

J. ROBB.
Grain Drill.

No. 9,333.

Patented Oct. 12, 1852.

Fig. 1.

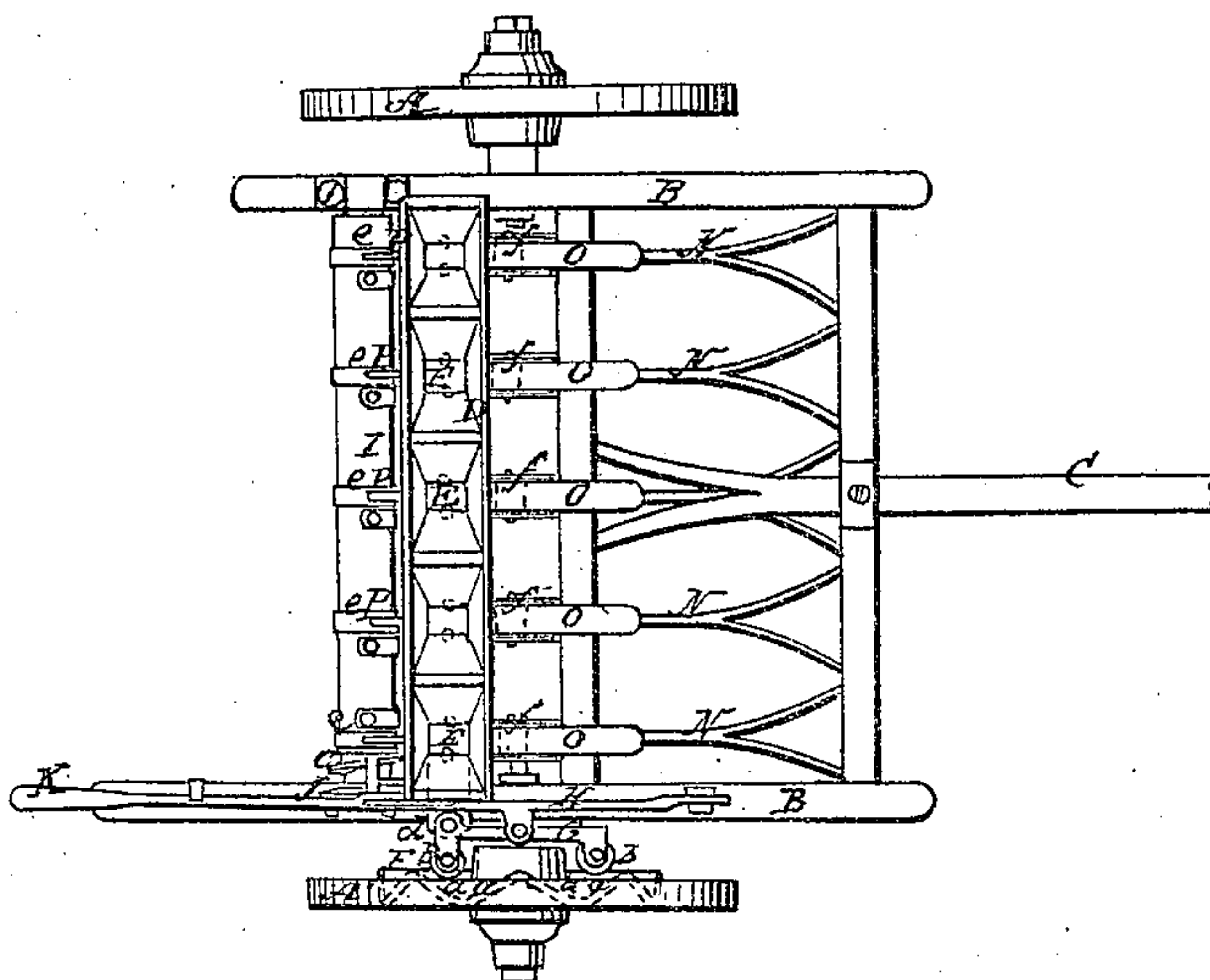


Fig. 2.

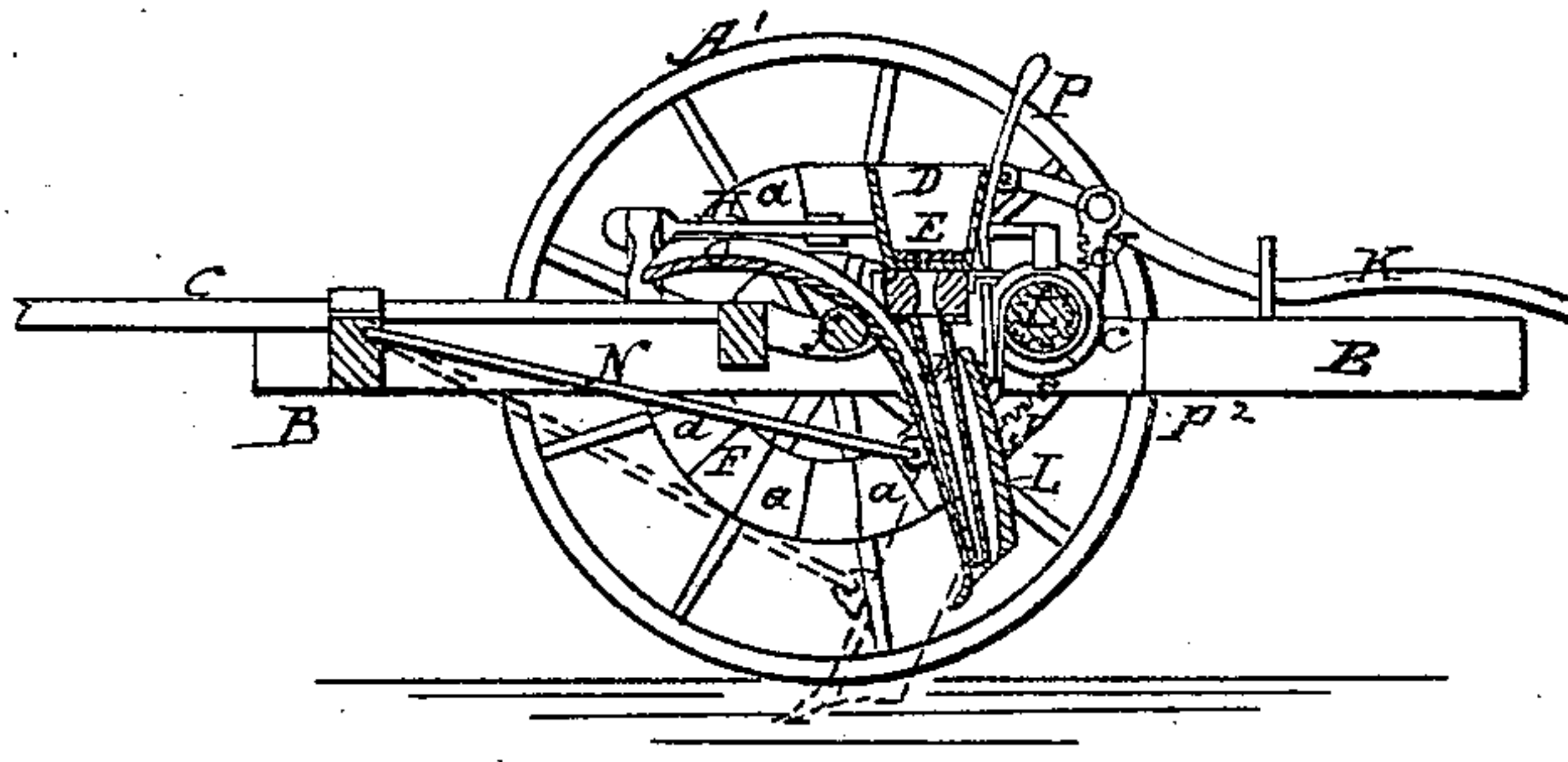
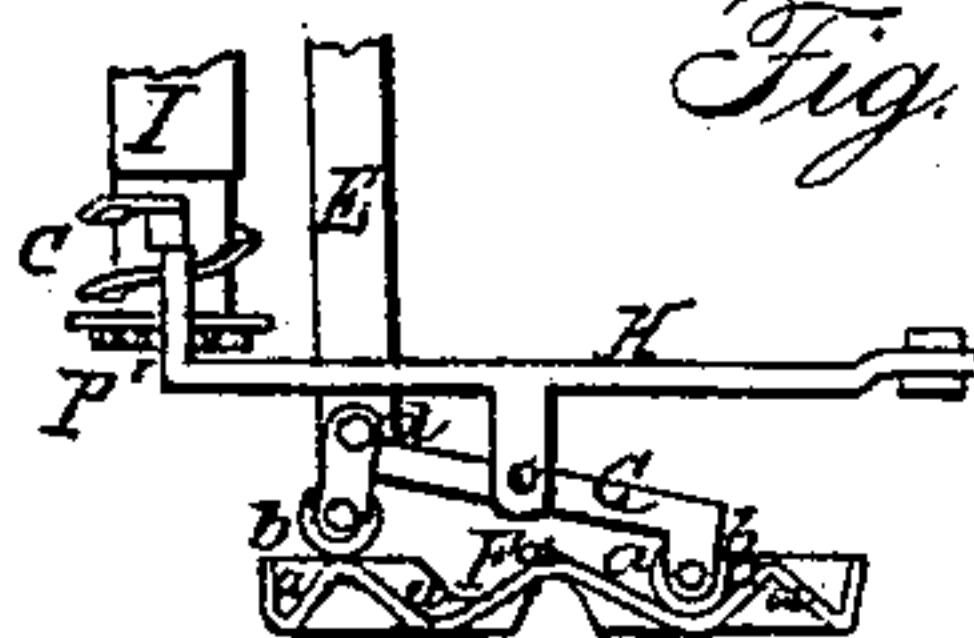


Fig. 3.



UNITED STATES PATENT OFFICE.

JAMES ROBB, OF LEWISTOWN, PENNSYLVANIA.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. 9,333, dated October 12, 1852.

To all whom it may concern:

Be it known that I, JAMES ROBB, of Lewistown, in the county of Mifflin and State of Pennsylvania, have invented certain new and useful Improvements in Seed-Drills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan or top view, the drill-teeth being raised. Fig. 2 is a vertical section, taken transversely of the seed-trough and looking toward the devices for operating the discharge-slide, the drill-teeth being represented as down in red and up in black lines; Fig. 3, a detached plan, exhibiting the undulated disk F and rollers *b b* for operating the discharge-slide.

The same letters of reference denote corresponding parts throughout the several figures.

A A' are the propelling and carrying wheels. B the frame, and C the draft-bar or tongue.

D is the seed-trough, made with compartments for the separate supply or feed of the seed through the several depositing-tubes, and provided with an ordinary admission and shut-off perforated slide, E, at the bottom, the said slide reciprocating, as usual, in a longitudinal direction of the trough, and being so operated by an undulated disk or serpentine cam-wheel, F, attached to the propelling-wheel A'. This undulated disk is formed of a continuity of double inclines, *a*, against which, when the feed-slide E is to be operated, rollers *b b*, connected to either extremity of a double vibratory arm or lever, G, press, the said double arm being attached at its one end by pin *d* to the feeding-slide E, and hung centrally of its length on a fulcrum or pivot branching from a gear-lever, H, which at its one end is connected to the frame on fulcrum and its the other end laps on or locks into a screw or worm, *c*, wound round a barrel, I, that in being turned, or partly so, in either direction causes the worm *c* to work backward or forward the lever H, and consequently presses in or out of gear the rollers *b b* with the double inclines *a* of the undulated disk, whereby the slide E is made to reciprocate, as described, for discharge of the seed, or has its action stopped and the discharge cut off, as may be required. When the rollers *b b* are in gear with the double inclines *a* the latter in revolving along

with the propelling-wheel A' give a continuous vibratory movement to the double arm G, and consequently, by the attachment of the double arm with the slide E, a reciprocating action to the latter, either roller *b* alternately ascending and descending the several double inclines *a* as they come round and press away from the undulated disk each roller *b b* alternately. This action of the rollers *b b* and double inclines *a* communicates in a most simple, regular, and efficient manner the necessary continuous reciprocating movement to the slide E, and when by turning the barrel I the worm *c* draws inward the lever H, and with it rollers *b b* from contact with the double inclines *a*, the slide E shuts off egress and remains stationary by reason of the double inclines *a* rotating clear of the rollers *b b*. A curved rack, J, gearing into a pinion, P, on the one end of the barrel I and operated by a hand-lever, K, serves to turn the barrel I in either direction according as the worm *c* is required to work in or out (for the purposes specified) the gear-lever H, the hand-lever K lying horizontal, or nearly so, when the discharge of the seed is cut off, and being raised toward a vertical position when the rollers *b b* are in gear with the undulated disk F. The barrel I in being turned, simultaneously with its action on the slide E, operates on the depositing-tubes or drill-teeth to elevate them at the same time that the discharge of the seed through the slide E is cut off, and to lower them again when the discharge is open or re-established, cords or chains *e*, secured to the barrel and drill-teeth, serving to lift the teeth, which, on the barrel being reversed, drop of their own weight, any one of the teeth being thus capable of rising without affecting the rest, as and in a similar manner is common in other machines. But in order, without the application of springs, (which are objectionable,) to give the drill-tooth a backward as well as an elevating movement for the purpose of more readily and without detriment passing over an obstacle, I further hang or connect the drill-tooth as follows:

M is the seed-conducting hose, attached to the seed-trough and passing down within the drill-tooth.

N is the drag-bar, jointed to the drill-tooth and front beam of the frame.

O is a curved guiding-arm or continuation upward and frontward of the drill-tooth. It

passes over and rests on an anti-friction roller, *f*.

P is a rod or lever attached to the back of each tooth for separately elevating it.

The several drill-teeth are similarly constructed and connected. The weight of each one and its parts is sufficient to retain the tooth in the soil when the ground is clear; but when an obstacle lies in the way of any one (or more) of the teeth the said tooth or depositing-tube *L* is not only raised, but thrown back in a curve, whereby it rides more easily and with less risk of damage over the obstacle, the grinding-arm *O* serving to give it when being elevated the curved movement backward, as depicted by the black lines in Fig. 2, while the cord *e* simply slackens, and after passing the obstacle the drill-tooth drops gradually in a curved line back again into the ground. This action of the drill-teeth is similar to that of other seed-planters in which springs are employed for drawing the teeth backward during their elevation, but is much simpler, enables the tooth to ride over

the obstacle with greater freedom and ease, also renders it less liable to breakage, failure, alteration in the strength of its resistance against the soil, or variation in its drop.

I do not claim, exclusively of itself, giving to the drill-tooth the curvilinear movement specified, as such is old; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. Causing the point of the drill-tooth, when raised out of the ground, to slope backward by the arrangement of the drag-bar attachment, the friction-pulley, and the curve of the upper part of the drill-tooth, to avoid breaking the tooth, as herein described.

2. The combined device of endless screw and curved rack and pinion for producing the result herein specified.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JAMES ROBB.

Witnesses:

ALFRED GREGORY,
A. E. H. JOHNSON.