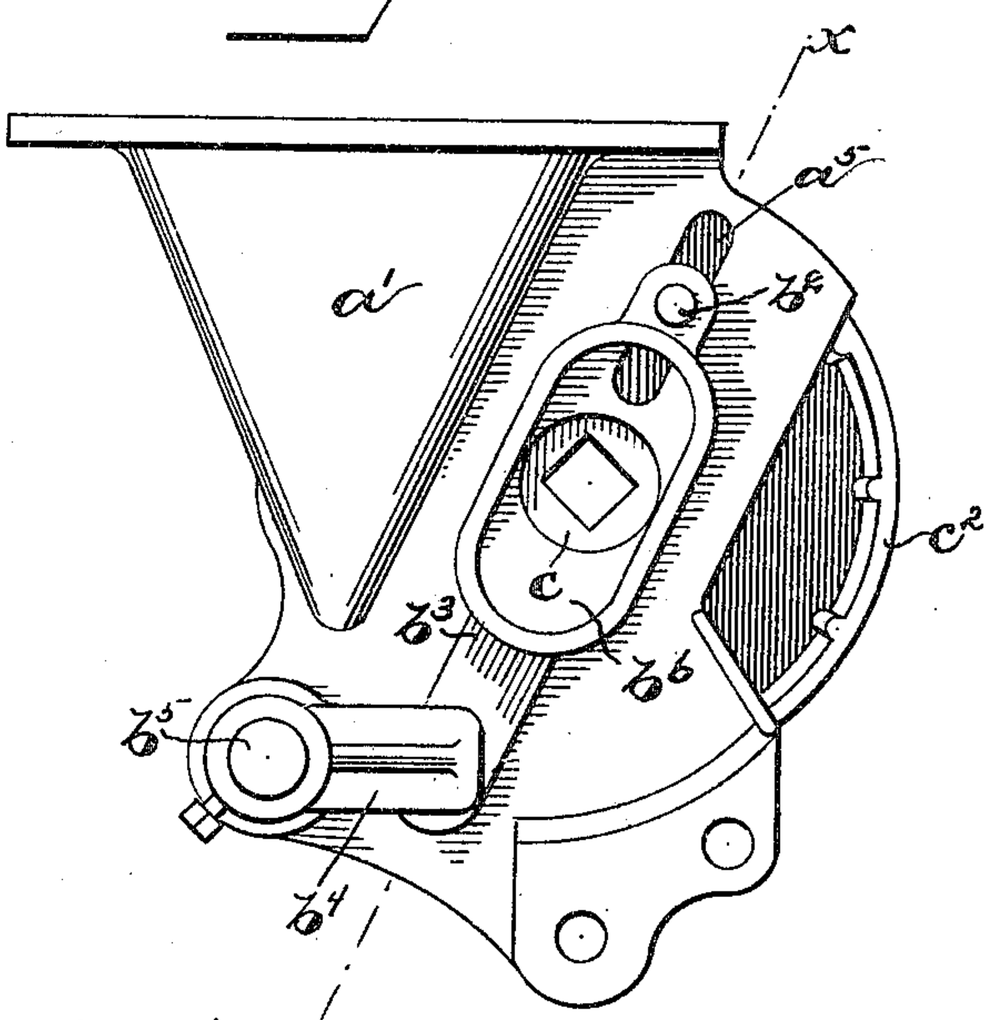


Fig. 4.

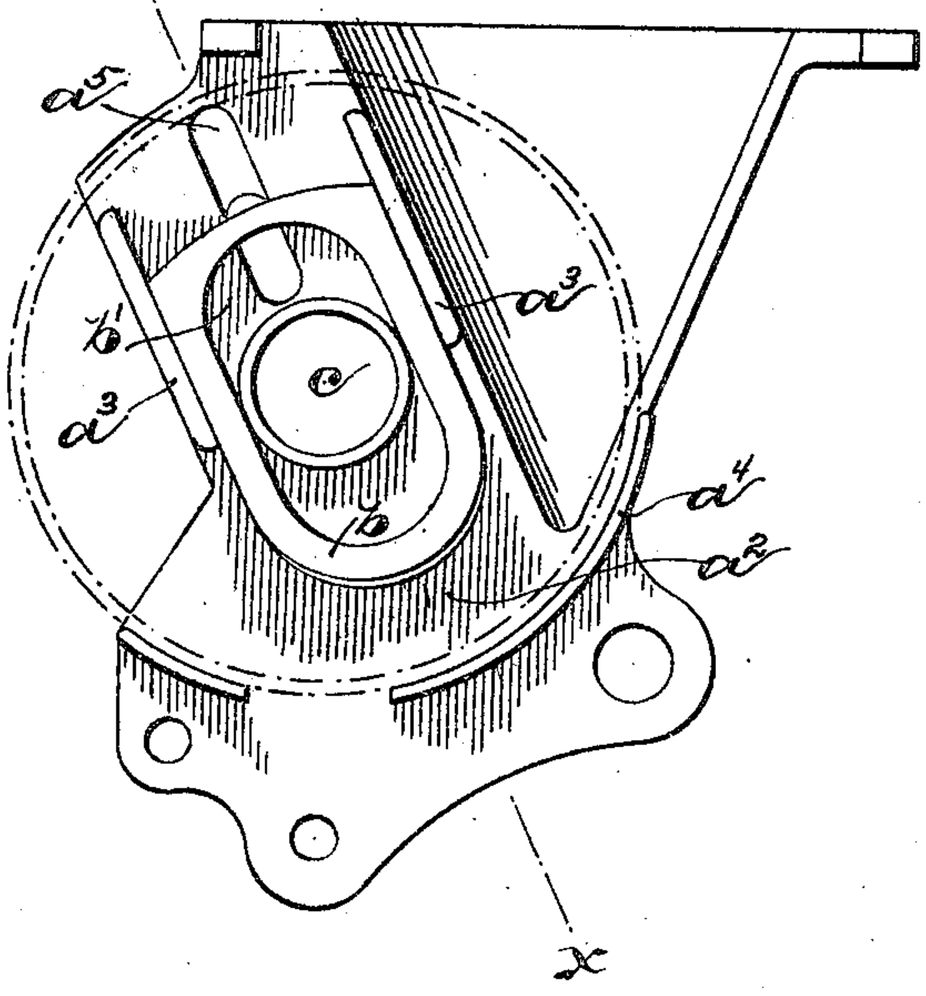
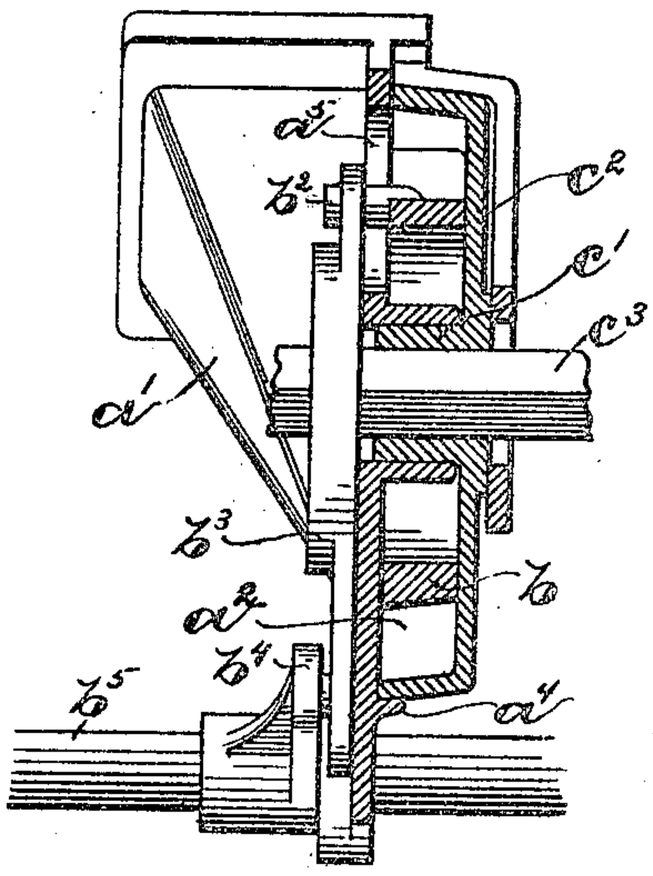


Fig 5.



Witnesses

J. Llewellyn Walker

Delia D. Welch

Inventor

Adelbert F. Mills

By Staley & Bowman.

Attorneys

UNITED STATES PATENT OFFICE.

ADELBERT F. MILLS, OF SHORTSVILLE, NEW YORK, ASSIGNOR TO AMERICAN SEEDING MACHINE COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

ADJUSTABLE FEED FOR GRAIN-DRILLS.

No. 813,054. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed August 19, 1905. Serial No. 274,830.

To all whom it may concern:

Be it known that I, ADELBERT F. MILLS, a citizen of the United States, residing at Shortsville, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Adjustable Feeds for Grain-Drills, of which the following is a specification.

My invention relates to seeding devices, and particularly to seed-feeding mechanism for grain-drills of the type known as "adjustable-throat" feed devices.

The object of the invention is to provide a device which will be simple, cheap, and durable, adapted to sow various predetermined quantities of grain by means of a variable cut-off in the throat or measuring-channel and, further, adapted to sow the grain in a uniform and accurate manner.

With the above primary and other incidental objects in view the invention consists of the construction and parts and combinations thereof or their equivalents hereinafter described, and set forth in the claims.

Referring to the drawings, Figure 1 is a rear elevation of a portion of a grain-drill hopper with several seed-feeding devices attached. Fig. 2 is an end view of the hopper, showing the controlling-lever for regulating the quantity of grain sown. Fig. 3 is a side elevation of the assembled feed device. Fig. 4 is an interior view of the casing with the distributing-wheel and other parts removed, and Fig. 5 is a sectional view on line $x\,x$ of Figs. 3 and 4.

In the drawings, a represents the hopper of the grain-drill, which contains the grain-supply. Attached to the under side of the hopper a and communicating therewith are a series of cups carrying feeding devices. Each of these devices consists of a cup-shaped casing a', which forms the main frame of the device and is so shaped as to conduct the grain to the measuring throat or channel a^2. Formed on the casing a' are guides a^3, between which slides an adjustable gate b. The casing a' has therein a central opening c, having a projecting flange. When in assembled position, the projecting hub c' of the feed-wheel c^2 extends within the opening c, as shown in Fig. 5. The feed-wheel c^2 is of the usual internal-flange-feed type, having on its interior periphery a series of ribs or "helpers." The feed-wheels c^2 of the respective devices are mounted on a common drive-shaft c^3. The feed-wheel c^2 is adapted to revolve with the edge of its flange in close proximity to the casing a', with the guides a^3 and the gate b extending within the periphery of the wheel. To guard against the loss of grain between the feed-wheel c^2 and the frame a', an auxiliary rib a^4, concentric with the flange of the wheel, is provided on the casing a'.

The adjustable gate b has a central opening b', through which extends the flange of the opening c. By a sliding movement of the gate b its relation with the flange of the distributing-wheel c^2 is varied, causing a corresponding variation in the cross-area of the measuring throat or channel.

Extending from the gate b through a slot a^5 in the casing a' is a stud b^2, which engages a link b^3 on the outside of the casing. The link b^3 is enlarged and provided with an opening b^6, through which extends the driving-shaft c^3. It is obvious that the link b^3 might be offset sufficient to avoid interference with the main shaft c, and thus extend only on one side thereof. At its lower end the link b^3 engages with a rock-arm b^4, secured upon a rock-shaft b^5, which shaft is common to all the feeding devices, and passes through suitable bearings in each of the casings a'. The oscillation of the shaft b^5 through the rock-arms b^4 and links b^3 will cause the adjustable gates b of the respective devices to move in unison and by their position regulate the discharge of grain. A lever d, as shown in Figs. 1 and 2, secured to the shaft b^5, provides means for oscillating said shaft and regulating the movement of the adjustable gates. The lever d is provided with a detent d', adapted to engage any one of a series of notches in a notched segment d^2, secured to the end of the hopper a. A member a^6, secured to the casing a, as shown in Fig. 1, closes the open side of said casing above the distributer-wheel and further assists in retaining said wheel in place.

It will be noted that the working end or measuring edge of the gate b is shaped to conform to the inner flange of the distributer-wheel, and as it moves vertically it maintains a relation parallel with the flange of said wheel.

By operating the adjustable gate b from a connection above the driving-shaft a greater

movement of the part is permitted than would otherwise result, thus adapting the device to a wide range of sowing. The device is adapted not only to sow small grains, but also seeds of larger size, including the seed of the red kidney-bean, the sowing of which has heretofore been impossible in a feed device of this type.

Having thus described my invention, I claim—

1. In a grain-feeding device, a grain-cup having straight converging sides, a distributer-wheel, a cut-off device, the working edge of which is parallel with the inner face of the flange of the distributer-wheel, and the contour of which is such as to form in combination with said flange a gradually-contracting measuring-channel, and means connected to said cut-off device above the driving-shaft of the distributer-wheel for moving said device to vary the area of the measuring-channel, substantially as specified.

2. In a grain-feeding device, a distributer-wheel, a grain-cup having straight converging sides, a sliding member within the periphery of the distributer-wheel and operated from above the axis thereof, forming with the flange of said distributer-wheel a rhomboidal-shaped measuring-channel parallel guides for said sliding member arranged at an inclination to the vertical, and means for moving said sliding member to vary the size of said measuring-channel while maintaining the rhomboidal form of said channel, substantially as specified.

3. In a grain-feeding device, a grain-cup having straight converging sides, a recessed distributer-wheel, a discharge-conduit leading from said grain-cup, a sliding member forming an adjustable wall of said conduit, parallel guides for said sliding member arranged at an inclination to the vertical, a rock-shaft, a connection from said rock-shaft to said movable member at a point above the axis of the distributer-wheel, whereby the area of the discharge-conduit may be regulated by the oscillation of said rock-shaft, substantially as specified.

4. In a grain-feeding device, a grain-cup, a recessed distributer-wheel, an adjustable gate forming with the flange of said distributer-wheel a measuring-channel, means for moving said adjustable gate, and a connection between said actuating means and said gate at a point above the axis of the distributer-wheel, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 15th day of August, A.D. 1905.

ADELBERT F. MILLS.

Witnesses:

H. H. HUNTINGTON,

F. S. BIDWELL.