

(No Model.)

W. D. ARNETT.  
SEEDING MACHINE.

No. 377,923.

Patented Feb. 14, 1888.

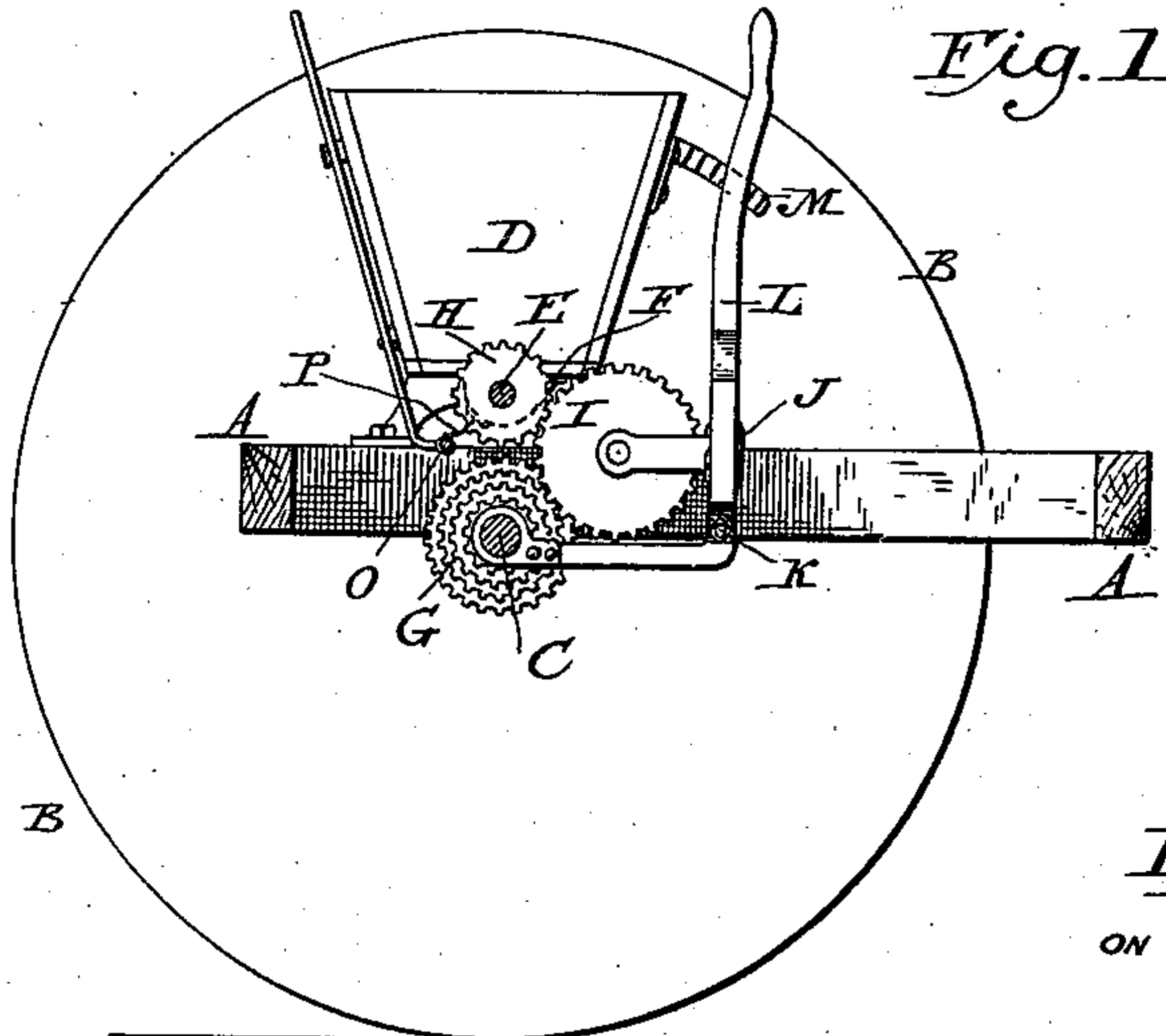


Fig. 1

Fig. 3.  
ON LINE X-X

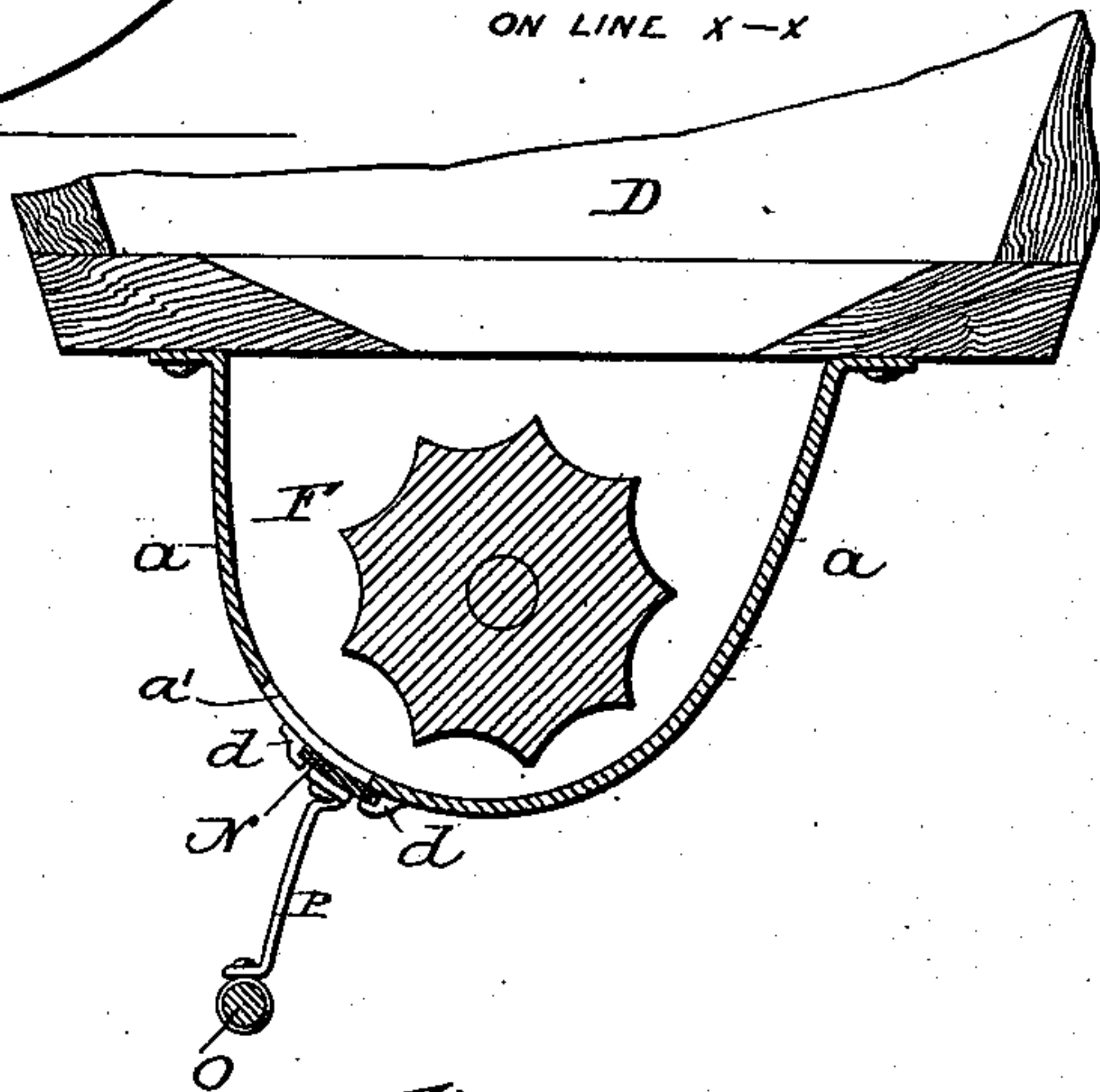


Fig. 2.

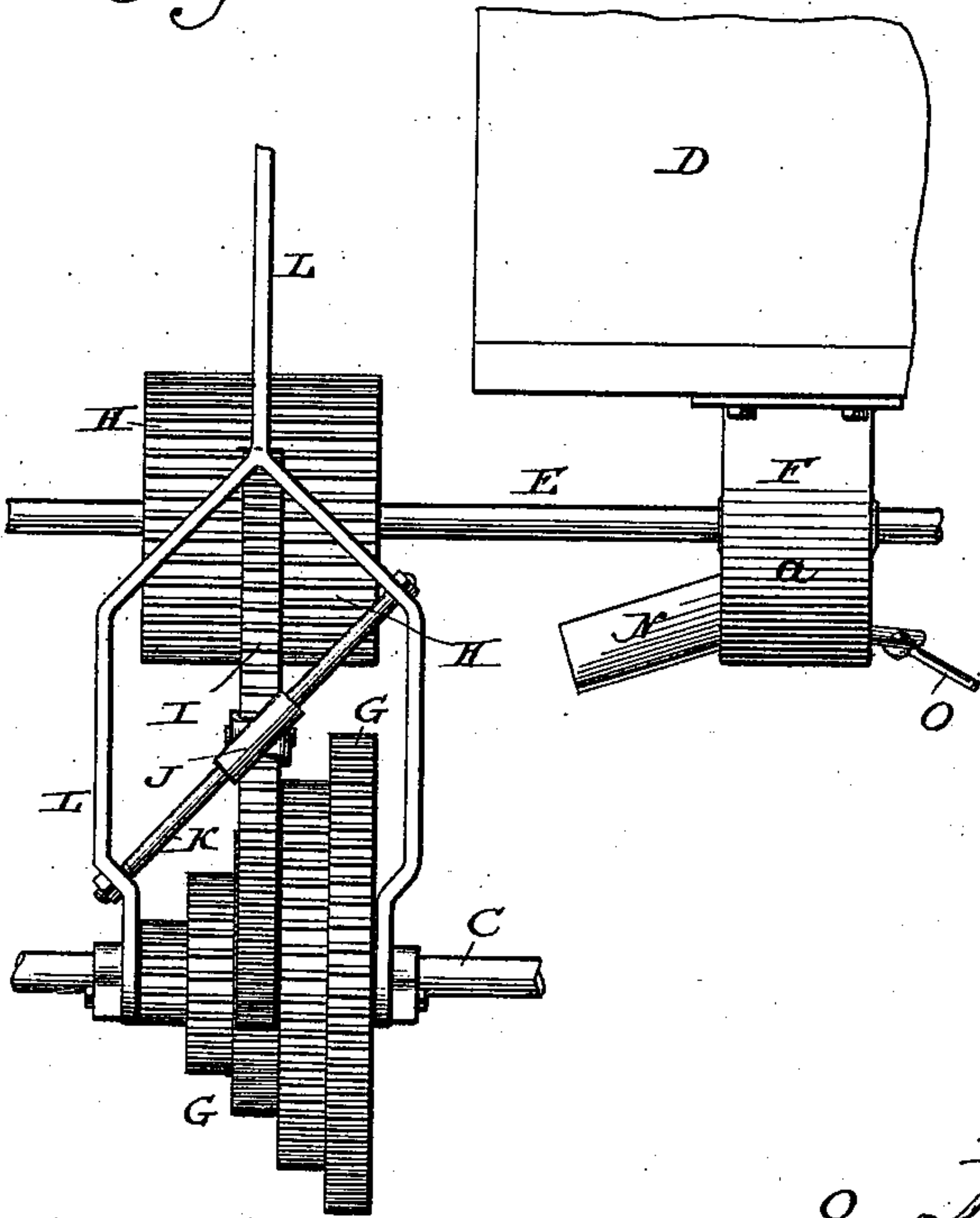
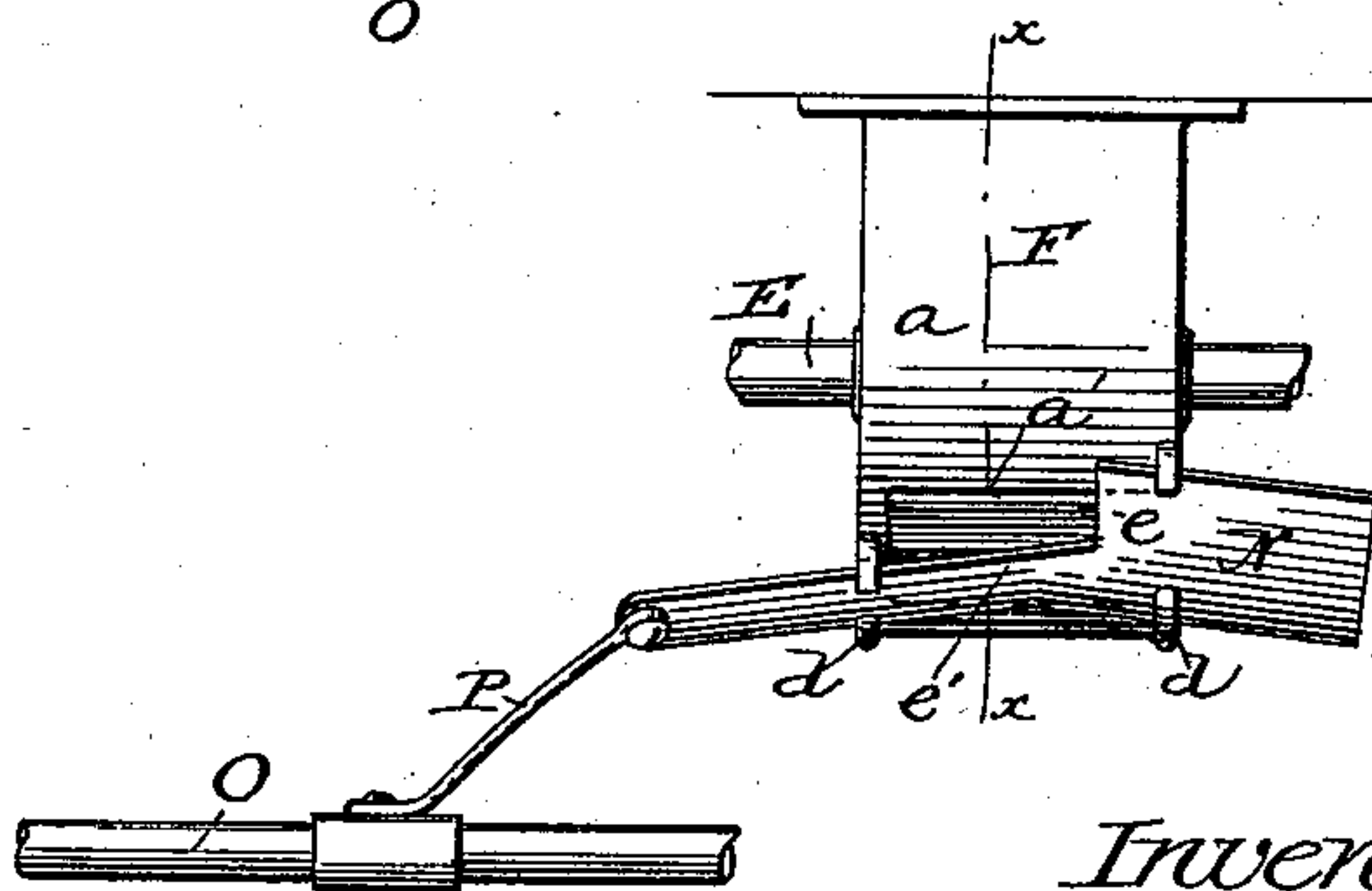


Fig. 4



Attest:

Sidney P. Hollingsworth  
F. T. Chapman.

Inventor:

W. D. Arnett  
By his Atty.  
Phil T. Dodge.



# UNITED STATES PATENT OFFICE.

WILLIAM D. ARNETT, OF DENVER, COLORADO.

## SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 377,923, dated February 14, 1888.

Application filed June 23, 1887. Serial No. 242,299. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM D. ARNETT, of Denver, in the county of Arapahoe and State of Colorado, have invented certain Improvements in Seeding-Machines, of which the following is a specification.

My invention has reference to that class of grain-drills and seeding-machines in which the seed is delivered in a continuous stream from a feed-cup by means of an internal fluted or corrugated roll revolving therein; and it relates, first, to an improved arrangement of gearing whereby the speed of the distributor-roll may be increased or diminished at will, and, second, to an improved form and arrangement of a feed-controlling gate by which the size of the delivery-opening may be modified without affecting the continuity of the discharge when the device is in action.

With the exception of the details pertaining to the driving-gear and distributing devices, the machine may be of any ordinary or approved construction, with the usual furrow-opening devices, seed-conductors, &c. As these parts are not essential to the understanding of my invention, they are omitted from the drawings.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section through the frame of a machine provided with my improvements, the parts foreign to the invention being omitted. Fig. 2 is a front elevation of the distributor-driving gear. Fig. 3 is a vertical cross-section through the distributor on the line *xx* of Fig. 4. Fig. 4 is a rear elevation of one of the distributor-cups.

Referring to the drawings, A represents the customary main frame of the machine; B, one of its ground-wheels; C, the main axle, by which the ground-wheels are carried; D, the usual hopper or grain-box, mounted on the frame; E, the distributor-shaft, extending longitudinally beneath the hopper; F, the feed-distributors.

The first part of my invention has reference to the means for imparting a variable motion from the main axle C to the distributor-shaft E, and is plainly illustrated in Figs. 1 and 2, in which G represents a cone-gear or a series of spur-gears, of different diameters, secured rigidly to the shaft side by side.

H represents a spur gear-wheel fixed on the

distributor-shaft, its face having a width equal to that of the cone-gear.

I represents an intermediate pinion, by which motion is transmitted from the cone-gear to gear H. This pinion is movable laterally, so that it may engage with either of the several series of teeth on the cone-gear, in order to transmit a high or a low speed to the gear H and the distributor-shaft, as occasion may require. This intermediate pinion is carried by arms on a sleeve, J, which latter is arranged to slide on an oblique rod or guide, K, mounted between the arms of a bifurcated hand-lever, L, the arms of which are sustained on or around the axle C. This mode of sustaining the intermediate pinion admits of its being shifted laterally for engagement with one portion or another of the cone-gear, as may be required.

In order to hold the hand-lever in position, and thus keep the pinion I in engagement, I provide a rack or locking-plate, M, fixed on the hopper or other part of the machine and adapted to engage the lever, as shown.

The essence of my invention resides in combining with the cone-gear and the plain gear the intermediate pinions and a lever for adjusting the same, and it is manifest that the details may be variously modified within the range of mechanical skill.

Instead of having the gear H constructed with a broad face, it may be arranged to slide endwise of the shaft, in order to retain its relation to the pinion I as the latter is moved laterally.

Passing, now, to the second part of my invention, attention is directed to Figs. 3 and 4, in which *a* represents the feed-cup, secured to the under side of the hopper, as usual, its top being open to receive the seed and its rear wall being provided with a delivery-opening, *a'*. The horizontal longitudinally-fluted feed-roll is arranged to revolve, as usual, within the feed cup or case *a*, provided with a seed-delivery opening, *a'*, at its rear side.

I provide on the rear side of the feed-cup a transversely-sliding gate, N, supported by lips *d*, or other suitable guides. The gate is formed, as shown, with an upright edge, *e*, which spans the feed-opening at one end, and with a horizontal edge, *e'*, which extends across the lower side of the feed-opening. When the



gate is moved to the right, the feed-opening is fully exposed and the device delivers the seed at the maximum rate. When, however, the gate is moved to the left, its vertical edge *e* diminishes the width of the feed-opening and the rate of delivery is correspondingly lessened.

The lower edge of the gate is made of curved or angular form, as plainly shown in Fig. 4, so that as it moves endwise it is raised at one end and lowered at the other, the effect of which is to give the edge *e'* an increasing departure from the horizontal; in other words, to place the edge *e'* at an increasing obliquity in relation to the flutes of the feed-roll.

It is customary in this class of devices to form the lower edge of the delivery-orifice in an inclined position, so that one rib of the feed-roll will commence to discharge before the next rib ceases its action, by which the delivery is rendered continuous instead of intermittent.

By constructing the gate so that the angle of the edge *e'* is changed as the gate opens and closes I secure the extension of the edge across the rib, although the opening may be materially reduced in width. Thus I am enabled to secure all the advantages of the oblique edge under all adjustments of the gate.

The essence of my invention consists in arranging the gate so that the edge which forms the lower wall of the delivery-opening will change its vertical angle as it is opened and closed, and it is manifest that the gate may be modified in form and the guiding and supporting devices modified at will provided this action is retained.

The machine will be provided, as usual, with a series of distributors arranged at suitable distances apart, and in order to operate their gates in unison I extend a shaft, *O*, across the machine and connect it by links *P* or other connections with the respective gates. The rod may be moved by hand or combined with a suitable adjusting-lever or other equivalent adjusting devices.

Having thus described my invention, what I claim is—

1. In a seeding-machine, the main axle and the cone-gear fastened thereon, in combination with the seeder-shaft and the elongated cylindrical gear thereon, the intermediate pinion, *I*, and the lever *L*, provided with an oblique guide, *K*, having a pinion support arranged to slide thereon.

2. In combination with the feed-cup and the fluted distributor-roll therein, the transversely-sliding gate *N*, forming the lower edge and one end of the delivery-orifice and adapted to change its angle in moving to and fro, as described, whereby the lower edge of the orifice is given an increasing obliquity as its width is diminished, and vice versa.

3. The feed-cup and the fluted distributor-roll therein, in combination with the angular transversely-sliding gate *N*, having its edges *e* and *e'* substantially as described.

In testimony whereof I hereunto set my hand, this 11th day of May, 1887, in the presence of two attesting witnesses.

WILLIAM D. ARNETT.

Witnesses:

DAVID P. HOWARD,  
GEO. C. NORRIS.