G. D. HAWORTH.

CHECK-ROW ATTACHMENTS TO SEED PLANTERS.

No. 191,528. Patented June 5, 1877.

Fig. 1.

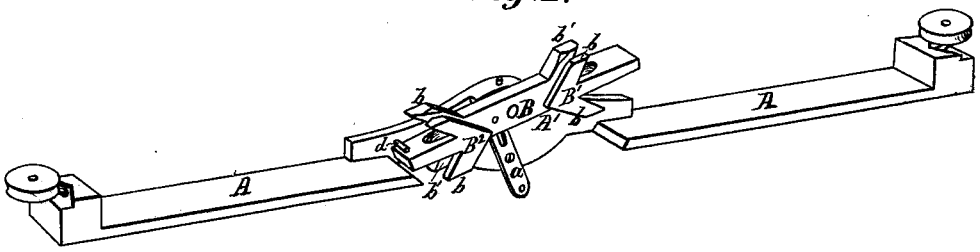


Fig. 2.

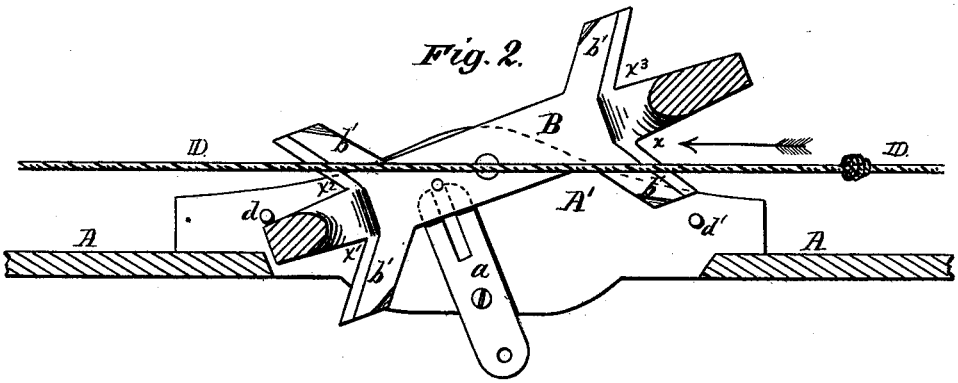


Fig. 3.

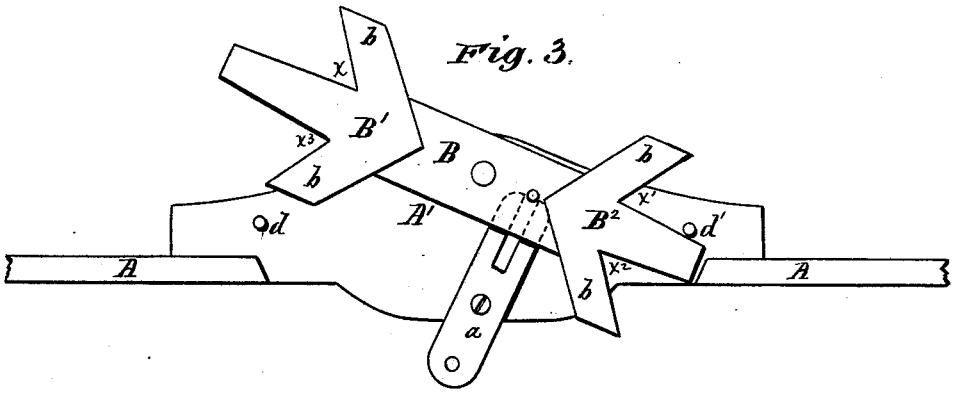
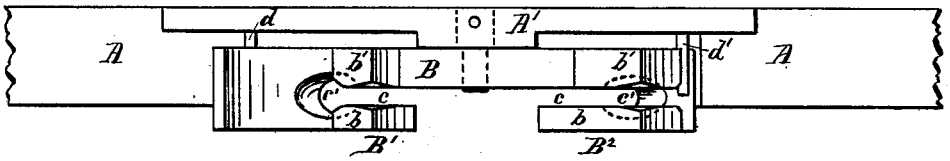


Fig. 4.



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GEORGE D. HAWORTH, OF DECATUR, ILLINOIS.

IMPROVEMENT IN CHECK-ROW ATTACHMENTS TO SEED-PLANTERS.

Specification forming part of Letters Patent No. **191,528**, dated June 5, 1877; application filed April 27, 1877.

To all whom it may concern:

Be it known that I, GEORGE D. HAWORTH, of Decatur, county of Macon, State of Illinois, have invented certain new and useful Improvements in Check-Row Attachments to Seed-Planters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of the specification, in which—

Figure 1 is a perspective view of my improved check-rower attachment to seed-planters. Fig. 2 represents a vertical section through the same enlarged. Fig. 3 is a front elevation, and Fig. 4 a plan view, of the same.

Similar letters of reference denote corresponding parts in all the figures.

My invention relates to the means for operating the seed devices; and consists in a novel construction of the vibrating arm or lever operated upon by the check-row cord or wire, whereby it is adapted to be vibrated in opposite directions alternately by said cord or wire while the latter is moving continuously across or over it in one direction; the object being to avoid the duplication of levers heretofore employed, and thus to simplify the construction of the check-rower attachment, and to obviate, as far as possible, all liability of its getting out of order.

In the accompanying drawings, A represents the frame-bar of the check-rower attachment, and upon which the guides or pulleys for guiding the check-row cord or wire, and the means operated upon by said cord or wire for actuating the seeding devices, are mounted, said bar, together with the lever *a*, through which motion is imparted to the seeding devices, being made in any usual or preferred form. At or near midway of the length of bar A, and directly over the pivot of lever *a*, is a forked lever, B, pivoted midway of its length upon the bar A, or upon a suitable standard or support, A′, thereon, as shown. This lever has its ends recurved or bent back upon itself; or, in other words, the central portion is cut away in thickness for a portion of its length, and the thicker ends, where not cut away, are slit outward toward the ends, as shown at *c* in Fig. 4. The recurved ends B^1 B^2 are made in form resembling an arrow-head, or the arms of an anchor, with the points set opposing each other, and the arms *b b* inclining outward, and forming an acute angle each with the outer ends of the lever, as shown. The body of the lever is provided with similar arms *b′*, arranged in the same planes, transversely to the lever, with the arms *b*, (see Figs. 1 and 2,) and just outside of the junction of these arms *b* and *b′* with their respective shanks, the slots between the lever B proper and its recurved ends B^1 B^2 are enlarged, and made cylindrical in form at *c′*, to permit the passage of the knots or projections on the cord or wire after they escape from the arms *b b′*, as hereinafter explained. The slotted and forked arm or lever B, with its recurved ends B^1 B^2 and arms *b b′*, as described, may, if desired, be cast or otherwise made in a single piece, and forms the single device or lever acted upon by the check-row cord or wire for operating the seeding devices.

This arm, as above stated, is pivoted midway of its length to the frame-bar A, and immediately under its pivot is provided with a pin, which engages with the forked lever *a*, connecting it with the seeding devices.

The operation is as follows: Supposing the lever B to be in the position indicated in Figs. 1 and 2, with the cord D moving relatively to the same in the direction indicated by the arrow, Fig. 2. In this position the cord lies in the slot *c* between two oblique parallel arms, *b b′*, and as it moves along the knot enters the angle or fork *x* between said arms and their shanks, and, engaging therewith, draws the lever B over into the reversed position shown in Fig. 3, when the reverse inclination of the shank allows the knot to slide slightly outward toward the end of the lever, and thus to enter and pass through the enlargement *c′* of the slot, and to escape from the lever, leaving the latter in position for the succeeding knot or protuberance on the cord or wire to enter the fork *x′* on the opposite end of the lever, and, acting thereon, to reverse the movement of the lever, and bring it to its first-named position, in readiness to be again acted upon by the cord or wire.

By this arrangement it will be seen that the single lever B is adapted to be operated in both directions by the cord moving in one direction only, and the system of levers and

links heretofore required to accomplish this result is dispensed with. The forks x^2 x^3 on the opposite side of the lever are acted upon by the cord when the machine or the cord or wire relatively to the lever is moving in the reverse direction. Stops at *d d'* serve to limit the throw of the lever B, and to hold it in proper position to be acted upon by the cord or wire alternately upon its opposite ends, as explained.

The form of the arm or lever B may be varied, and any suitable connecting devices may be employed, without departing from my invention, so long as a single lever, acted upon by the check-row cord or wire, is adapted to be vibrated alternately in opposite directions by the direct action thereon of the cord or wire, moving continuously in one direction only.

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

1. In a check-row planter, an arm or lever made in a single piece, and adapted to be operated alternately in opposite directions by the direct action of the check-row cord or wire thereon, as explained.

2. The arm or lever B, provided with the recurved and slotted and forked ends, substantially as and for the purpose set forth.

3. The arm or lever B, pivoted midway of its length, and provided with the recurved or slotted ends, and with the diverging arms or forks *b b'*, substantially as described.

4. The lever *a*, through which motion is communicated to the seeding devices, connected directly with, and receiving a positive movement in both directions from, the single vibrating check-row-cord arm or lever B, substantially as described.

GEORGE D. HAWORTH.

Witnesses:
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W. W. KERR.