

(No Model.)

E. J. COLBY.  
HARROW AND SEEDER.

No. 552,822.

Patented Jan. 7, 1896.

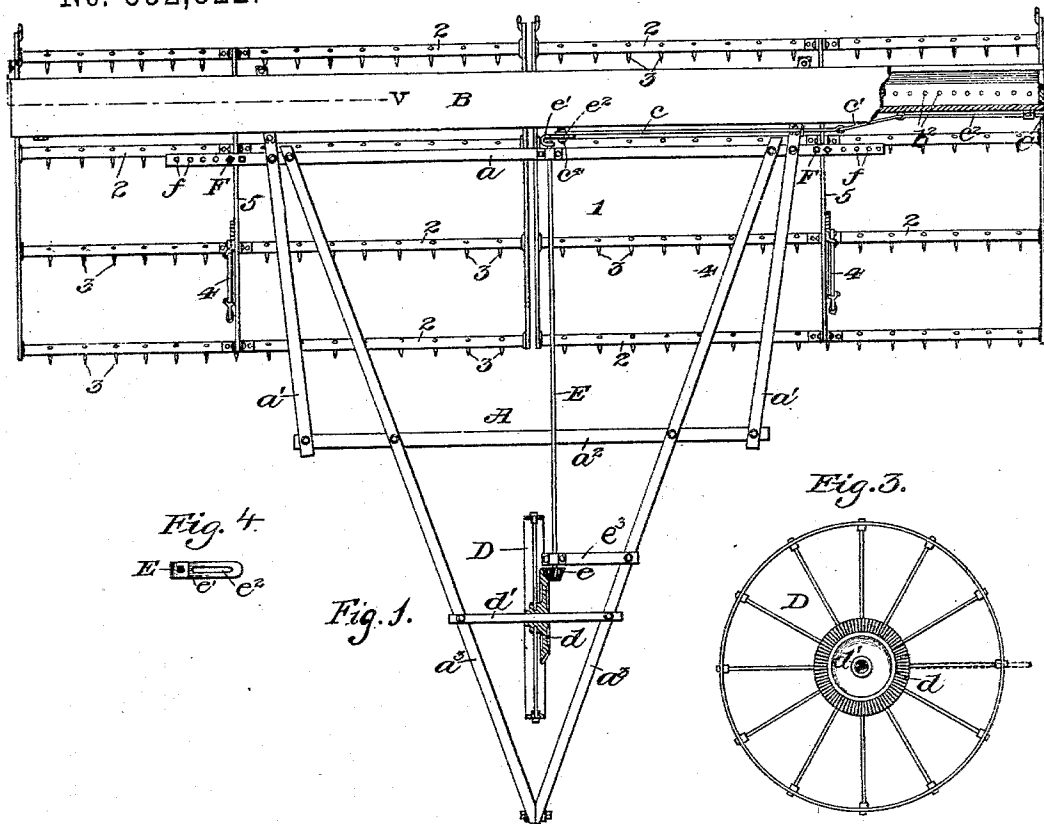


Fig. 1.

Fig. 3.

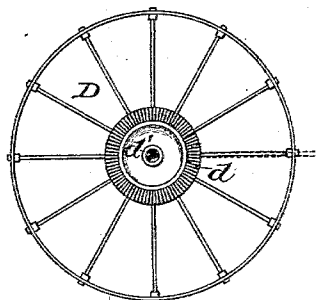


Fig. 5.

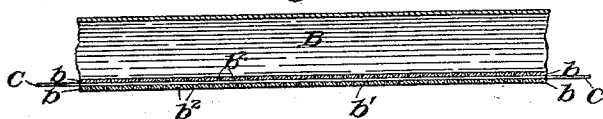
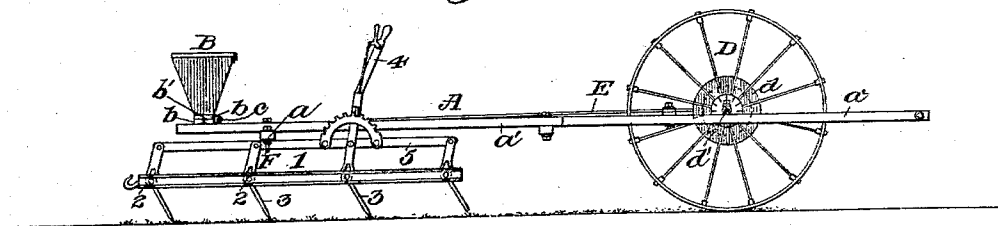


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ELI J. COLBY, OF SPRING VALLEY, MINNESOTA.

## HARROW AND SEEDER.

SPECIFICATION forming part of Letters Patent No. 552,822, dated January 7, 1896.

Application filed March 5, 1895. Serial No. 540,645. (No model.)

*To all whom it may concern:*

Be it known that I, ELI J. COLBY, a citizen of the United States, residing at Spring Valley, in the county of Fillmore, State of Minnesota, have invented certain new and useful Improvements in Seeders and Planters, of which the following is a description, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

My invention relates to seeders and planters, and more particularly to an attachment for a harrow, my object being to so construct a seed-distributor that it can be readily applied to any harrow of ordinary form.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a harrow with my attachment applied. Fig. 2 is a side elevation of the same. Fig. 3 is a detail of the supporting-wheel. Fig. 4 is a detail of the slotted crank-arm, and Fig. 5 is a longitudinal sectional detail of the seed-box.

Referring now more particularly to the drawings, 1 represents a harrow of ordinary construction, having the cross-bars 2 provided with teeth 3 and also having the levers 4 and lever-bars 5.

A represents the frame of my attachment, this frame consisting in the present instance of the cross-bar  $a$  supporting the bars  $a'$   $a'$ , which are in turn connected also by the bar  $a^2$ , and of the bars  $a^3$  attached at one end to the cross-bar  $a$  near the bars  $a'$  and meeting at their other ends, thus forming a triangular inclosure. Of course the details of construction of this frame can be varied, and the seed-box B can be attached thereto in any convenient manner; but I prefer to effect this by extending the bars  $a'$   $a'$  beyond the bar  $a$ , as shown, and fastening the box upon such extensions. This box may be constructed in many ways; but I prefer to employ that shown, in which the bottom consists of two pieces  $b$   $b$ , each provided with a semicircular recess to form the opening  $b'$ , which extends the length of the box, and each piece  $b$  having a series of apertures  $b^2$ , these apertures being so placed that those in the upper half  $b$  are out of line with those in the lower half. A rod C fits loosely in the opening  $b'$  and has attached to it means for reciprocating it. Thus by reason

of the apertures  $b^2$  and the longitudinal opening  $b'$  this agitator causes a discharge of the seed.

Various ways can be employed for supporting the rear end of the frame and for reciprocating the rod C. Preferably, however, a shaft  $d'$  extends between the bars  $a^3$   $a^3$  at a suitable distance from their point of juncture, and upon said shaft is mounted a wheel D, having thereon a gear  $d$ . A shaft E is journaled upon the cross-bar  $a$  and a support  $e^3$ , said shaft having at its rear end a gear  $e$  in mesh with the gear  $d$ , and at its other end being connected with the rod C, such connection being effected by reason of the crank  $e'$  and the links  $c$   $c'$   $c^2$ . In order to regulate the amount of movement of the rod C at each reciprocation and thus in turn regulate the amount of feed, the crank-arm  $e'$  is provided with a slot  $e^2$ , at any point along the length of which the bolt  $c^4$  or other fastening upon the link  $c$  can be secured.

Preferably the cross-bar  $a$  extends a short distance on each side of the bars  $a'$   $a'$ , and these extensions are provided with a series of openings  $f$ , through which the clips F for attaching the frame to the harrow are inserted. These clips are preferably passed under the lever-rods 5 of the harrow, and the series of openings  $f$  permit attachment to harrows of various widths.

It will thus be seen that I have produced in a simple, light and durable structure a seed-distributing attachment which can be applied to any harrow of ordinary construction. It is only necessary to attach the seed-box in some way upon the harrow, the rest of the attachment being supported by the wheel D, so that the seed can be sown in advance of all of the harrow-teeth, after the passage of all of said teeth, or after certain of the teeth only have prepared the ground, leaving the remaining teeth to slightly cover the seed sown. The wheel D not only supports the rear of the frame, but also transmits motion to the bar C, whereby the seed is distributed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A harrow attachment comprising a frame, a seed distributor upon said frame, means for removably attaching one end of the frame to

the harrow, and a support upon the frame for holding from the ground the portion unsupported by the harrow; substantially as described.

5 2. A harrow attachment comprising a frame, a seed distributor upon said frame, means for removably attaching one end of the frame to the harrow, and a wheel upon said frame and supporting the portion of the frame unsupported by the harrow; substantially as described.

10 3. A harrow attachment comprising a frame, a seed distributor upon said frame, a series of openings upon said frame, and means for connecting the attachment to the harrow adjustable in said openings; substantially as described.

15 4. The combination with a harrow provided with lever bars, of a seed distributor attached to said lever bars; substantially as described.

20 5. An attachment for use with a harrow having lever bars thereon, said attachment comprising a frame, a seed distributor upon said frame, and securing means upon said frame for engaging the lever bars; substantially as described.

25 6. An attachment for use with a harrow having lever bars thereon, said attachment comprising a frame, a seed distributor upon said frame, and securing means upon said frame for engaging the lever bars, said securing means being adjustable, whereby the attachment can be placed upon harrows of various sizes; substantially as described.

30 7. An attachment for use with harrows having lever bars, said attachment comprising a frame having a cross bar *a* provided with a set of openings at its ends for extending over the

lever bars upon the harrow, a seed distributor upon said frame, and clips adapted to be passed under the lever bars adjustable in the openings; substantially as described.

8. A harrow attachment comprising a frame, a seed box upon said frame, said box being provided with an agitator, means for removably supporting one end of the frame upon the harrow, means for supporting the other end of the frame, and a connection between said last mentioned means and the agitator for operating the latter; substantially as described.

9. A harrow attachment comprising a frame, a seed box upon said frame, said box being provided with an agitator, means for removably supporting one end of the frame upon the harrow, a wheel upon the other end of the frame for supporting the same, and connections between said wheel and the agitator for operating the latter; substantially as described.

10. A harrow attachment comprising a seed box, means for discharging the seed from the box, and means for adjustably supporting the box with relation to the teeth upon the harrow, whereby the seed can be discharged before the passage over the ground of any of the teeth, after the passage of all of the teeth, or after the passage of some of the teeth and before the passage of the others; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ELI J. COLBY.

Witnesses:

A. R. HOLMAN,  
B. E. PAGE.