

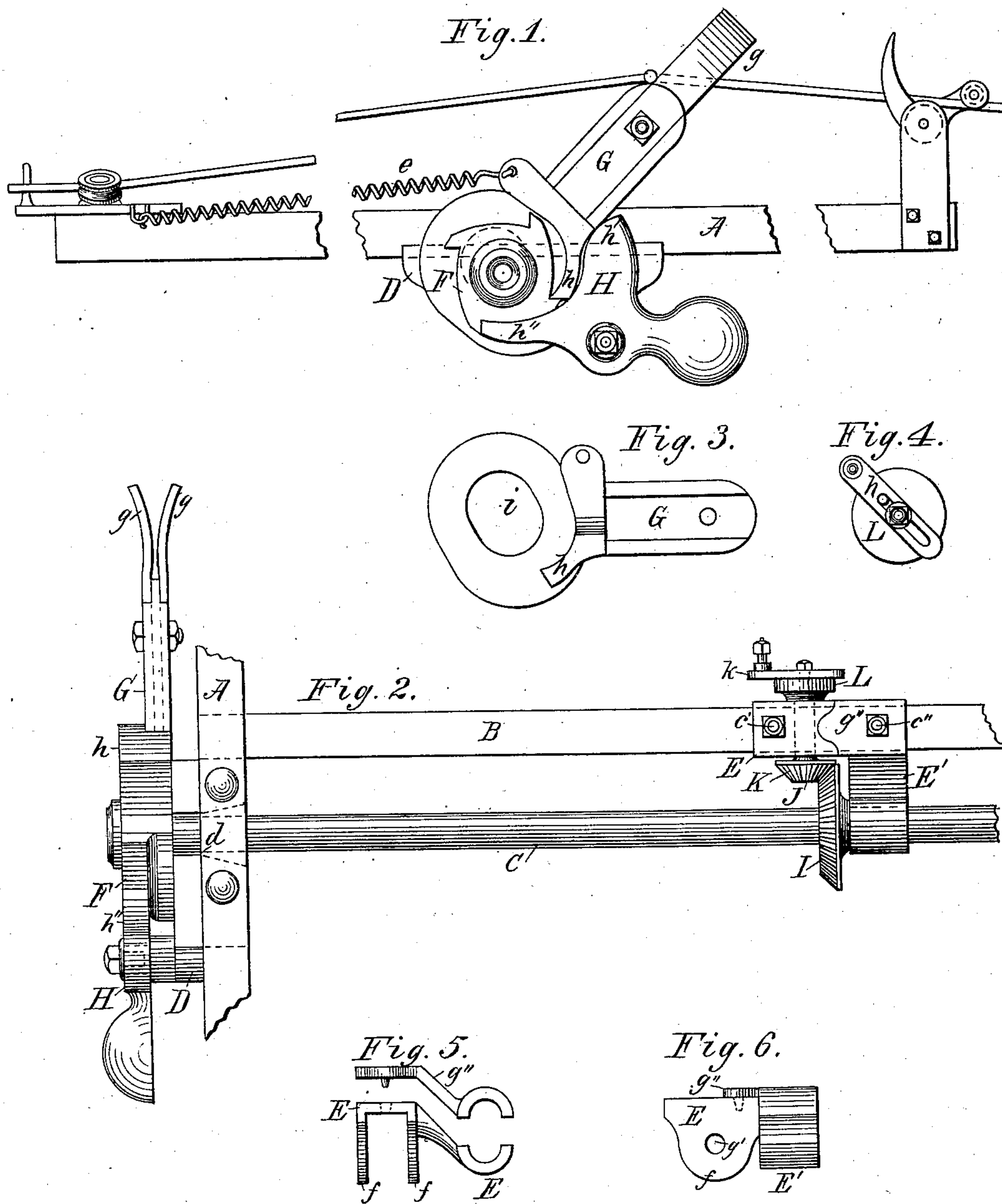
(No Model.)

F. B. TAIT.

CHECK ROW ATTACHMENT FOR CORN PLANTERS.

No. 255,472.

Patented Mar. 28, 1882.



Witnesses.

Wm B. Fuller
John C. Bixby

Inventor.

Felix B. Tait
By John C. Bixby
Atty.

UNITED STATES PATENT OFFICE.

FELIX B. TAIT, OF DECATUR, ILLINOIS.

CHECK-ROW ATTACHMENT FOR CORN-PLANTERS.

SPECIFICATION forming part of Letters Patent No. 255,472, dated March 28, 1882.

Application filed October 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, FELIX B. TAIT, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented a new and useful Improvement in Check-Row Attachments for Corn-Planters, of which the following is a specification.

My invention relates to a new and useful improvement in check-row attachments for corn-planters which are operated by a wire or cord stretched across the field and having knots or stops thereon; and it consists, first, in the arrangement of a four-tooth ratchet-wheel mounted upon the ends of a transverse shaft and an oscillating arm having an oblong hole adapted to pass over the shaft, and is further provided with a tooth or spur formed on one side, so as to engage with the teeth of the ratchet and transmit an intermittent rotary motion to the shaft in connection with a weighted locking-pawl so arranged as to lock the ratchet and transverse shaft and oscillating arm at the terminus of each forward stroke; second, in combination with the above devices, a bevel-gear secured to the transverse shaft central between its ends, a clip-journal attached to the transverse beam which supports a short lateral shaft provided with a smaller bevel-gear, a crank-disk, and adjustable crank or wrist pin for operating the slide-bar of the seed-valves. I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is an end view, representing the ratchet and pivoted oscillating arm or lever at the terminus of its forward stroke, stopped and locked by the weighted locking-pawl, as it appears the instant before the knot or stop on the wire slips through the fork; also shows the guides on the ends of the bar, and the wire as applied when in practical operation. Fig. 2 is a top view of the same with the addition of the central gearing which connects with the seed-slide, and represents the checking mechanism at the end of the shaft as it appears at the terminus of its back-stroke or in the position to which it is returned by the spring shown in Fig. 1. Fig. 3 is a plan of the oscillating arm, showing the tooth or spur cast onto one side and the oblong hole in its

body. Fig. 4 is a plan view of the crank-disk, showing its adjustable crank or wrist pin. Fig. 5 is an end view of the clip-journal. To more clearly represent it, the cap is elevated a little above the main body. Fig. 6 is a side view of the same with cap properly adjusted.

Similar letters refer to similar parts throughout the several views.

Let A represent the lengthwise side beam, fixed to the end portions of the transverse beam B, this frame being of proper dimensions and of suitable construction to render it capable of use on most, or perhaps all, of the popular corn-planters now in use. Upon this frame are mounted the several parts of mechanism embodied in my improvement, of which C represents the transverse shaft, fitted to revolve in suitable bearings, *d*, of the plate D, which is attached to the lengthwise side beam, A, and is supported centrally by the arm E' of the clip-journal E, which extends outward and downward from the transverse beam B. Onto each of the extreme ends of this shaft C is secured a four-tooth ratchet-wheel, F, and between it and the plate D is placed an oscillating arm or lever, G, provided with forks *g g*, between which the knotted wire runs. Onto one side of this arm G is cast a tooth or spur, *h*, which engages with the teeth of the ratchet alternately, and thereby revolves the shaft C one-quarter round with each forward stroke.

In order to allow the oscillating arm G to return to its first position and its tooth or spur *h* to pass over the top of the next tooth of the ratchet and drop into position, so that when actuated by the stop on the wire it will make another quarter-revolution of the ratchet and shaft, an oblong hole, *i*, is provided in the body or that part which passes over the shaft, and is elongated only so much as will allow the spur *h* to pass over the top of the ratchet-tooth. Its own weight, aided by the spring *e*, causes it to drop into place to be again operated by the wire. The direction of elongation of the hole *i* relative to the face of the spur *h* and direction of its leverage is such as will not allow the spur *h* to disengage from the tooth of the ratchet and jump over, so as to make a stroke without revolving the shaft C, as by close examination of this particular feature in

my improvement, as shown in Figs. 1 and 3, it will be obvious that the spur *h* cannot be disengaged when operated by the stops on the wire regardless of the velocity of its action. The terminus of its forward stroke forms a dead lock and stop to the shaft by the oscillating arm *G* striking the projection *h'* of the weighted pawl *H*, thereby forcing its lower projection, *h''*, up against the ratchet-wheel, thus forming a lock which prevents further rotation of the shaft *C*.

I is a bevel-gear secured to the transverse shaft *C*, near its center, for the purpose of transmitting an intermittent rotary motion to the short lateral shaft *J* through the medium of a smaller bevel-gear, *K*, which is secured thereto. The gear-wheel *K*, mounted on the end of the lateral shaft *J*, is necessarily one-fourth the diameter of the gear-wheel *I*. The object of this is apparent from the following description: The shaft *C* being impelled by a ratchet and pawl, said ratchet having four teeth, and at each oscillation of the arm *G* the shaft *C* turns one-quarter round. The gear-wheel *I*, being four times the diameter of the gear *K*, causes the shaft *J*, upon which it is mounted, to revolve one-half round, the opposite end of this lateral shaft *J* being provided with a crank-disk, *L*, carrying an adjustable crank or wrist pin, *k*, which is designed to engage with the shake-bar or seed-slide of the planter in a manner common to the art. The object of this crank-pin being adjustable is to facilitate lengthening or shortening the stroke of the slide-bar, as is often necessary in its use with the many planters of different construction for which it is designed.

The clip-journal *E* is adapted to fit over the transverse beam *B*, as shown in Fig. 2, and is secured thereto by the bolts *c' c''*, and has lower projections, *ff*, which are provided with holes or journals *g' g'*, adapted to receive the lateral shaft *J*. A cap-plate, *g''*, forming the upper part of the journal at the end of the arm *E'*, extends along the top of the arm, and is secured to the body by the bolt *c''*, which passes through the cap-plate, clip, and beam, and secures all together in the manner shown in Fig. 2. A dowel-pin is cast onto the under side of the cap-plate, which is let into the body of the clip-journal to prevent lateral displacement.

The checking devices shown are used in duplicate at each end of the transverse shaft, being made rights and lefts, and the action of

one in planting corn does not affect the one opposite.

I am aware that prior to my invention four-tooth ratchet-wheels have been used in connection with a transverse shaft, as I am also aware that a weighted locking-pawl is held by me in a former patent; but these I do not claim separate and apart from other elements embodied in the present combination, as herein shown and described.

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

1. In a check-row attachment for corn-planters, a transverse shaft, a four-tooth ratchet-wheel, and weighted locking-pawl in combination with the oscillating arm *G*, having a tooth or spur, *h*, cast onto one of its sides to engage with the teeth of the ratchet-wheel, and the oblong hole *i*, adapted to pass onto the transverse shaft *C*, as shown, and for the purpose specified.

2. The combination, with the transverse shaft *C*, having the four-tooth ratchet *F* and oscillating arm *G*, the weighted locking-pawl *H*, and bevel-gear *I*, of the lateral shaft *J*, supported by and adapted to revolve within the journals *g' g'* of the clip-journal *E*, and provided with bevel-gear *K* and crank-disk *L*, which actuates the seed-slide, substantially as set forth.

3. In a check-row attachment, the combination, with a transverse shaft and mechanism for imparting an intermittent rotary motion thereto, of a clip-journal centrally located on the transverse beam *B*, having a laterally-projecting arm, *E'*, for the purpose of affording a central bearing and support to the shaft *C*, and provided with a cap, *g''*, which forms a part of the journal and extends along the top of said arm to the clip, to which it is secured in the manner and for the purpose specified.

4. In a check-row attachment, the combination, with the transverse beam and shaft, of the clip-journal *E*, having lower projections, *ff*, which pass down on either side of the beam *B*, and provided with holes or journals *g' g'*, which support the lateral shaft *J*, substantially in the manner shown, and for the purpose described.

FELIX B. TAIT.

Witnesses:

JOHN ARCHER,
BENJ. W. DILLEHUNT.