(No Model.)

2 Sheets—Sheet 1.

R. FARIES.

CHECK ROWER.

No. 347,168. Patented Aug. 10, 1886.

Fig. 1.

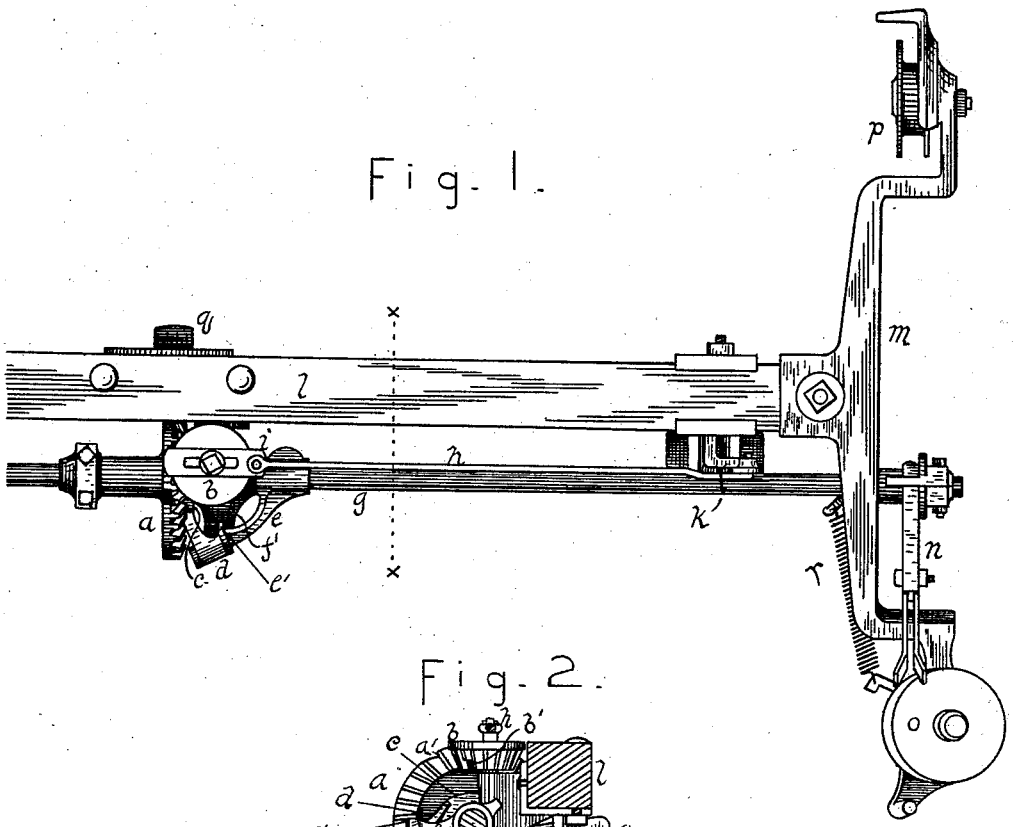
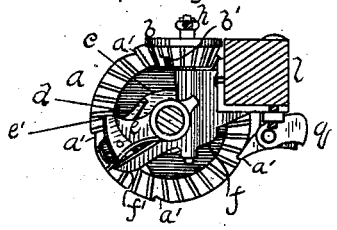


Fig. 2.



ATTEST

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(No Model.) 2 Sheets—Sheet 2.

R. FARIES.

CHECK ROWER.

No. 347,168. Patented Aug. 10, 1886.

Fig. 3.

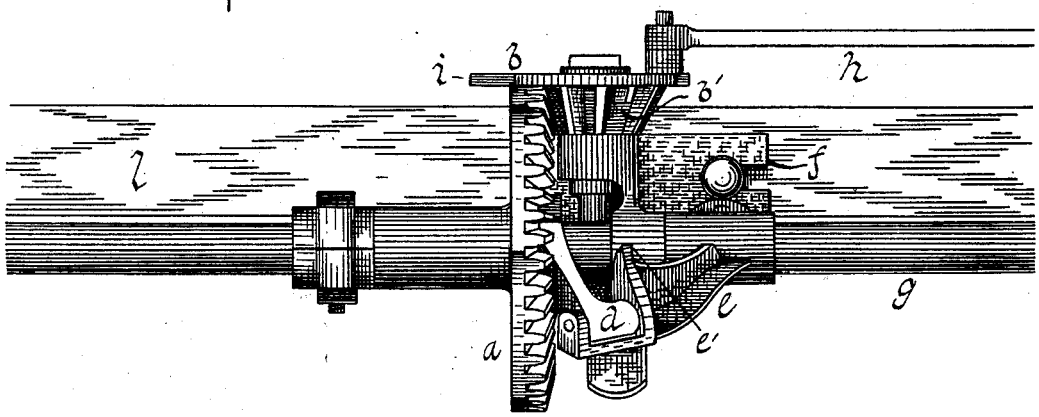


Fig. 4.

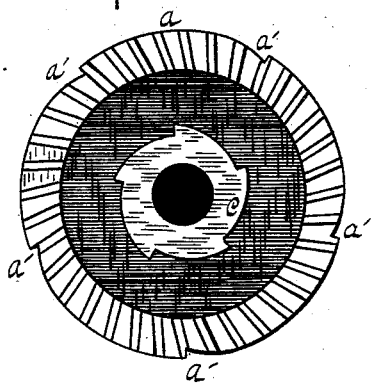
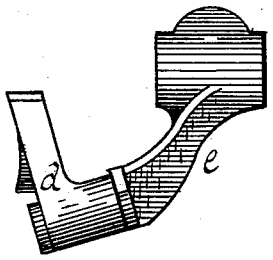


Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT FARIES, OF DECATUR, ILLINOIS.

CHECK-ROWER.

SPECIFICATION forming part of Letters Patent No. 347,168, dated August 10, 1886.

Application filed May 19, 1886. Serial No. 202,641. (No model.)

To all whom it may concern:

Be it known that I, ROBERT FARIES, of the city of Decatur, county of Macon, and State of Illinois, have invented certain new and useful Improvements in Check-Rowers for Corn-Planters, of which the following is a specification.

The object of my invention is to produce a cheap, simple, and effective check-rower having peculiarities of construction and arrangement, as hereinafter set forth and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan of one end and the central portion of my check-rower. Fig. 2 is an end view of the central portion of the same on sectional line *x* in Fig. 1. Fig. 3 is an elevation of the central portion of the check-rower. Fig. 4 is a face view of the principal cog-wheel, and Fig. 5 is a plan of the arm and pawl used to actuate the gear-wheel shown in Fig. 4.

l is the check-rower bar.

m is a cross-frame on bar *l*.

o and *p* are wire-guiding pulleys in frame *m*.

g is the check-rower shaft.

n is an oscillating bifurcated lever on shaft *g*.

a is an oblique toothed bevel gear-wheel loosely mounted on shaft *g*, and provided with peripheral ratchet-teeth *a'*.

b is a pinion in mesh with gear-wheel *a*, its axis being out of incidence with shaft *g*.

b' is one of two opposing recesses in the periphery of pinion *b*.

c is a ratchet-wheel concentrically rigid with gear-wheel *a*.

e is an arm rigid with shaft *g*, and so located that it will terminate the throw of the bifurcated lever and stop the rotation of the gear-wheel and pinion by striking said pinion when the bifurcated lever is operated by a knot on a check-row wire.

e' is an impinging projection on arm *e*, which enters a recess in pinion *b* at the termination of the stroke of the bifurcated lever, and by opposing a side of the recess effectually stops the rotation of the pinion.

d is a pawl in the outer end of arm *e*, its operative end resting in contact with ratchet-wheel *c*.

f is a bracket on bar *l*, that provides bearings for shaft *g* and pinion *b*.

k is a lever having one end connected through rod *h* with crank-arm *i*, and the other end adapted to be connected with the seed-slide of a corn-planter.

q is a compound spring and weight pawl that engages the peripheral ratchet-teeth of wheel *a* and prevents backlash therein.

r is a spring that returns shaft *g*, arm *e*, and lever *n* to their original positions after each operation of the knots on the check-row wire.

f' is an extension of bracket *f*, that acts as a stop for arm *e*.

i is a crank-arm adapted to rotate horizontally with pinion *b*.

Each end of bar *l* is provided with a cross-frame and pulleys. A bifurcated lever, *n*, is attached to each end of shaft *g*. Each end of the check-rower is alternately operated by the check-row wire in the customary manner.

The check-rower bar is laid across the planter when in operation, the check-row wire passing through the lever and pulleys at one end of the bar, and the lower end of lever *k* is connected with the seed-slide of the corn-planter.

Lever *n*, shaft *g*, arm *e*, and pawl *d* are given an oscillating motion by the alternate action of the knots on the check-row wire and the returning-sping. Ratchet *c*, wheel *a*, pinion *b*, and crank-arm *i* are rotated intermittently in one direction by pawl *d*, the extent of each movement being sufficient to cause a semi-revolution in pinion *b*. The stroke of the bifurcated lever is terminated and the pinion locked by the impingement of arm *e* against the pinion. Pawl *q* prevents backlash in wheel *a*. The crank-arm *i* stops on an approximate line with lever *k*, and the intermittent rotary motion of the crank-arm is converted into oscillating motion in said lever by means of connecting-rod *h*.

By means of my invention the various elements essential to a complete check-rower are compactly arranged, and the crank-arm is enabled to rotate on a vertical axis, and so neutralize the tendency of the connecting-rod (common in machines having a crank-arm rotating on a horizontal axis) to press the crank-arm out of line while the planter is passing from one check-row-wire knot to another. This will be more readily understood when it is taken into consideration that a vertically-rotating crank-arm must stop in an approxi-

mately-horizontal position, and that while the planter is traversing the distance between rows the crank-arm is liable to be pressed downward in the direction of its rotation by the weight of the connecting-rod to an extent sufficient to move the seed-slide and permit the corn to dribble, while with the crank-arm arranged to rotate horizontally the weight of the connecting-rod will be supported by the bearing of the crank-arm and will have no tendency to move said crank-arm in any direction.

By placing the shaft of the pinion out of incidence with the rock-shaft, as shown, and providing the gear-wheel with oblique teeth, the bearing of said pinion may be made as long as desirable, and more direct connection may be made between the crank-arm and lever *k*. The spring *r* and lever *k* may be positioned to suit different circumstances, and the general form of the device and the parts composing it may be varied to some extent without affecting the principle of my invention.

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

1. In check-rowers, a rock-shaft operated by an oscillating bifurcated lever, a bevel gear-wheel loosely mounted on the rock-shaft, a ratchet-wheel rigid and concentric with the gear-wheel, an arm rigid with the rock-shaft and carrying a pawl in contact with the ratchet-wheel, a pinion meshing with the gear-wheel in a position to be struck by the pawl-arm at the termination of the stroke of the bifurcated lever, and means of conveying the motion of the pinion to the seed-slide of a corn-planter, all in combination, for the purpose set forth.

2. In check-rowers, a rock-shaft operated by an oscillating bifurcated lever, a bevel gear-wheel loosely mounted on the rock-shaft and provided with peripheral ratchet-teeth, a pawl engaging the ratchet-teeth of the gear-wheel, a ratchet-wheel rigid and concentric with the gear-wheel, an arm rigid with the rock-shaft and carrying a pawl in contact with the ratchet-wheel, a pinion meshing with the gear-wheel in a position to be struck by the pawl-arm at the termination of the stroke of the bifurcated lever, and means of conveying the motion of the pinion to the seed-slide of a corn-planter, all in combination, for the purpose set forth.

3. In check-rowers, a rock-shaft operated by an oscillating bifurcated lever, an oblique-toothed bevel gear-wheel loosely mounted on the rock-shaft, a ratchet-wheel rigid and concentric with the gear-wheel, an arm rigid with the rock-shaft and carrying a pawl in contact with the ratchet-wheel, a pinion meshing with the gear-wheel in position to be struck by the pawl-arm at the termination of the stroke of the bifurcated lever, the axis of said pinion being out of incidence with the rock-shaft, and means of conveying the motion of the pinion to the seed-slide of a corn-planter, all in combination, for the purpose set forth.

4. In check-rowers, a rock-shaft operated by an oscillating bifurcated lever, a bevel gear-wheel loosely mounted on the rock-shaft, a ratchet-wheel rigid and concentric with the gear-wheel, an arm rigid with the rock-shaft and provided with an impinging projection, a pawl in the arm in contact with the ratchet-wheel, a pinion having peripheral recesses on opposite sides and meshing with the gear-wheel in a position to cause the impinging projection of the pawl-arm to strike a recess at the termination of the stroke of the bifurcated lever, and means of conveying the motion of the pinion to the seed-slide of a corn-planter, all in combination, for the purpose set forth.

5. In check-rowers, a rock-shaft operated by an oscillating bifurcated lever, a bevel gear-wheel loosely mounted on the rock-shaft, a ratchet-wheel rigid and concentric with the gear-wheel, an arm rigid with the shaft and carrying a pawl in contact with the ratchet-wheel, a pinion meshing with the gear-wheel in position to be struck by the pawl-arm at the termination of a stroke of the bifurcated lever, a crank-arm on the pinion, a rod on the crank-arm receiving reciprocating motion therefrom, and means of conveying the reciprocating motion of the rod to the seed-slide of a corn-planter, all in combination, for the purpose set forth.

ROBERT FARIES.

Attest:
C. C. CLARK,
I. D. WALKER.