J. M. HART.

Check-Row Corn-Planter.

No. 220,974. Patented Oct. 28, 1879.

Fig. 1.

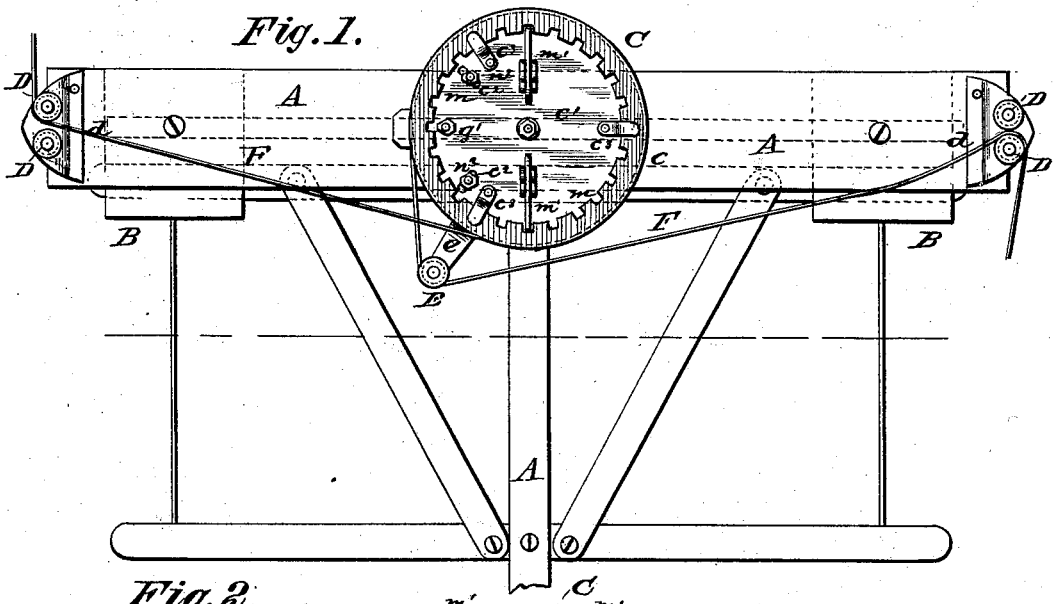


Fig. 2.

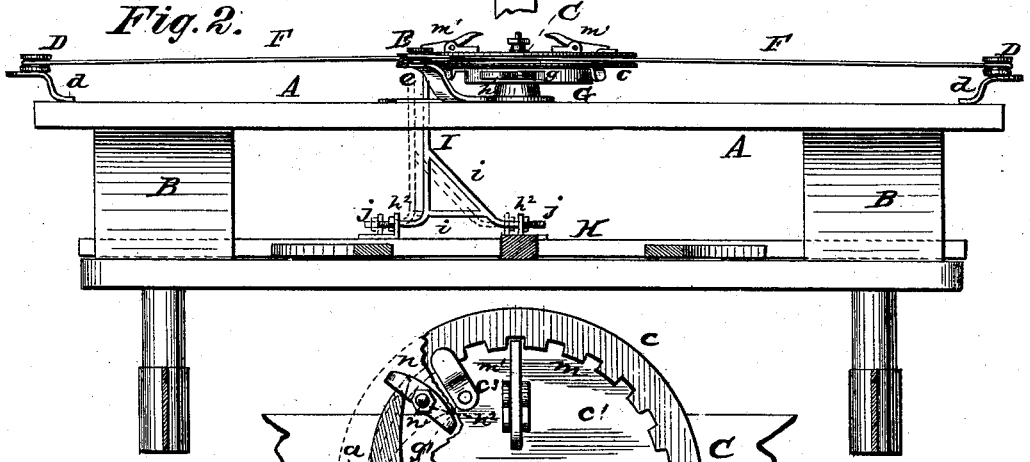


Fig. 3.

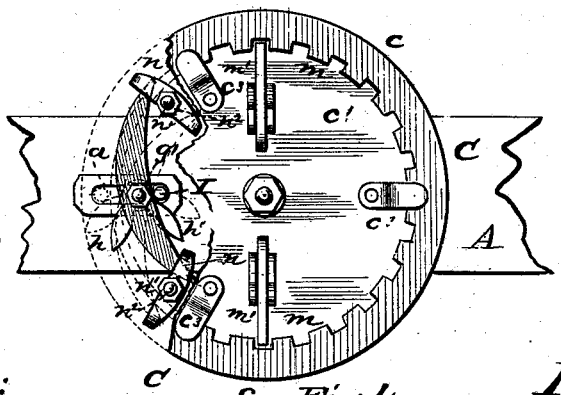
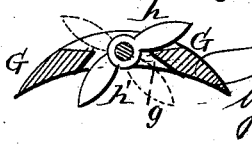


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES M. HART, OF GRANT, IOWA.

IMPROVEMENT IN CHECK-ROW CORN-PLANTERS.

Specification forming part of Letters Patent No. **220,974**, dated October 28, 1879; application filed September 12, 1879.

To all whom it may concern:

Be it known that I, JAMES M. HART, of Grant, in the county of Montgomery and State of Iowa, have invented certain new and useful Improvement in Check-Row Corn-Planters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being made to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a plan view. Fig. 2 is a front elevation, partly in section; and Fig. 3 is an enlarged view of the dropping-wheel, parts broken away to show the cam. Fig. 4 is a horizontal section of the cam.

This invention relates to certain new and useful improvements in the class of smooth-rope check-row attachments for corn-planters, and more particularly to improvements upon the patent granted to Hulbert H. McConoughey, June 25, 1878, and numbered 205,283, having for its object the production of an attachment which, while being adapted to the ordinary seed-planters, can be regulated so as to always be reliable in its operation; and to this end the invention consists in the general construction and combination of parts, all as will be hereinafter fully described, and specifically pointed out in the claims.

To enable others skilled in the art to which my invention is most nearly connected to make and use the same, I will now proceed to describe the construction and operation of the several parts.

In the drawings, A represents a frame attached to the hoppers B B, and upon which, or to some part of the forward part of a corn-planter, is journaled a dropping-wheel, C, around which passes a rope, F, for operating said wheel, and which also passes between the pair of guide-pulleys D D on each side of the machine and over the separating-pulley E, and its ends fastened to stakes at opposite sides of the field, in the usual manner. The guide-pulleys D D are journaled in pairs to supports *d*, attached to the hoppers or to the forward frame A, and the pulley E is journaled to a support, *e*, arranged diagonally across the frame from the center of dropping-wheel C. The guide-pulleys D D are placed a little below, and the pulley E a little above, the plane of the dropping-wheel, for the purpose of preventing the parts of the rope from rubbing upon and wearing each other where they cross.

To the under side of the portion *c'* of the dropping-wheel C, and a short distance from its hub, is centrally pivoted a crescent-shaped cam, G, with its concave side toward the hub of the dropping-wheel. This cam is provided with an enlarged slot, *g*, through it, contracted near the center or pivotal point of the cam, and also two flies, *h h'*, playing on the pivot *g'* of the cam, and when in position projecting a little beyond the face of the cam on each side thereof, as clearly shown in Fig. 4. The cam G, with its flies *h h'*, operates upon a stud, I, attached to the seed-slide H for operating it, said stud passing up through an elongated slot, *a*, in the frame A, which is of sufficient length to permit of the necessary lateral play of said stud in operating or moving the seed-slide.

The dropping-wheel C is formed in two parts, *c c'*, the outer portion or rim, *c*, being grooved to receive the rope upon its outside or periphery, and provided on its interior side or edge with notches *m*, to receive the ends of the dogs *m' m'*, pivoted upon the central part, *c'*, of the wheel.

The cam G is pivoted to the under side of the central part, *c'*, of the dropping-wheel, and which also carries adjustable stop-plates *n n*, acting as supports for and limiting the movement of the cam toward and from the center of the wheel. These stop-plates *n n* are provided with vertical screw-studs *n' n'*, which pass up through elongated slots c^2 c^2 in the central part, *c'*, and are secured thereto by the screw-nuts n^2.

The outside portion, *c*, of the dropping-wheel is secured to the central part, *c'*, by caps c^3, riveted to the central portion, *c'*, and projecting over the outside portion, *c*, and the dogs *m' m'*, above described.

With this construction, when the cam G is in the position shown in dotted lines, Fig. 3, its point passes between the stud I and the hub of the dropping-wheel, so that as said wheel is turned it pushes said stud outward to its full stroke, when the stud becomes rigid, and, as the wheel continues to turn, the fly *h*

comes in contact with the stud I, which, acting as a fulcrum, throws the point of the cam outward, so that at the next revolution of the wheel the cam passes outside of the stud, as shown in full lines, Fig. 3, forcing the stud inward the length of its stroke, when the fly h', coming in contact with the stud, throws the point of the cam inward toward the hub of the wheel into the position it first occupied, so that at each succeeding revolution of the wheel said cam will act on opposite sides of the stud, and when the motion of the dropping-wheel is reversed the stud strikes the flies and revolves them until they occupy positions at the opposite end of the cam, and the operation of the parts will continue as before described.

The stud I is made in the shape of a reversed T, with braces i i, and the horizontal arms j j of said stud are threaded and provided with burrs, and pass through ears h^2 h^2, secured on the seed-slide, and through the medium of the threaded arms and burrs the stud can be adjusted laterally and rigidly secured in position, for the purpose of regulating the stroke of the stud, and, consequently, the lateral movement of the seed-slide to which it is secured.

When the machine does not drop the seed correctly, or the cam is not in proper position to drop, it may be adjusted by raising the dogs m' m', and turning the central portion, c', carrying the cam, until the cam is in proper position, when the central portion, c', will be again secured to the outer portion, c, by the dogs m' m' being brought into engagement with the notches on the inner edge of the portion c of the wheel.

The operation of the machine is as follows: When the rope is fastened at one end at the side of the field and the planter in position, take up the rope behind the machine, carry it forward, and pass it between the right-hand guide-pulleys D D; then in front and once around the dropping-wheel C; thence around the separating-pulley E and between the opposite guide-pulleys D D and across the field and fasten; then drive across the field until the stake is lifted by the machine; then turn around the machine, pull up the slack in rope, and set the stake without taking off the rope.

I am aware that a check-row corn-planter having a transverse seed-slide provided with a stud and a horizontal revolving wheel provided with a pivoted cam adapted to act on opposite sides of said stud at each succeeding revolution of the wheel is old, and such I do not desire to claim, broadly, as my invention; but

I claim—

1. In a check-row corn-planter, a transverse seed-slide provided with a laterally-adjustable stud, I, in combination with a dropping-wheel, C, provided with a pivoted cam, substantially as and for the purpose herein shown and described.

2. In a check-row corn-planter, the combination of the seed-slide provided with the ears h^2 h^2 and the stud I, provided with the horizontal threaded arms j j, having burrs, substantially as and for the purpose specified.

3. In a check-row corn-planter, the combination, with the seed-slide provided with the stud I, of the wheel C, provided with a pivoted cam, G, having the pivoted flies h h', substantially as and for the purpose herein shown and described.

4. In a check-row corn-planter, the combination, with the dropping-wheel provided with the pivoted cam, of the adjustable stop-plates n n, substantially as and for the purpose herein shown and described.

5. In a check-row corn-planter, the dropping-wheel C, composed of the outer grooved portion, c, and the adjustable inner portion, c', provided with a cam, in combination with a seed-slide provided with a stud, substantially as and for the purpose herein shown and described.

6. The dropping-wheel C, composed of the sections c c', the section c provided with an outside groove and inner notched edge, and the section c' provided with the pivoted dogs m' m', caps c^3, and pivoted cam G, in combination with the seed-slide provided with the stud I, substantially as and for the purpose herein shown and described.

7. In a check-row corn-planter, the reversible dropping-wheel C, separating-pulley E, and two pairs of pulleys, B B, arranged on opposite sides of the dropping-wheel, said dropping-wheel C, pulley E, and pulleys B B arranged on different planes, in combination with the cord F, mounted thereon, as shown, substantially as and for the purpose herein described.

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