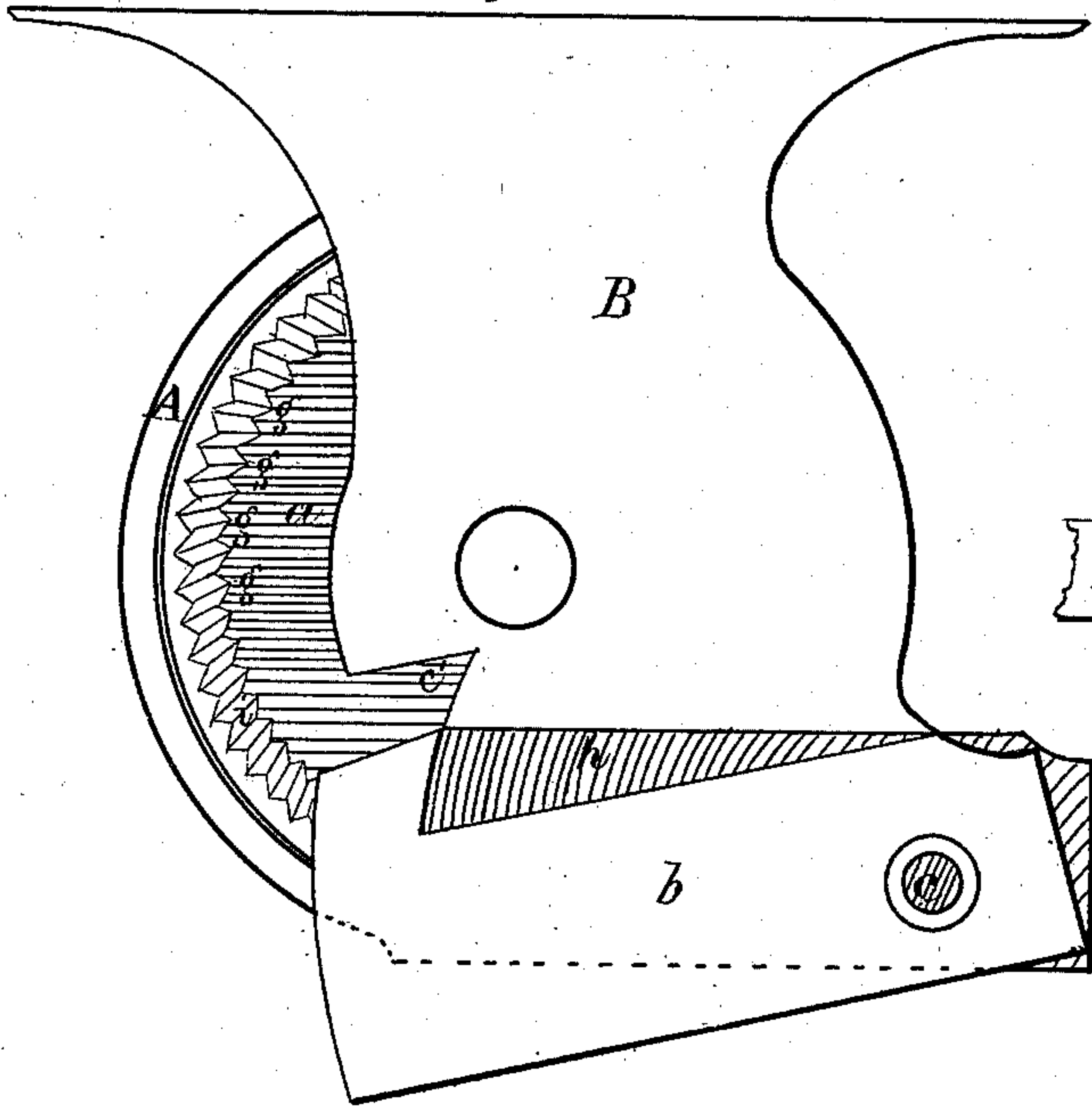


A. RUNYAN.  
Grain-Drill.

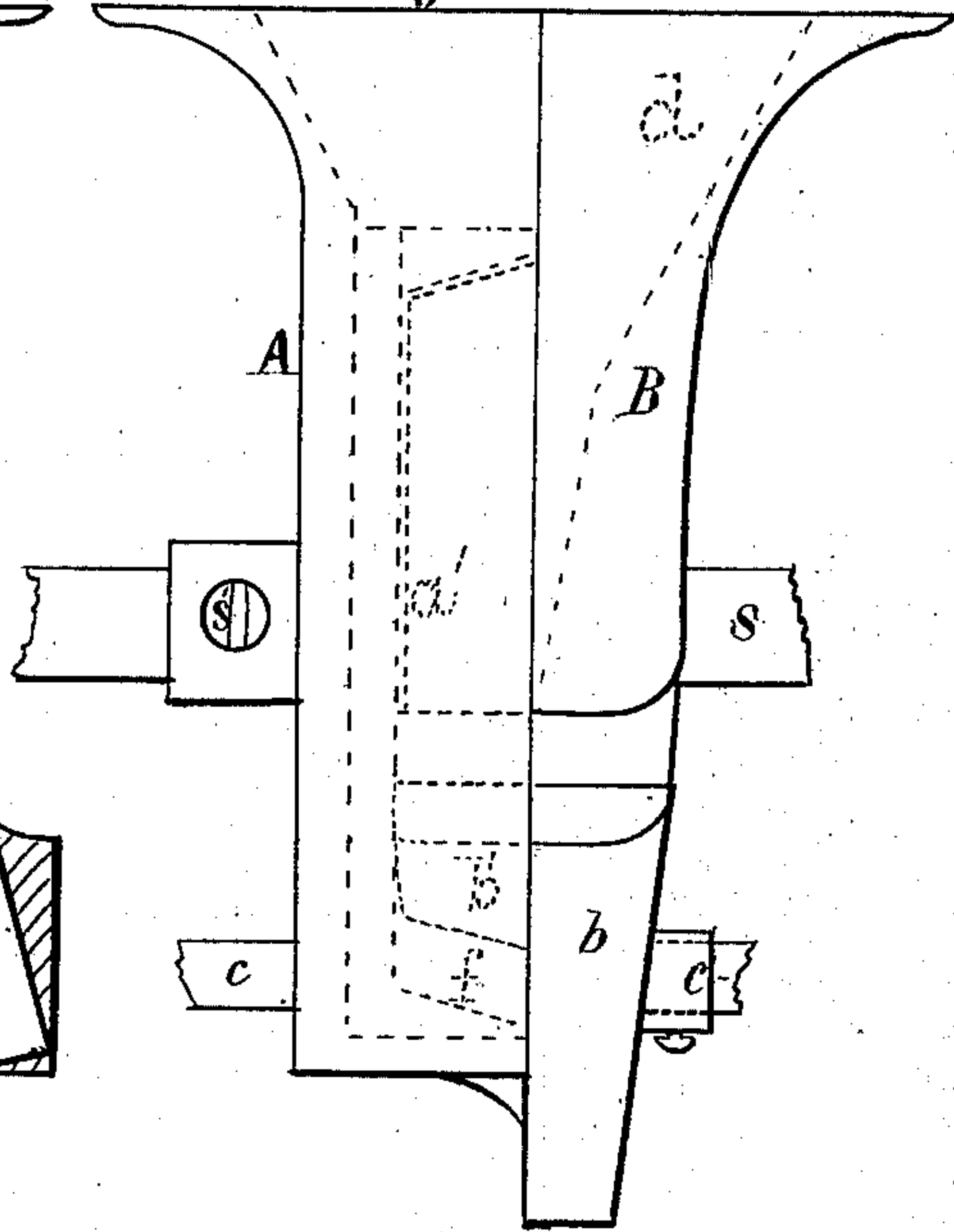
No. 198,047.

Patented Dec. 11, 1877.

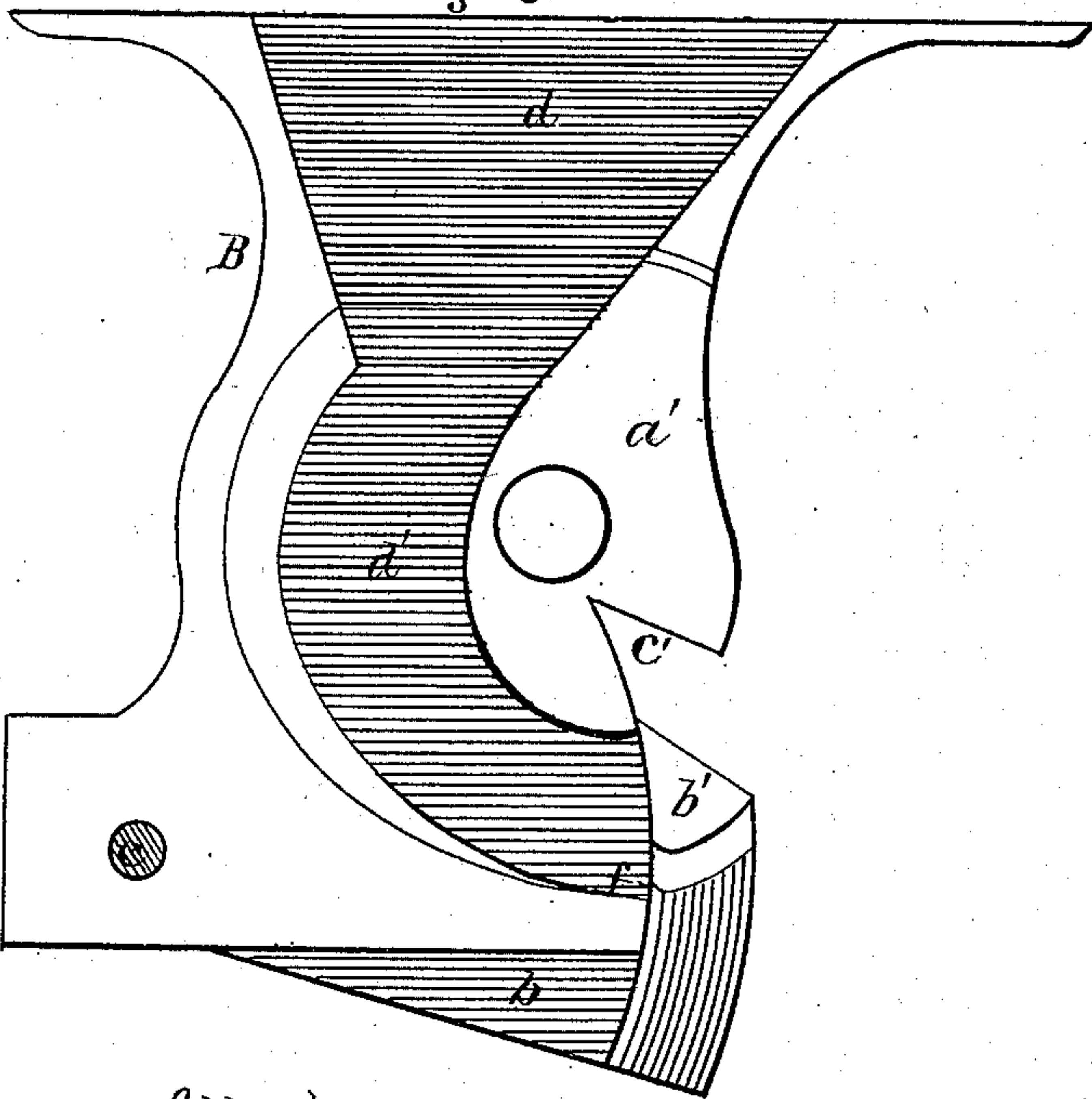
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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*By B. C. Converse,*

*Atty.*

*Attest.*

*W. Young*  
*J. P. Burnett*



# UNITED STATES PATENT OFFICE.

ALONZO RUNYAN, OF CLARKE COUNTY, OHIO.

## IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **198,047**, dated December 11, 1877; application filed March 17, 1875.

*To all whom it may concern:*

Be it known that I, ALONZO RUNYAN, of the county of Clarke and State of Ohio, have invented certain Improvements in Grain-Drills, of which the following is a specification:

My invention relates to the feed mechanism of grain-drills; and consists in a novel construction of the distributor, its object being to discharge the grain or seed in a regular and continuous manner from the largest to the smallest size, and in any quantity required, with minute exactness. The quantity discharged is regulated by a simple pivoted stop, which opens and closes the discharging-orifice. It is operated by a rod extending through the series of distributors under the hopper. At the end is affixed an indicator, which registers the quantity sown.

The distributor shell or cup is made in two parts, which are riveted together. The main part is circular in its general form, and contains the feed-wheel. The other half of the shell is cut away on one side of its axial part, and has a helical channel or semi-annular recess leading down from the hopper part into the cavity of the feed-wheel on one side of the feed-shaft, through which the seed is conveyed. A solid ellipse-shaped block, *a'*, on it, surrounds the shaft and projects into the cavity of the wheel to the bottom of the same, confining the seed to the channel. The block *a'* has a notch, *c'*, cut in its lower rear part entirely through it. The projecting gate or cut-off fits into this notch above the channel when the latch is pushed up into its place, leaving the discharging-orifice entirely open, and, as the latch is dropped, the orifice is closed by the cut-off as it approaches the inner surface of the wheel-flange. The wheel has but one flange on it, projecting toward the discharging side. This is grooved, the grooves running diagonally from the edge to the bottom of its concavity backward, so as to prevent cutting the grain as it is forced toward the issuing-point. The flange of the feed-wheel is beveled, being thinner at the edge, to allow the seed to roll out easily in discharging.

Figure 1 is a side elevation of my distributor, showing the issuing side. Fig. 2 is a rear view of the same, with feed and indicator shafts inserted. Fig. 3 is an inside view, in elevation,

of the side B, showing its hopper and feed-channel, also the inner end of the cut-off.

In Figs. 1 and 2, A is the circular part of the cup, which contains the feed-wheel *a*. B is the other half of the distributor-cup, to the lower rear part of which is pivoted the latch *b* by the rod *c*. This latch is made flat and thin, except at its free end, which is made in segmental form, being cut to fit the rear edge of B, which is semicircular at the part where the lower end of channel *d'* ends. A side lug, *b'*, on latch *b* projects into the cavity of wheel *a*, (being shaped to fit the slope of the flange,) which operates as a gate or cut-off to open and close the discharging-orifice *f*, as the rod *c*, Fig. 2, is partially rotated. The block part *a'* of B extending into the cavity of *a*, closes it entirely from the passage of the grain except through the helical channel *d'*. When the projection *b'* is dropped down to the flange *i* the cavity *a* is closed, except what is shown in Fig. 1 at the rear of B, left of figure. In this figure the diagonal grooves *g g* are shown on the inside of the flange *i* of wheel *a*. The wheel fits loosely in its shell A, its hub projecting through the latter, as seen in Fig. 3, feed-shaft *s* extending through it. It is secured to the feed-shaft by set-screw *s'*. Latch *b* is provided with a hub, through which the rod *c* extends. It is also secured on the rod in the same manner. In the dotted lines, Fig. 2, the vertical cross-sectional view of the wheel *a* may be seen, showing the relative position of the operative parts which regulate the discharge. A single intermediate gear-wheel is used to drive the feed-shaft from the hub-gear.

I am aware that a flanged feed-wheel is not new, and I do not claim it as my invention; but

What I claim is—

1. The distributor-cup, consisting of the two pieces A and B, the latter cut away at its lower part, *h*, and provided with a circular notch, *c'*, for the reception of latch *b* and its segmental lug *b'*, as shown and specified.

2. Latch *b*, pivoted at the rear lower part of side piece B at the point *c*, and provided with the projecting part *b'*, as and for the purpose hereinbefore set forth.

3. The abutting-block *a'* of part B for confining the grain to the channel *d'*, provided

with the notch *c'* for the reception of the free end of latch *b*, substantially as and for the purpose set forth.

4. In combination with the single-flanged wheel *a*, with diagonal grooves *g g* running backward on the inside of its flange, the abutting-block *a'* of part B, notch *c'*, and the segmental projection *b'* of latch *b* and rod or shaft C, to which it is connected and operated, substantially as herein set forth and described.

5. In a distributor for grain-drills, an ad-

justable feed, consisting of the inter-projecting part *a'* of the half-shell B, provided with a semicircular notch, *c'*, a horizontal latch, *b*, provided with a segmental lug, *b'*, projected into the cavity of grain-wheel *a*, having diagonal grooves *g g* in flange *i*, combined and operated substantially as set forth.

ALONZO RUNYAN.

Attest:

B. C. CONVERSE,  
LEMON POOL.