

D. KERSCHNER.
CORN DRILL.

No. 189,044.

Patented April 3, 1877.

Fig. 1.

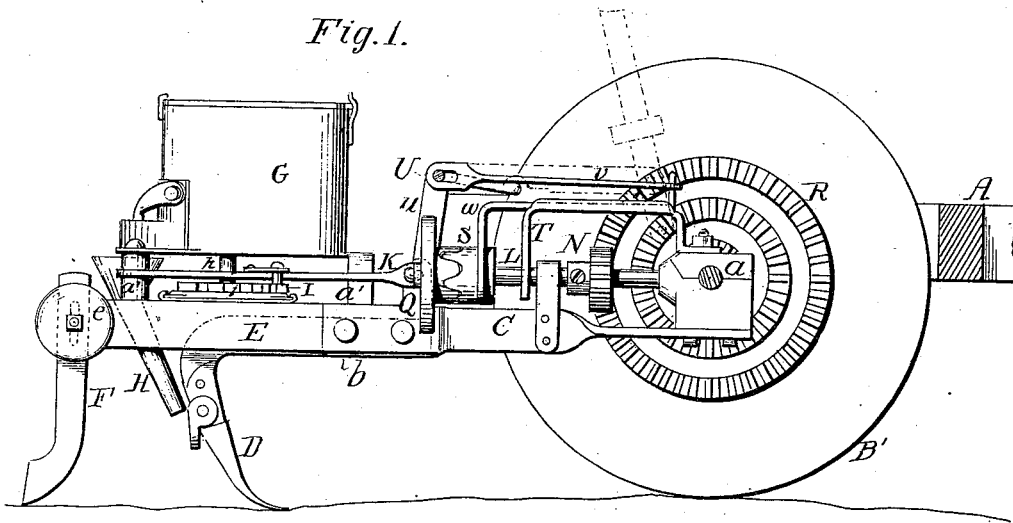
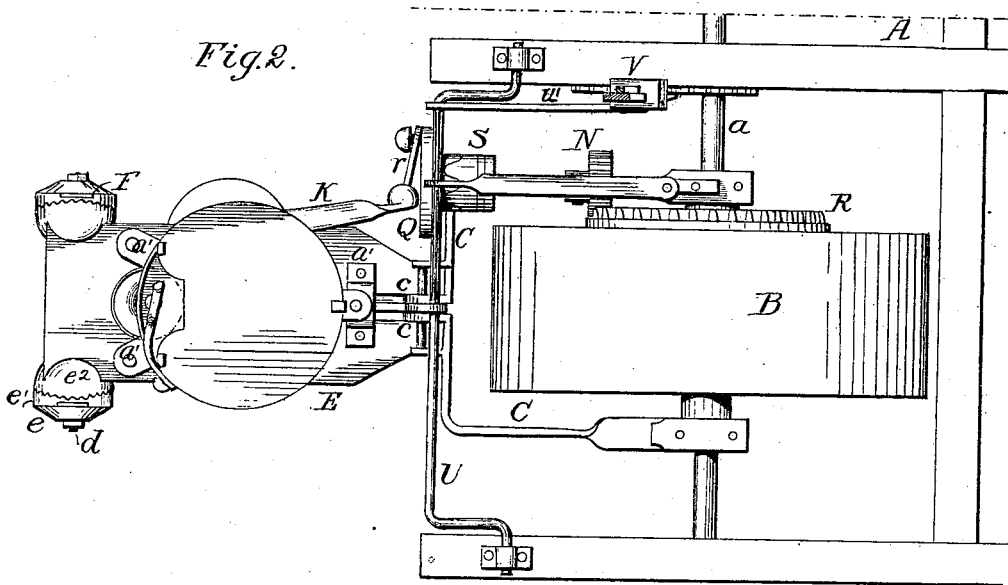


Fig. 2.



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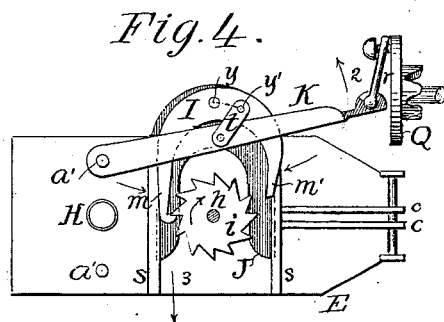
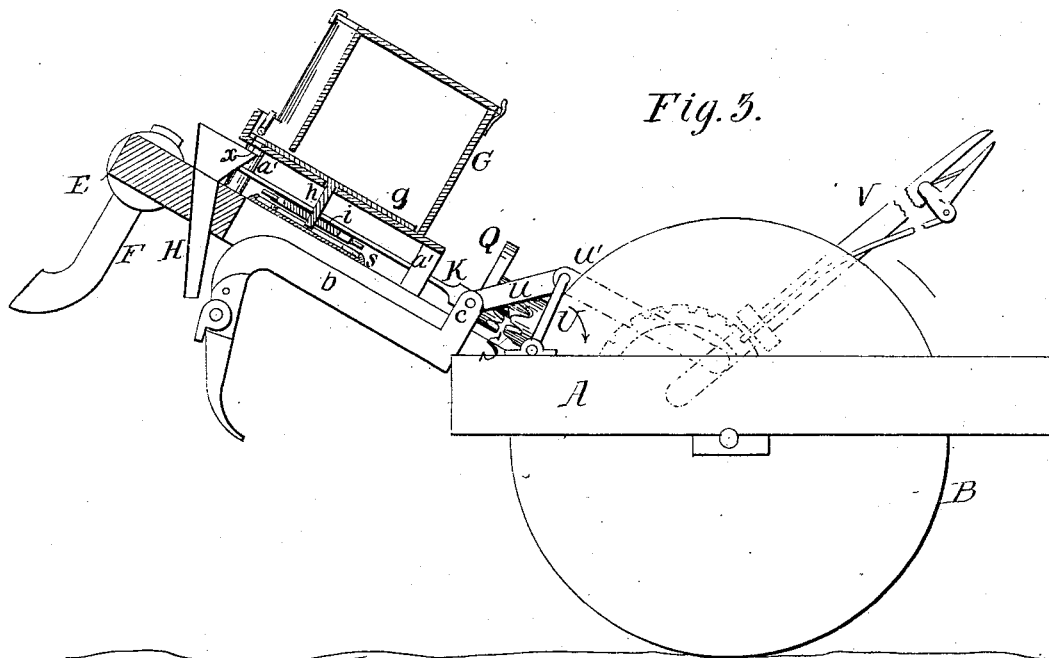
Frank M. [unclear]
Courtney A. Cooper

Daniel Kerschner
 By his atty.
E. O. Drink

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UNITED STATES PATENT OFFICE.

DANIEL KERSCHNER, OF CONNERSVILLE, INDIANA.

IMPROVEMENT IN CORN-DRILLS.

Specification forming part of Letters Patent No. 189,044, dated April 3, 1877; application filed May 25, 1876.

To all whom it may concern:

Be it known that I, DANIEL KERSCHNER, of Connerville, Fayette county, Indiana, have invented an Improved Corn-Drill, of which the following is a specification:

The object of my invention is a corn-drill constructed as fully described hereafter, to insure an accurate and uniform distribution of the seed, permit the spreaders to accommodate themselves to uneven ground without disturbing the plows, to arrest the feed when the plows are elevated, and to facilitate the adjustment of the spreaders.

In the accompanying drawing, Figure 1 is a sectional elevation of a corn-drill with my improvements; Fig. 2, a plan view of part of the drill; Fig. 3, a side elevation, partly in section; and Fig. 4, a detached plan view.

The frame A is supported by one or more driving-wheels, B B', secured to a shaft or axle, a. The arms of a yoke, C, are hung to the shaft a at opposite sides of each driving-wheel, and are united at the rear of the wheel, forming the beam b of a plow, D. To ears c on the yoke is hung the front end of a plate or platform, E, which extends above or is recessed to receive the beam b, and at the rear of each platform, at opposite sides, are covers F F, each slotted for the passage of a bolt, d, and clamped by a nut, e, against a washer, e', having a beveled and ribbed inner face adapted to the inclined face of a stud, e², of the platform. A hopper, G, is supported by standards a' above the platform, and contains a perforated feed-plate, g, by the rotation of which the seed is carried, in the perforations, above an opening, x, in the bottom of the hopper, through which it drops into a conducting-tube, H, at the rear of the plow. The spindle h of the plate g passes through the bottom of the hopper, and carries, near the lower end, a ratchet-wheel, i, to the teeth of which are adapted the hooked end m and straight end m' of U-shaped pawl I, pivoted at y to a slide, J, moving between guides s s on the platform. An arm, K, hung to one of the standards a', is connected, by a link, t, to a pin, y', of the arm m' of the pawl I.

In bearings of the yoke C turns a shaft, L, at right angles to the shaft a, and carrying a pinion, N, adapted to engage with toothed

rings R at the side of the driving-wheel. At the end of the shaft L is secured, but revolves freely, a disk, Q, to a pin on which is connected an arm, r, connected by a universal joint to the adjacent end of the lever K.

The hub of the disk Q is formed into teeth adapted to those of a clutch, S, sliding on, but turning with, the shaft L, and recessed to receive the forked end of a slide, w, supported and guided by a bracket, T, on the yoke C. A crank-shaft, U, is connected, by a link, u, to the yoke C, by a link, w', to a hand-lever, V, hung to the frame of the machine near the driver's seat. A link, v, is connected to the slide w, and is slotted at the opposite end to receive the crank-shaft U.

When the hand-lever V is thrown forward, and secured in the position shown in Fig. 3, the shaft U will be turned in the direction of its arrow, and will elevate the platform E and its appliances, as shown. As the shaft U is turned, it will at first move in the slot of the link v, but on reaching the end of the slot will throw the said link forward, together with the slide w and clutch S. In this position the machine may be moved from place to place without operating the feed.

When the hand-lever is moved to the position shown in dotted lines, Fig. 1, the platform E descends to a horizontal position, the clutch S is thrown into gear with the disk Q, which, as it revolves, imparts a reciprocating motion to the lever K. As the lever moves in the direction of the arrow 2, Fig. 4, the thrust of the link t against the arm m will turn the pawl I on the pin y, and bring the hooked arm m in contact with the teeth of the ratchet i, so as to revolve the latter in the direction of its arrow as the continued movement of the lever carries the pawl and slide J in the direction of the arrow 2. As the lever is thrown back the link t will draw upon the arm m', and throw the latter into contact with the teeth of the ratchet-wheel, which will be further turned in the direction of its arrow as the lever K continues its movements, carrying the pawl and slide in the direction of the arrow 3.

By these movements the feed-plate g is operated intermittently, the openings in said plate being so arranged as to coincide with the opening x during the dwell as each move-

ment of the lever K is completed. A positive and accurate feeding of the seed is thus insured.

As the platform E is hung loosely to the yoke C, it will yield and accommodate itself to the inequalities of the ground without disturbing the plow, and, owing to the slot in the link *v*, without throwing the feed-mechanism out of gear.

The spreaders F may be adjusted vertically upon the bolts *d*, and may be secured against a positive bearing in any suitable inclined position by turning the washers *e'* upon the bolt.

Other appliances may be used for simultaneously raising the seed-box and throwing the feed mechanism out of gear with the driving-shaft. The construction and arrangement of the parts may also be modified without departing from the main features of my invention.

I claim—

1. The feeding mechanism, consisting of the slide J, to which is pivoted at *y* the U-shaped double pawl I, arranged to be operated by means of the links *t* and its connections with the working parts of the machine, to give a vibrating motion to the double pawl I, and at the same time a sliding motion to the slide J, whereby motion is communicated to the feed-plate *g* by means of the ratchet *i*, in the manner and for the purposes set forth and described.

2. The combination, with the frame A, its driving wheel and shaft L, of the rear pivoted frame E, carrying the hopper and feed mechanism, the intermediate devices driven by the shaft L, and a clutch, which is disconnected on the elevation of the frame, as set forth.

3. The adjustable platform E, with its studs *e*², having inclined faces, combined with washers *e'*, with inclined faces, nuts *d*, and coverers F, having slotted shanks, as specified.

4. The combination of the yoke C, carrying the plow, the platform E, pivoted to the yoke and moving freely independent of the plow, and the slotted link *v*, for operating the devices by which the platform is raised and the feed thrown out of gear, as set forth.

5. The combination of the platform E, carrying the hopper, and feed mechanism operated from the shaft L of the main frame, the devices for disconnecting the shaft and feed mechanism, and the slotted link *v*, connecting said devices and the platform, and permitting a limited movement of the latter without disconnecting the gear, as set forth.

6. The platform-elevating device, consisting of the crank-shaft U, connected, by a link, *u*, to the yoke C, and, by a link, *w'*, to a handle-lever, V, hung to the frame of the machine, as shown, a link, *v*, connected with the slide *w*, slotted at one end to receive the crank-shaft U, arranged and adapted to be operated by the forward or backward movement of the lever V to elevate or lower the platform E with its feed mechanism, in the manner set forth and described.

7. The combination of the slide J, pawl I, lever K, and rod *r*, connected by a universal joint to the lever, and to a pin on the revolving disk Q, substantially as specified.

8. The platform E, carrying the hopper G, and coverers F, and hung to and adjustable independently of the plow-beam, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL KERSCHNER.

Witnesses:

E. O. FRINK,

E. C. WHITNEY.