(No Model.)

H. FARMER.

CHECK ROWER ATTACHMENT FOR CORN PLANTERS.

No. 295,375. Patented Mar. 18, 1884.

Fig. 1.

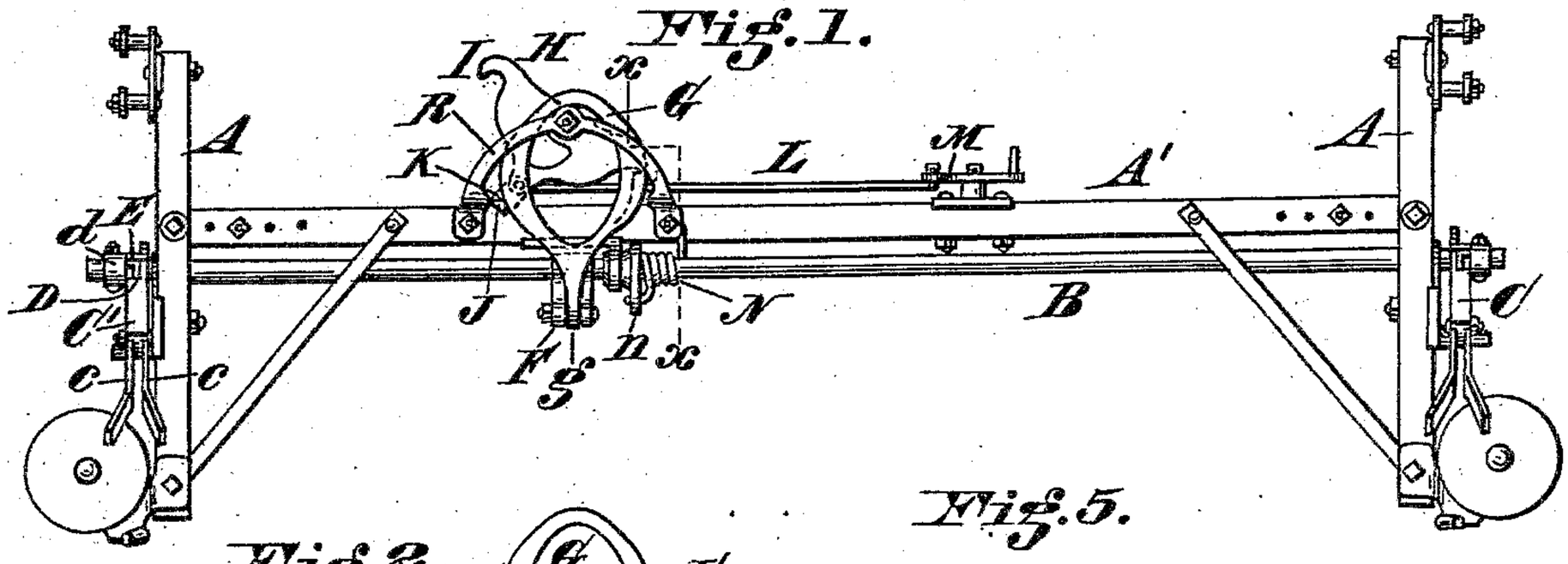


Fig. 2.

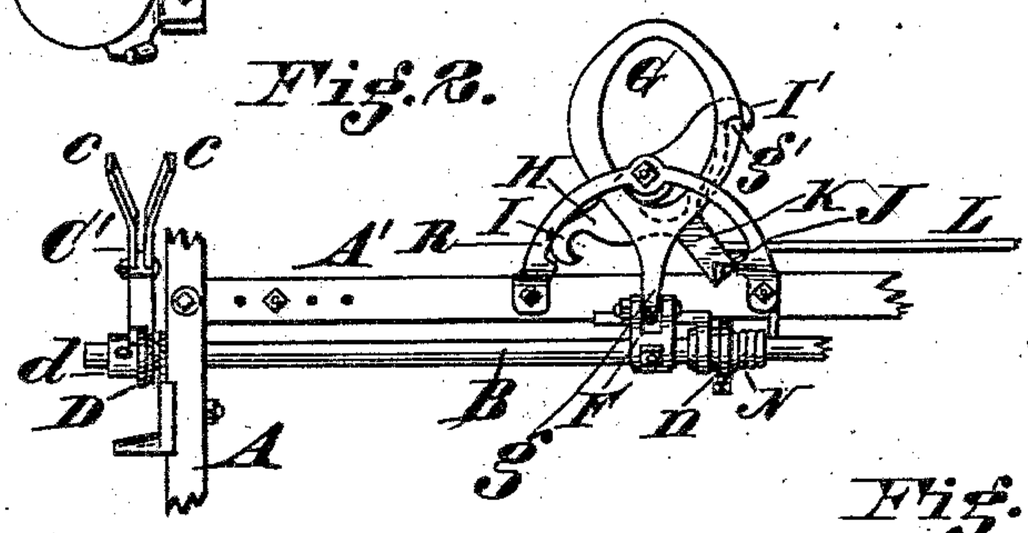


Fig. 5.

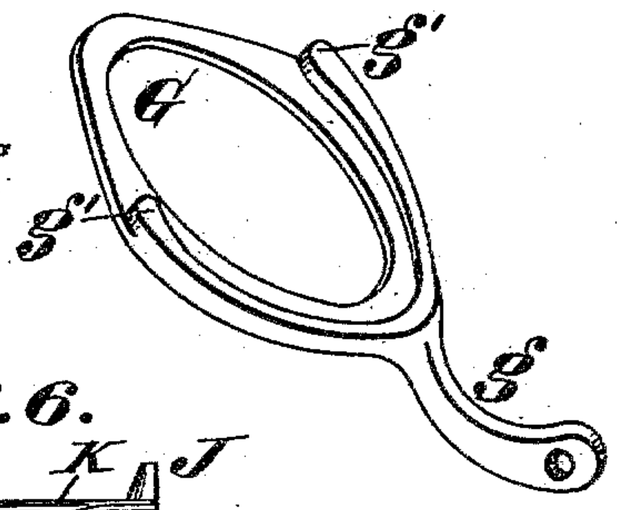


Fig. 6.

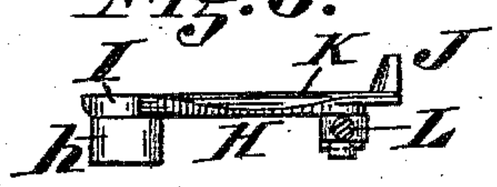


Fig. 3.

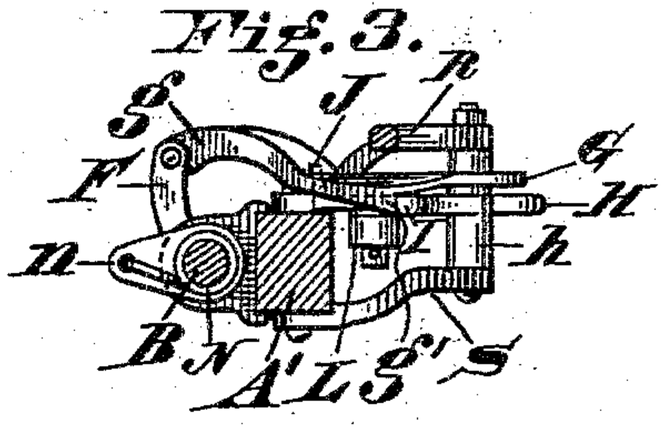


Fig. 7.

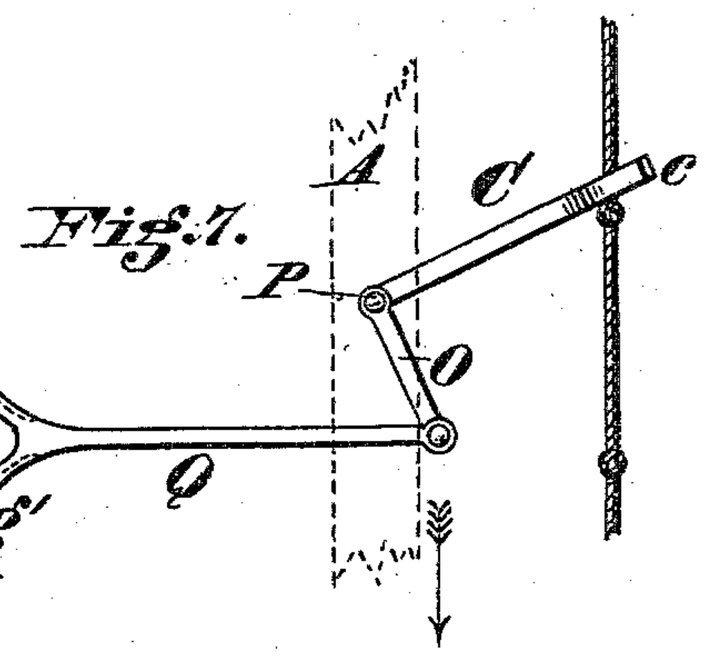
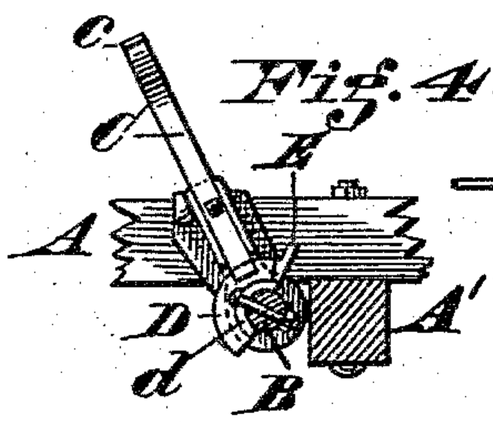


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY FARMER, OF RICHMOND, INDIANA.

CHECK-ROWER ATTACHMENT FOR CORN-PLANTERS.

SPECIFICATION forming part of Letters Patent No. 295,375, dated March 18, 1884.

Application filed December 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY FARMER, a resident of Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Check-Rower Attachments for Corn-Planters, of which the following is a specification.

My invention relates to that class of check-rowers which employ a knotted cord running parallel with the plane or path of the travel of the planter.

The object of my invention is to provide a simple, cheap, and efficient device to be driven by a straight knotted cord or wire engaging with the forked lever at either end of the machine, all of which will be fully set forth in the description of the accompanying drawings, in which—

Figure 1 represents a plan view of my improvement attached to the check-rower or planter-frame. Fig. 2 is a similar plan view, showing the actuating-pawl in its forward position. Fig. 3 is a section on line *x x*, Fig. 1. Fig. 4 is an end sectional elevation of the forked lever. Fig. 5 is a perspective view of the driving-pawl. Fig. 6 is an end elevation of the crank-lever. Fig. 7 is a modification of the pawl and driving-crank.

A represents arms, upon which the oscillating shaft is journaled; A′, a transverse connecting-bar forming part of the frame.

B represents the oscillating shaft, journaled upon the arms A A.

C C′ represent forked levers loosely swiveled upon the oscillating shaft B. My improvement is designed to be operated by either one of these forked levers C C′. In order that one lever may rest and be idle when the other is engaged by the cord, I provide the following devices:

D represents a segmental disk, which is provided with a segmental hub, *d*, by which the disk is rigidly secured to the oscillating shaft B.

E represents a lug projecting upon the front edge of the disk D. The forks or levers C C′ are shown as constructed of two pieces of metal, *c*, between the lower ends of which the disk D projects. Fig. 4 shows the position of the forked lever C when not in use. As the knotted cord engages with the fork and carries it forward, it engages with the lug E and oscillates and moves the shaft B. When forked lever C is released from contact with the knotted cord, the shaft is retracted by a spring, and the lug E strikes against the lever C, and carries it back into its normal position. The opposite fork, being hung loosely on the shaft, will not move. In order to reciprocate the seed-arm or shaker-bar of the dropping device, I provide the following mechanism:

F represents a crank or arm rigidly secured to the shaft B.

G represents an actuating-pawl. *g* represents the shank, which is loosely pivoted between the forks of the crank-arm F. This actuating-pawl is preferably made of the shape herein shown. It is provided with two lugs, *g′*, upon the under side of each of the arms. In the rear of these lugs the metal is cut away so as to form an incline, to allow them to be raised out of engagement.

H represents a double-acting crank. It is journaled upon a short stud or shaft, *h*.

I I′ represent hooks or notches formed at the outer edge of each of the crank-arms.

J represents a lug formed upon the rear end of the pitman-arm K. It projects upwardly so as to engage alternately with the opposite edge of the arms of pawl G, to shift it from side to side, to alternately engage with hooks I I′ of the crank.

L represents the pitman, which is pivoted to a crank-pin on the under side of the crank-arm K.

M represents the shaker-rod, to which the pitman L is pivoted to operate the seed-dropping mechanism.

N represents a coil-spring wound around the shaft B, one end of which is secured to the lug *n*, the forward arm of said spring being connected to the frame A′.

I do not desire to limit myself to the precise location of the retractile spring, which carries the arm B backward in its oscillating movement, as various modifications thereof may be made.

The operation of my device is as follows: When the knots of the wire or cord stretched across the field come in contact with the fork of arm C or of arm C′, as the case may be, it carries it forward in the usual manner, oscillating the shaft B, and moving the driving-pawl G forward. One of the lugs *g′* upon the

under face of the pawl G engages with, say, the notch I′ of the crank-arm H, which carries the same forward, the opposite arm, I, being carried backward until it occupies the position shown in Fig. 2. The crank-arm J is moved laterally, as there shown, and the pitman L, being pivoted to the arm K, is reciprocated, one stroke operating the shaker-arm and dropping a charge of seed. When the forked arm C is released from engagement with the knotted cord, the shaft B is retracted by the spring N, and the pawl G is also retracted and brought into the position as shown in Fig. 1. The incline upon the under side of the arm G of pawl H rests upon the crank-arm, and, as it moves backward, is lifted by the incline out of engagement with the notch I′. The lug J on the arm K strikes the outer edge of arm G, which moves the pawl laterally to the left, during this backward movement, until it drops, so as to engage the opposite lug *g′* on the under side of the opposite arm of pawl G into engagement with the hook I on the opposite end of the double-crank arm H. A second forward or oscillating movement of the shaft B propels the pawl G forward in the same manner, and it being engaged with the opposite end of the crank H, the movement of the pitman L is made in the reverse direction, thereby moving or reciprocating the shaker-rod in the opposite direction, and planting a second charge of seed. It will be thus seen that the lugs *g′ g′* of pawl G engage laterally with the hooks on ends of crank-arms I I′, and plant a charge of seed with each alternate movement of the crank H and pitman L.

I do not desire to limit my invention to the use of the crank F on the oscillating shaft B, nor to the vertical forked levers C C′, as these vertical arms G may be made to work in a horizontal plane. Fig. 7 shows this form of horizontally-moving forked lever, C representing the forked lever, O representing a bell-crank arm secured to the shank of fork C. P represents a pivot, on which the bell-crank C O is journaled. Q represents a pitman or arm secured to the pawl G, so as to reciprocate it directly without the use of a transverse oscillating shaft, B. The bell-crank C O is a substitute for the oscillating shaft B. A similar connection may be made on the opposite end of the pawl G for the other fork-arm, C′, and the crank-arm H turned a quarter round, and the pitman-crank attached to one of arms I I′, so as to reciprocate in the same plane as pawl G.

Various other modifications may be made in the details of construction without materially departing from the feature of my invention.

The crank H is shown as journaled on a stud secured to two guards, R and S, which are semi-circular in form, and serve to support the crank H and prevent the pawl G from being thrown out of position. Other means, however, may be employed to mount the crank and support and hold these parts in position.

By constructing the driving-pawl and double-acting crank-arm with the lugs and inclines placed upon them, as here shown and described, I avoid fitting the parts, as the lugs and notches will readily act in the engagement without any material lost motion.

The devices are not only cheaply constructed, but are very durable and positive in their connection.

I have shown the double-acting crank-arm H operated by the lugs and pawl as the preferred form of device. It is obvious, however, that a disk may be employed in lieu of the crank-arm H, having segmental teeth upon its edge, engaging with the pinion and crank-pin to oscillate the pinion and move the crank and pitman L by each alternate reciprocation of the pawl in place of the crank-arm J and crank-pin, as here shown; but the device constructed as I have shown is simpler and cheaper, and is of the preferred form.

I claim—

1. A check-rower device composed, essentially, of the double-acting pawl G, in combination with the double-acting crank H, or its equivalent, adapted to be intermittently reciprocated, substantially as herein set forth.

2. In a check-rower device, the combination, with the pitman L, of the shaker-bar, the double-acting crank H, adapted to be alternately oscillated by a double-acting pawl for reciprocating the pitman, substantially as herein set forth.

3. In a check-rower device, the double-acting crank H, provided with the lug J′, in combination with the double-acting pawl G, whereby the pawl is brought into alternate engagement with the opposite crank-hooks, I I′, substantially as herein set forth.

4. The combination of the pitman L, the oscillating crank H, the double-acting pawls G, reciprocated by means of the oscillating shaft B, substantially as herein set forth.

5. In a check-rower device, the combination, with the oscillating shaft B, of the fork C, loosely journaled thereon, with the lug E, secured to said shaft, whereby it is oscillated by engagement of one of the forked levers with said lug, substantially as herein set forth.

In testimony whereof I have hereunto set my hand.

HENRY FARMER.

Witnesses:
JNO. E. JONES,
A. GLUCHOWSKY.