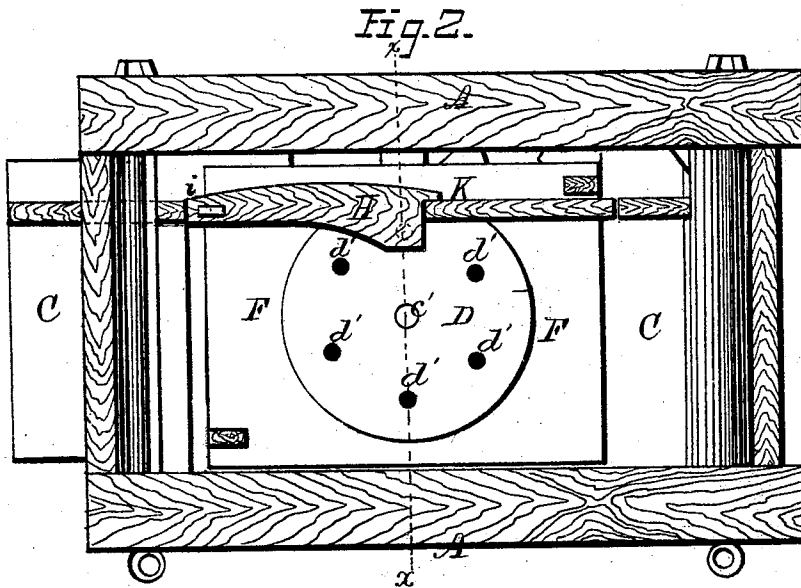
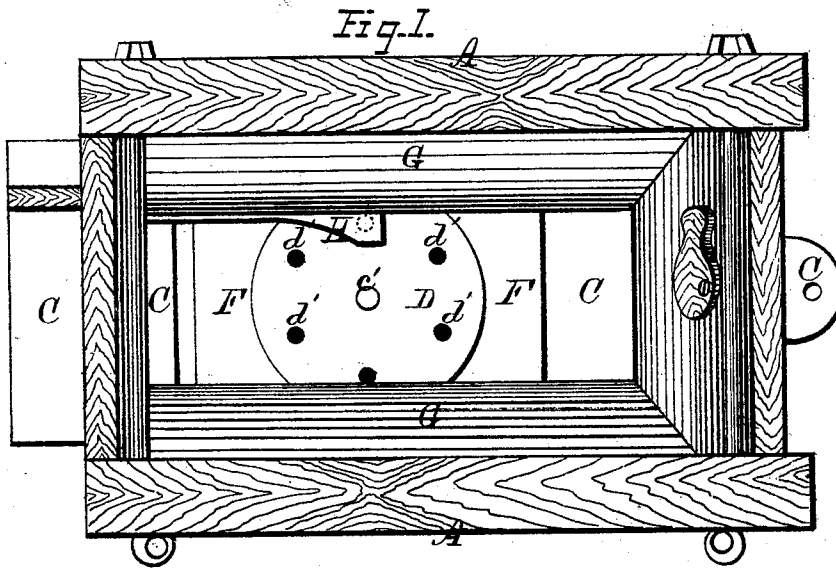


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Seed-Planters.

No. 152,123.

Patented June 16, 1874.



WITNESSES.

*Jas. E. Hutchinson.-
 John R. Young*

INVENTOR.

*Anton Klussener, by
Orindle and Deane, his
Attorneys.*

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Fig. 3.

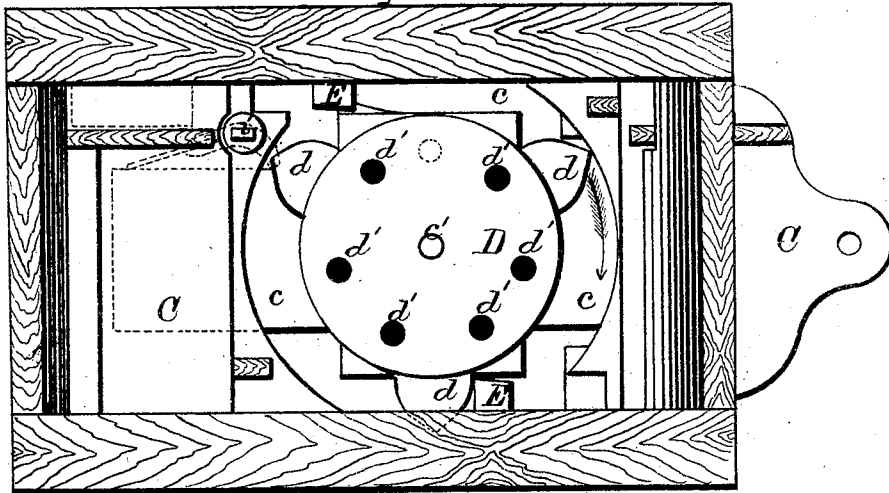
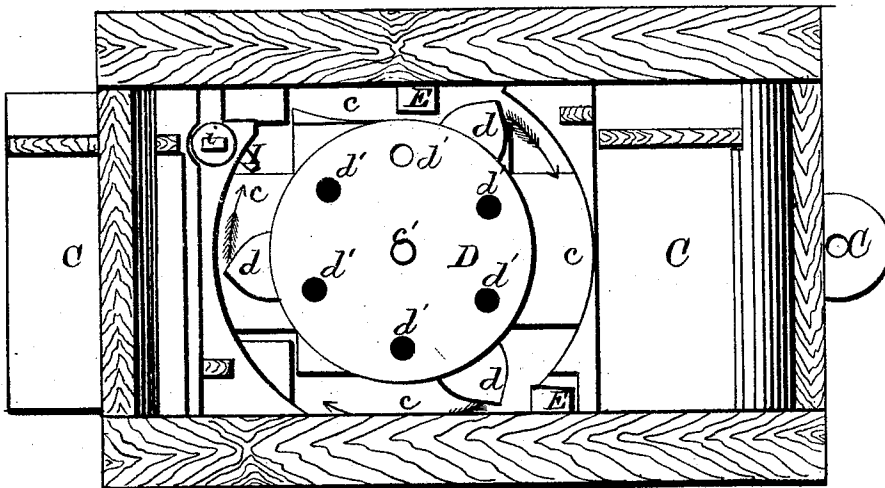


Fig. 4.



WITNESSES.

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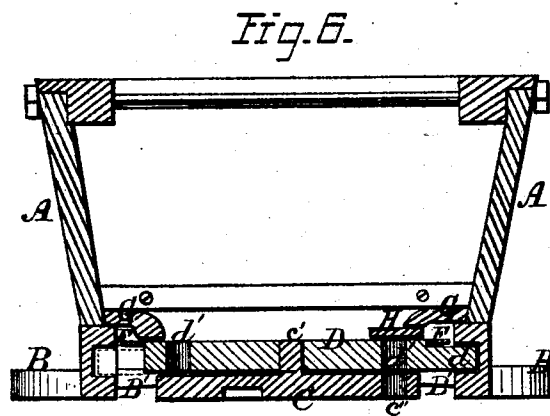
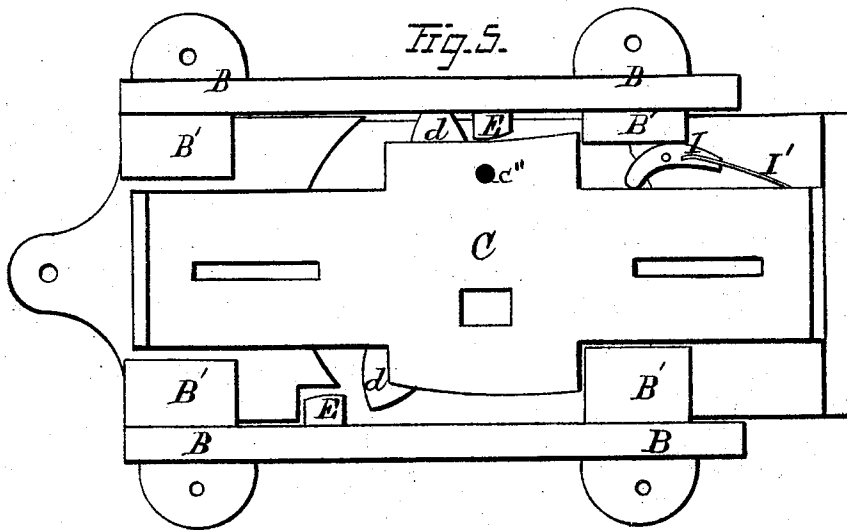
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 John R. Young

Anton Klusserer, by
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UNITED STATES PATENT OFFICE.

ANTON KLÜSSENER, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. **152,123**, dated June 16, 1874; application filed November 14, 1873.

To all whom it may concern:

Be it known that I, ANTON KLÜSSENER, of Springfield, in the county of Sangamon and in the State of Illinois, have invented certain new and useful Improvements in Seed-Planters; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a plan view of the upper side of my improved dropper as arranged for use. Fig. 2 is a like view of the same with the fastening-plate removed. Figs. 3 and 4 show the same with the cut-off plate removed, and the dropper one-half and wholly rotated by one motion of the slide. Fig. 5 is a plan view of the lower side of the said apparatus, and Fig. 6 is a cross-section upon line *x x* of Fig. 2.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to simplify the construction and increase the efficiency of seed-dropping devices; and it consists, in part, in the peculiar construction of the dropper, and its combination with the slide and operating-lugs of the base-plate, substantially as and for the purpose hereinafter shown. It consists, further, in a cut-off arranged to move in a plane coincident to that of the dropper, substantially as and for the purpose hereinafter set forth. It consists, further, in the peculiar construction and combination of the cut-off, its pivotal bearing, and spring, substantially as and for the purpose hereinafter shown and described.

In the annexed drawings, A represents a hopper or seed-box, constructed in the usual manner, and provided at its lower unclosed side with a base-plate, B, from which suitable lugs B' extend horizontally inward from each side, and furnish a bearing for a slide, C, which slide is contained between said lugs and the lower edges of the ends of said box, said edges being cut away for such purpose. Upon or within the upper side of the slide C is formed a circular recess, *c*, within which is placed a dropper, D, that has the form shown in Figs. 3 and 4, and is pivoted centrally upon a stud, *c'*, that extends upward from said slide through a corresponding opening in said dropper, the

arrangement being such as to cause the latter to reciprocate horizontally with said slide, while at the same time it has an independent rotary movement thereon. Two lugs, E, secured upon opposite sides of the lower portion or base-plate of the seed-box A, and extending horizontally inward, engage alternately with one of the spurs *d* of the dropper D, as the latter is moved back and forth with the slide, and, by arresting the motion of said spur, cause said dropper to rotate one-sixth of a revolution upon its axis, the arrangement of said lugs being such as to cause the intermittent rotary movement of said dropper to be always in one direction. A series of openings, *d'*, are provided at equidistant points around the dropper D, near the periphery of its circular portion, and a similar opening, *c''*, within one side of the slide C, which openings are so arranged as to cause one of those, *d'*, in said dropper to coincide with said opening *c''* whenever said slide has reached the limit of its stroke in either direction. A sheet-metal plate, F, is placed upon the upper side of the slide C, so as to inclose all of the recess *c* except that part which is occupied by the circular portion of the dropper D, while a plate, G, having the form shown in Fig. 2, incloses the space between the sides and ends of the seed-box A and the edges of the slide C, so as to prevent the seed from passing downward, except through the regular channel.

As thus constructed and combined with its operating mechanism, the dropper, as it moves back and forth within the hopper, has its openings *d'* filled with seed, which openings, as they alternately pass over the discharge-opening *c''*, are emptied of their contents in the usual manner.

The reciprocating movement of the dropper materially increases its efficiency, the shock given to it at each end of the stroke of the slide, in addition to that given by the cessation of its rotary motion, being sufficient to loosen the seed within the openings, and to cause it to fall from the same at the proper moment.

In order that grain may be prevented from passing directly from the seed-box into and through the discharge-opening *c''*, a plate, H, is attached to or upon the slide C, and ex-

tends outward over the dropper D, directly over said discharge-opening, where it performs the usual office of a cut-off. It often happens that as the seed-openings *d'* become filled with grain some portion of their contents projects above the upper surface of the dropper, and, if the cut-off is rigid, arrests the motion of said dropper.

To obviate this difficulty I attach the cut-off H at one end to or upon a stud, *i*, which is secured to a bar, I, and extends upward from the same through a corresponding opening in the slide C. The outer end of the said bar I forms or is provided with a flat spring, I', which, bearing against a suitable shoulder, presses said end outward, and correspondingly presses the free end of the cut-off inward against a stop, K, that is formed upon said slide C, the arrangement of parts being such as to cause said cut-off to maintain the position shown by the full lines of Figs. 1 and 2, except when grain becomes wedged in the seed-openings of the dropper, in which event said cut-off will yield and move outward until said wedged grain has either been discharged or the rotation of said dropper has carried it beyond said cut-off, after which the latter will return to place once more.

The cut-off, being arranged to move in the same plane as the dropper, instead of a right angle thereto, as is usually the case, is less liable to become obstructed or injured, and under no circumstances can it obstruct the operation of the dropper while unbroken.

The dropping devices thus described are simple in construction, efficient in operation, durable, and can be furnished at a comparatively low rate.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The slide C, provided with recess *c*, pivoted stud *c'*, and discharge-openings *c''*, and the dropper D, having spurs *d* and seed-openings *d'*, and the base-plate B, having lugs B' and E, the said several parts combined to operate in the manner set forth.

2. The cut-off H, pivoted to and moving with the slide C, in combination with the rotating seed-dropper D, the said cut-off adapted to yield horizontally in the same plane with the said dropper, to prevent the crushing of seed, as herein specified.

3. In a seed-dropper, the cut-off H, secured to or upon the pivotal stud *i*, and pressed inward against the stop K by means of the spring-bar I and I', combined and operating substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of September, 1873.

ANTON KLÜSSNER.

Witnesses:

R. P. JOHNSTON,
J. N. REECE.