J. CLARRIDGE.

CORN-PLANTER.

No. 186,802. Patented Jan. 30, 1877.

Fig. 1.

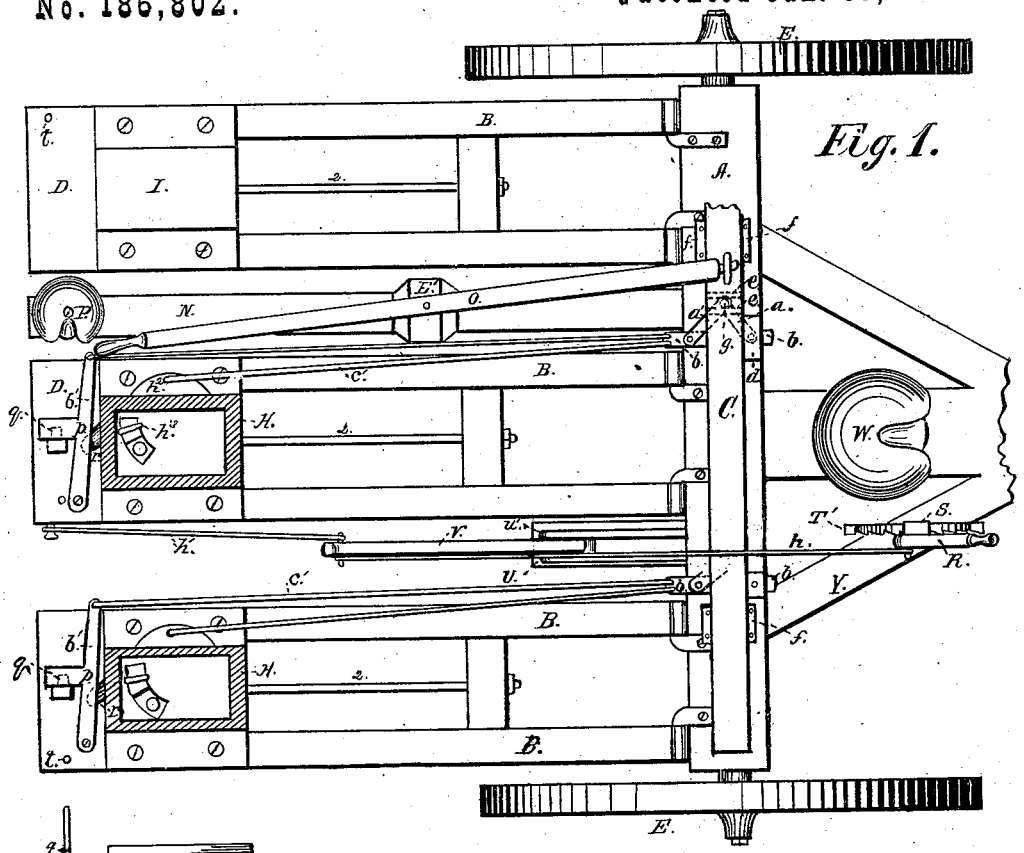


Fig. 2.

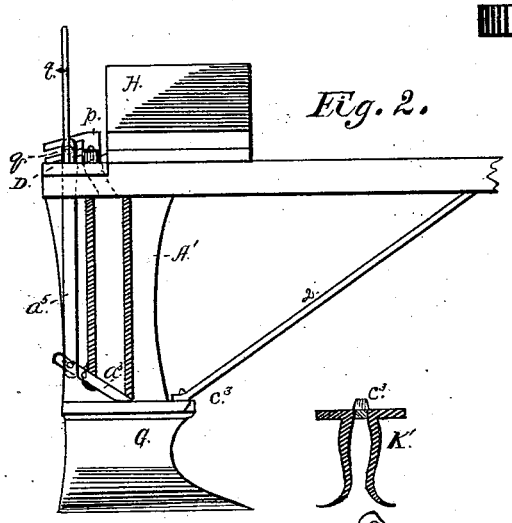


Fig. 3.

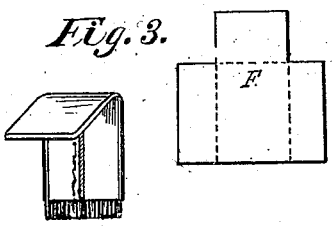
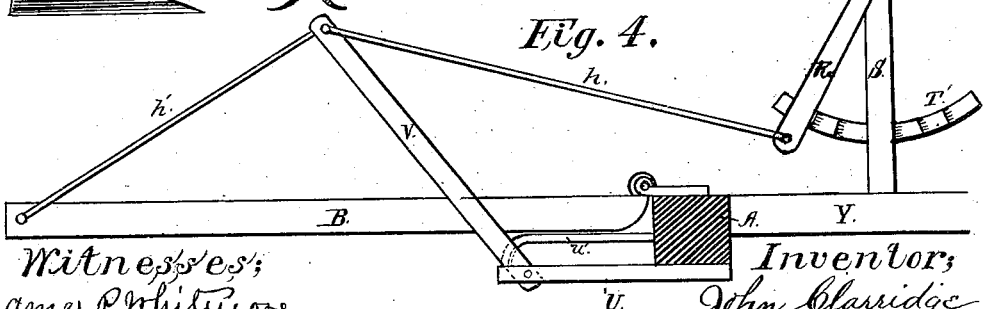


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN CLARRIDGE, OF MOUNT STERLING, OHIO.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **186,802**, dated January 30, 1877; application filed December 16, 1876.

To all whom it may concern:

Be it known that I, JOHN CLARRIDGE, of Mount Sterling, in the county of Madison and State of Ohio, have invented certain new and useful Improvements in Corn-Planters; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a corn-planter provided with my improvements. Fig. 2 is a side elevation of the rear of one of the plow-frames, showing, in section, some of the devices. Fig. 3 represents my improved bristle-holder or cut-off. Fig. 4 is a side elevation of the improved device for raising or lowering the plow-frames.

This invention relates to that class of planters designed for use upon large farms, and having three or more plow-frames arranged parallel to each other, and suitably connected to an axle supported upon wheels, in the usual manner.

My improvements consist in the mechanism for actuating the dropping devices, and in the particular formation of the under-cutting plow, as will be set forth, and the invention distinctly pointed out in the claims.

Hinged to the axle A at right angles are a set of rearwardly-projecting plow-frames, B, Fig. 1. These frames support upon their rear ends platforms D, and the seed-boxes or hoppers from which the grain is distributed. To the under side of the frames, just beneath the platforms, are bolted the standards or shanks A′, to which the plows are attached. Between any two of the frames, and of an equal length, is a seat-beam, N, rigidly fastened to the axle, and inclined slightly upward, so that the operator, sitting in the swiveled seat P, will be enabled to overlook the hoppers. Upon this beam is a suitable bearing-block, E′, to which is pivoted the lever O, with a handle conveniently near the seat P. The other end of this lever is pivoted, in any convenient manner, to the slide-bar C, which is held in slides *f* upon the top of the axle, and has a longitudinal motion in line with it. Between each of the frames upon the axle are the slides *b*, at right angles to the bar C, to which they are connected by the toggle-levers a^1, *a*, and *c*. These levers may be either single or double, as shown. When double, one end of the rear joint a^1 is pivoted to the slide *b*, and one end of the forward joint to the guide-block *d*, in which the slide *b* works. They are then united, and upon the pivot which connects them is a friction-roller, *g*, confined in transverse guides *e* upon the under side of the slide-bar C. The single lever *c* is attached to the slide *b* and to the under side of the bar C; but is not, in my opinion, as efficient as the double lever just described. I employ the ordinary seed-box H, with a disk-valve, h^2, constructed and arranged in the usual manner, and operated by the rod c^1, connecting it with the slide *b*. The manner of constructing the cut-off brush consists in inclosing the bristles in a piece of leather, of the shape represented in F, Fig. 3. The dotted lines indicate the edges to be turned. The bristles are placed in order upon the middle piece, and are touched with paint. The side pieces are then turned over upon them, and the top piece turned down, as represented. The leather may be secured by a few stitches, or in any convenient manner. This makes a very secure holder, and prevents the bristles from being displaced. After being trimmed and allowed to extend from an eighth to a quarter of an inch from the leather, the cut-off is clamped in its usual position in front of the valve-opening h^3, Fig. 1. In the bottom of the standard A′ is pivoted the valve a^3, Fig. 2, from which a rod, a^5, passes up in the rear of the shank through the platform D. The valve is operated by means of the lever *b′*, pivoted upon the platform, and provided with a block, *p*, having an inclined or cam slot in which a friction-roller, *q*, attached to the valve-rod a^5, works. As the lever is moved backward and forward by the slide *b*, to which it is connected by a rod, c^1, the valve-rod is depressed and raised alternately, thereby operating the valve. The action is direct in each movement, and is an improvement upon the wedge-lever and spring formerly employed.

In using the seed-box H, I place it upon the frame just in front of the platform, and provide an open guide-spout, *r*, to convey the grain from the hopper into the shank. This arrangement is to enable the operator in the seat P to see that no obstruction occurs, and

that the corn is evenly distributed from the boxes; and as he occupies a position in a line with the sight-rod *t* set vertically upon the end of the extreme frame, he is aware of the precise time at which it is necessary to operate the lever *b'*.

Hinged to the end of the rearwardly-projecting beam U, which is fastened to the under side of the axle, is an upright rearwardly-inclining arm, V, connected at its top to the rear end of the plow-frame, Fig. 4, by a rod, h^1. Two guide-rods, *u'*, help to sustain the beam U, and serve to keep the arm V from moving laterally. A rod, *h*, connects the top of the arm V with the bottom of a lever, R, pivoted upon an upright post, S, at the side of the driver's seat W. A curved rack, T', upon the post engages, with its teeth, the lever R, and holds it at any required position. This system may be applied to each plow-frame, so that the driver, at his option, may raise any one of them for any purpose.

G, Fig. 2, is a double under-cutting cast-steel plow, with a sharp cutting-edge, and of a peculiar shape. The angle formed by its two sides, half-way up, should not exceed ten degrees, (10°,) and may be even less. From this point downward the outside edges in the rear (see K') describe a curve nearly corresponding with that of a quadrant, so that a portion of the sides lie flat upon the ground. The upper half of the plow is nearly straight upon its sides, and its flanged top corresponding with the flange upon the bottom of the standard A' is provided with a slot, through which the grain falls. The top of the front edge projects above the flange and forms a shoulder, c^3, which, bearing against the shank, strengthens the fastening.

The advantage to be derived from the particular shape of this plow is, that the ground is opened down to the moist earth, and the grain deposited thereon, and as the plow passes through the earth falls back into nearly its original position, and nothing further is required to cover the grain.

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

1. The double under-cutting steel plow G, whose rear flanging-edges, describing a curve, as shown, come to sharp points, whereby the earth is allowed to fall gradually and cover the deposited grain, in the manner specified.

2. The combination and arrangement of the lever O, slide-bar C, and slides *b*, the latter being operated by the toggle-levers *a*, a^1, and *c*, in the manner set forth.

3. The combination and arrangement of the swiveled seat P, beam N, axle A, and plow-frames B, whereby the operator is placed in line with the sight-rod *t*, and is enabled to overlook the hoppers, as and for the purpose specified.

Witness my hand this 16th day of March, A. D. 1875.

JOHN CLARRIDGE.

Witnesses:
E. THOMPSON,
CHAS. M. PECK.