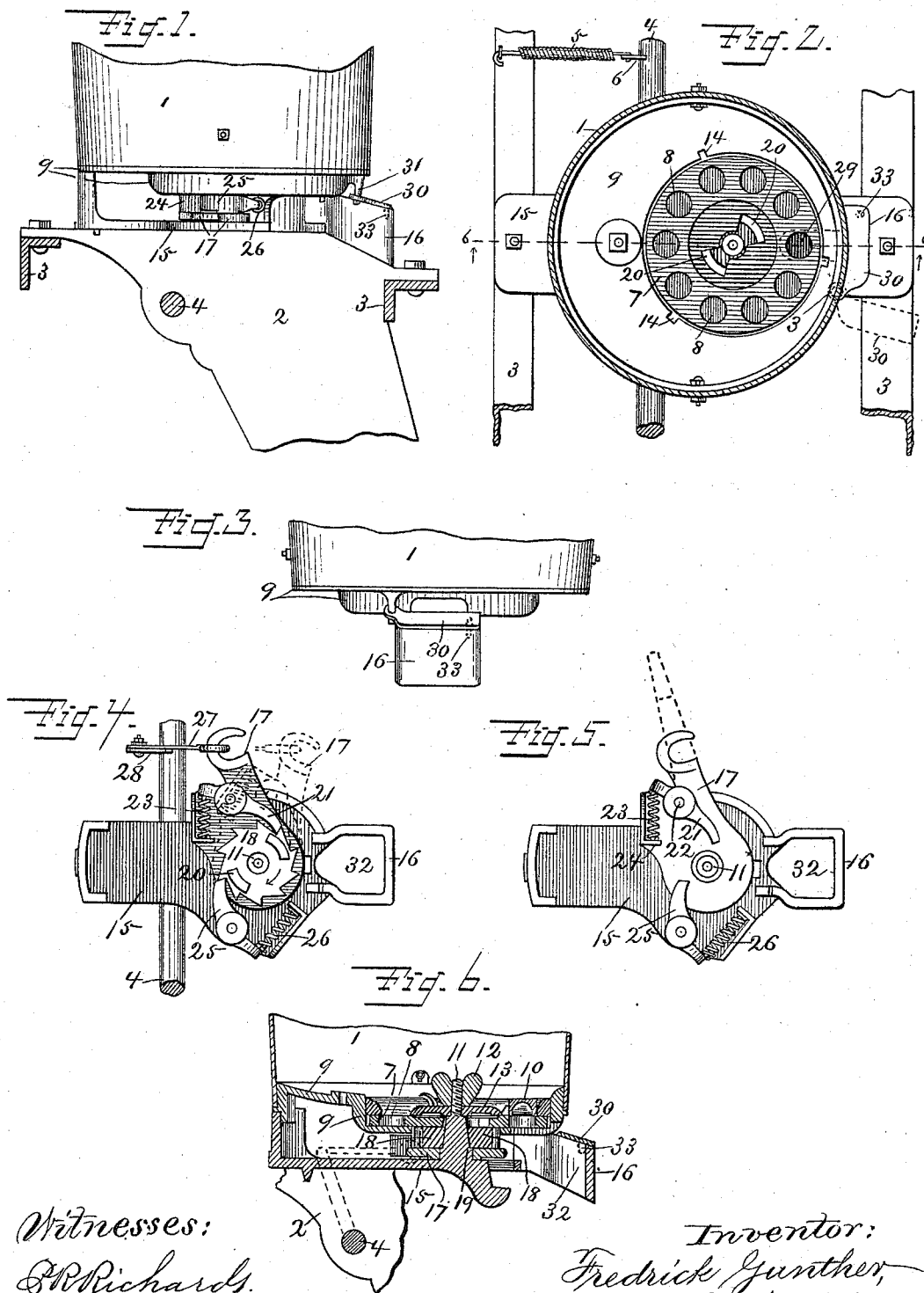


(No Model.)

F. GUNTHER.
CHECK ROW CORN PLANTER.

No. 579,266.

Patented Mar. 23, 1897.



Witnesses:
B. Richards.
H. M. Richards.

Inventor:
Fredrick Gunther,
By W. B. Richards,
Atty.

UNITED STATES PATENT OFFICE.

FREDRICK GUNTHER, OF KEWANEE, ILLINOIS.

CHECK-ROW CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 579,266, dated March 23, 1897.

Application filed January 25, 1897. Serial No. 620,552. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK GUNTHER, a citizen of the United States, residing at Kewanee, in the county of Henry and State of Illinois, have invented certain new and useful Improvements in Check-Row Corn-Planters, of which the following is a specification.

My invention relates to new and useful improvements in check-row corn-planters of that class in which an intermittently-rotating seed-cup disk or valve in the seedbox is used to separate the charges of seed from the supply in the seedbox and deliver said charges to the seed-tube.

The main object of the invention is to provide improved means for actuating the seed-cup disk.

The invention consists in constructions, arrangements, and combinations of parts hereinafter described and made the subject-matter of the claims, which form part of this specification.

In the accompanying drawings, which show my improvements and parts of an ordinary corn-planter with which they are incorporated, Figure 1 is a side elevation of part of an ordinary seedbox, of the upper end of a seed-tube connected therewith, of the disk-operating mechanism, and of other adjacent parts, and sectional elevation of two of the planter-frame bars; Fig. 2, a sectional plan of the seedbox, top plan of the seedbox-bottom, an ordinary seed-cup disk with a circular series of seed-cups, and of other adjacent parts hereinafter described. The cap-plate is not shown in this figure. Fig. 3 is a rear elevation of part of the seedbox, of the upper end of the seed-tube, and of other adjacent parts; Fig. 4, a top plan of parts located below the seedbox-bottom; Fig. 5, a top plan of the same parts shown at Fig. 4, except the ratchet-wheel, which is not shown in this figure; Fig. 6, a sectional elevation in the line 6 6 in Fig. 2. In this figure the cap-plate is shown in place and only a fragment of the seed-tube is shown.

To enable others skilled in the art to construct and use my invention, I will now proceed to describe it in detail, omitting a particular description of such parts of a corn-planter as are old and common to the art.

The seedbox 1, seed-tube 2, frame-bars 3, rock-shaft 4, spring 5, connected with a radius-bar 6 on the rock-shaft and with one of the

frame-bars, seed-cup disk 7, with annular series of seed-cups 8, seedbox-bottom 9, cut-off 10, stud 11, wing-nut 12, cap-plate 13, held in place by lugs which seat in recesses 14 in the seedbox-bottom, bar 15, which extends across from front to rear of the upper end of the seed-tube and the rear end of which is enlarged to form the upper end 16 of said tube, are parts of a common construction of check-row corn-planter to which my improvements are shown as applied.

It will be evident from the following description that my improvements, without departure from the purview of my invention, may be applied to check-row planters differing more or less in the construction and arrangement of parts from the common planter shown.

The stud 11 is integral with or otherwise fixed to the bar 15, and the lever 17 is journaled on the lower enlarged end of said stud as its center of motion. A ratchet-wheel 18 is journaled on the stud 11 closely above the lever 17, and is preferably prevented from frictional contact with said lever by resting on a shoulder 19 on said stud. The upper side of said ratchet-wheel projects through to the upper side of the seedbox-bottom, and is provided with lugs 20 on its upper side, which seat in correspondingly-shaped apertures in the disk 7 and removably hold said disk to intermittently rotate with the ratchet-wheel 18. A pawl 21, pivotally mounted on a stud 22, which projects from the mid-length part of the lever 17, is adapted to engage with the teeth of the ratchet-wheel 18, and is yieldingly held in engagement therewith by a spring 23, which is carried by the lever 17 between a projection 24 thereon and the projecting heel part of said pawl. A detent 25, pivotally mounted on the bar 15, is adapted to engage with the teeth of the ratchet-wheel 18, and is held in yielding engagement therewith by a spring 26. A link 27 is pivotally connected at one of its ends with the outer end of the lever 17 and at its other end with a radius-bar 28, which projects from the rock-shaft 4. The rock-shaft 4 is given a rocking motion by a forked lever acted on by tappets on a check-row line (not shown) and by the spring 5, the lever swinging it in one direction and the spring in an opposite direction. The normal position of the lever 17 is shown by full lines at Fig. 4. The forked lever

acted on by a tappet moves the lever 17 to the position shown by dot-lines at same figure, and the pawl 21, acting on a tooth of the ratchet-wheel 18, gives it a motion forwardly, and thereby gives a movement to the seed-cup disk and brings one of its seed-cups under the cut-off and over the opening 29 in the bottom of the seedbox, and thus delivers a charge of seed to the seed-tube. The detent 25 prevents backward movement of the ratchet-wheel 18 when the backward or return movement is given the rock-shaft and lever 17 by the spring 5, and the pawl 21 is dragged backwardly over a tooth of the ratchet-wheel to its position in rear of said tooth. A continuation of these movements will give the necessary intermittent rotary motion to the seed-cup disk.

In single-row planters the lever 17 may be operated by a rock-shaft, as described, or it may be elongated, as shown by dot-lines at Fig. 5, and be forked at its outer end for the action directly thereon of the tappets on a check-row line.

The ratchet-wheel 18 and lever 17, seated, as they are, below the seedbox-bottom and above the bar 15, render them visible and also accessible without the removal of other parts for inspection or repair when they seem to or may require it. The ratchet-wheel 18, removably attached to the seed-cup disk, permits of the use of seed-cup disks of the most simple construction and readily removable for substitution by others with a different size or form of seed-cups.

The part 16 of the bar 15 or upper end of the seed-tube extends in rear of the seedbox, is inclined rearwardly at its upper surface, and is covered by a cap 30. A stud 31, projecting downwardly from the seedbox-bottom, passes through a hole in a projection from one corner of the cap 30 and forms a pivot on which said cap can be swung from over the opening 32 to permit of the driver seeing therinto and ascertaining the correctness of the discharges of seed. A short lug 33, projecting downwardly from the cap 30, tends to keep it in its closed position until the cap is lifted slightly to release the lug and allow the cap to swing by its own gravity to its open position. (Shown by dot-lines at Fig. 2.) When the seedbox-bottom is removed, the stud 31 is thereby withdrawn from the hole in the cap 30 and said cap entirely released. In replacing the seedbox-bottom the cap 30 is thereby again pivotally mounted over the visible open upper end of the seed-tube.

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

1. In a corn-planter, the combination, substantially as described, with a seed-cup disk rotatably mounted on a stud-bolt, and a cap-plate, both the cap-plate and the seed-cup disk located above the bottom of the seedbox, of an actuating mechanism comprising a lever and a ratchet-wheel, both journaled on the

same stud-bolt as the seed-cup disk, a spring-actuated pawl pivotally mounted on said lever, a bar located beneath the seedbox and carrying said stud-bolt, a spring-actuated detent pivotally mounted on said bar, all of said actuating mechanism located below the bottom of the seedbox, and a rock-shaft actuated by a tappeted check-row line, and connected by a link and radius-bar with said lever.

2. In a corn-planter, and in combination, a seedbox, a bar beneath the bottom of the seedbox, a stud-bolt projecting upwardly from said bar, a seed-cup disk above the bottom of the seedbox and rotatably mounted on said stud-bolt, a lever and a ratchet-wheel, both pivotally mounted on said stud-bolt, the ratchet-wheel provided with means for removably connecting the seed-cup disk therewith, the lever carrying a pawl, and a detent, substantially as described.

3. In a corn-planter, and in combination, an intermittently-rotating seed-cup disk, a lever located below said seed-cup disk and pivoted concentrically therewith, a ratchet-wheel also pivoted concentrically with the seed-cup disk, a spring-actuated pawl carried by said lever, and a detent adapted to engage the ratchet-wheel, substantially as described.

4. In a corn-planter, and in combination, an intermittently-rotating seed-cup disk, a lever located beneath said seed-cup disk and pivoted concentrically therewith, a ratchet-wheel located between said seed-cup disk and lever rotatably pivoted concentrically therewith, and provided with means for removably connecting the seed-cup disk therewith, a spring-actuated pawl carried by said lever, and a detent adapted to engage the ratchet-wheel, substantially as described.

5. In a corn-planter, and in combination, a seedbox, a seed-cup disk, a bar beneath the seedbox-bottom, a lever below the seed-cup disk, a ratchet-wheel between said lever and the seed-cup disk, a stud-bolt projecting upwardly from said bar and serving as a journal for said lever, ratchet-wheel and seed-cup disk, a spring-actuated pawl carried by said lever, a spring-actuated detent mounted on said bar, a rock-shaft, a radius-arm projecting from the rock-shaft, and a link connecting said radius-arm and the lever, substantially as described.

6. In a corn-planter, and in combination, a seedbox, seed measuring and delivering mechanism in said seedbox, a seed-tube with its upper end part projecting in rear of the seedbox, a cap-plate or cover for said seed-tube, and a lug projecting from the lower rear side of the seedbox-bottom through a hole in said cap, which lug acts as a hinge or pivot for said cap, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FREDRICK GUNTHER.

Witnesses:

R. MURCHISON,
H. M. RICHARDS.