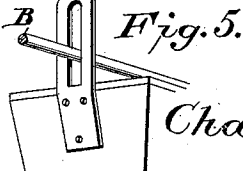
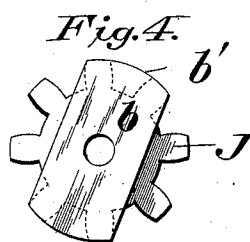
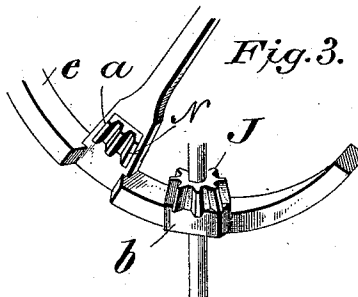
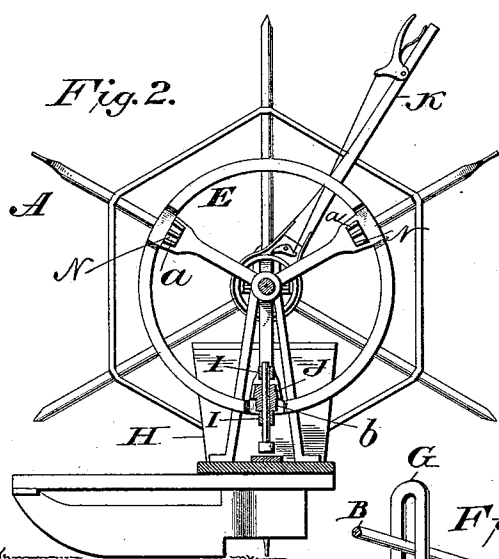
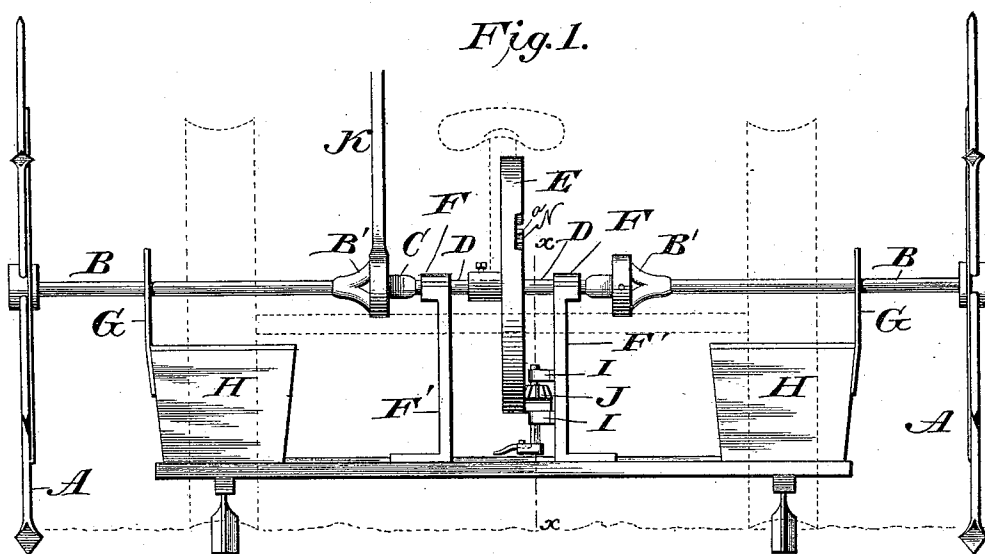


(No Model.)

C. M. FURGASON.
CHECK ROW ATTACHMENT FOR PLANTERS.

No. 469,205.

Patented Feb. 16, 1892.



Charles M. Furgason.
Inventor

Witnesses L. S. Elliott.
M. Johnson

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UNITED STATES PATENT OFFICE.

CHARLES M. FURGASON, OF OTO, IOWA.

CHECK-ROW ATTACHMENT FOR PLANTERS.

SPECIFICATION forming part of Letters Patent No. 469,205, dated February 16, 1892.

Application filed February 27, 1891. Serial No. 383,137. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. FURGASON, a citizen of the United States, residing at Oto, in the county of Woodbury and State of Iowa, have invented a new and useful Improvement in Check-Row Attachments to Corn-Planters, of which the following is a specification.

This invention relates to improvements in check-row corn-planters.

The object of the invention is to provide a planter with marking and operating wheels which are movable in their bearings, the shafts of said wheels being connected by universal joints to a shaft carrying a mutilated gear-wheel, which meshes with a pinion on a rotary shaft having a crank-arm, which operates the seed-slide, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of a corn-planter, showing my improvements applied thereto. Fig. 2 is a vertical section. Figs. 3, 4, and 5 are detail views.

A A designate the drive-wheels, which consist of hubs carrying radiating spokes, every other one of which is provided with flattened and widened points, to provide markers. These wheels are connected rigidly to the outer ends of the shafts B, said shafts being supported in slotted bearing-brackets G, secured to the seed-boxes H. The inner ends of the shafts B are secured in any suitable manner to the part B' of the universal or gimbal joints of the usual construction, the other section C of the gimbal-joint being connected to the shaft D, supported in the bearings F. Upon the shaft D, between the bearings F, is rigidly secured a mutilated gear-wheel E, which is made up of three rigid spokes, each having a toothed segment N, which preferably consists of three teeth *a*, said teeth being either formed integral with the spokes or rigidly attached thereto, these teeth being adapted to engage with the pinion J, mounted upon a rotary shaft in bearings I I, carried by one of the standards F'. The lower end of this vertical shaft has a crank-arm, which engages with the seed-slide, and by means of which the rotary motion imparted to the pinion and shaft by the mutilated gear-wheel E is con-

verted into a reciprocating motion for moving the seed-slide.

The frame of the planter, including supporting-wheels, driver's seat, runners, seed-slide, &c., is preferably of ordinary construction, such as is common in this class of check-row corn-planters, and it is obvious that my improvement may be applied to such corn-planter shown in the patent to J. W. Fawkes, No. 167,514, dated September 7, 1875.

K designates a lever, which is attached to the main frame and is adapted to engage with one of the sections B' of the universal joint, this lever being provided with the usual pawl, which engages with a ratchet on said joint to turn the mutilated gear-wheel E, as well as the marking-wheels A A, when it is desired to set these parts to a position corresponding with the marks made by the planter marking the previous row.

By providing slotted bearings G for the shafts B B said shafts are allowed a vertical movement, which will not disarrange the seed-dropping mechanism when the ground over which the planter passes is rough, hilly, or presents dead furrows, and by the use of the universal joints I am enabled to rigidly secure the shaft D in its bearing.

The marking-wheels A act with the supporting-wheels, and it is therefore not necessary to provide the shafts B with means for adjusting them manually, as by the construction shown the movement of these wheels is entirely automatic, and the weight of said wheels, combined with the shafts, is sufficient to cause the ends to enter the ground and make a mark.

The gear-wheel E is preferably provided with three spokes, though a greater number may be used, if desired, each spoke carrying adjacent to the rim of the wheel a segment N, having teeth *a a*, said teeth being adapted to mesh with a beveled pinion J, which is supported upon the vertical shaft carried by the bearings I I. Immediately below the beveled pinion is a block *b*, the ends *b'* being curved to correspond with the periphery of the pinion, while its sides are parallel with each other. The ends *b'* of the block are adapted when the teeth *a* mesh with the pinion J to be turned so that the shaft will be given

a half-revolution, after which one of the straight sides will bear against the rim *e* and hold the shaft against further rotation until the teeth on the wheel again mesh with the pinion.

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

1. The combination, in a corn-planter, of a frame having supporting-wheels, standards having bearings in which is journaled a shaft carrying a wheel, the spokes of which are provided with teeth which mesh with a pinion mounted on a shaft having a crank-arm for moving a reciprocating seed-slide, and universal joints connecting the shaft D to the rotary and vertically-movable shafts B B, the shafts B B passing through slotted bearings and provided with marking-wheels at their outer ends, said shafts extending laterally beyond the supporting-wheels, substantially as set forth.

2. The combination, in a corn-planter, of a frame provided with supporting-wheels, a reciprocating seed-slide and seed-boxes, standards secured to the frame, one of said standards having bearings I I for a vertical shaft carrying a pinion and crank-arm, a wheel fixed upon the shaft D and provided with toothed spokes, universal joints connecting the shafts B B with the shaft D, marking-wheels A A, mounted on the shafts B B, and

slotted brackets carried by the seed-boxes through which said shafts pass, substantially as set forth.

3. In a planter, the combination of a driven wheel E, having spokes with teeth *a*, located adjacent to the rim of the wheel, said rim beyond the teeth being recessed, a shaft supported at right angles with the driving-shaft, said shaft carrying a pinion, and a block which moves with the pinion and is adapted to enter the recess in the rim of the wheel when the teeth *a* and pinion J mesh and be turned so that one of the sides thereof will bear against the rim and hold the shaft carrying the pinion against rotation, substantially as set forth.

4. In combination with a mutilated gear-wheel E, having teeth *a* and recesses adjacent to the teeth, a shaft secured at right angles therewith, said shaft carrying a pinion to provide means for giving a half-rotation to the shaft, and a block mounted on the shaft of the pinion, said block being adapted to bear against the periphery of the wheel E when the teeth and pinion are out of engagement, so as to hold the shaft carrying the pinion and block against rotation, substantially as set forth.

CHARLES M. FURGASON.

Witnesses:

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