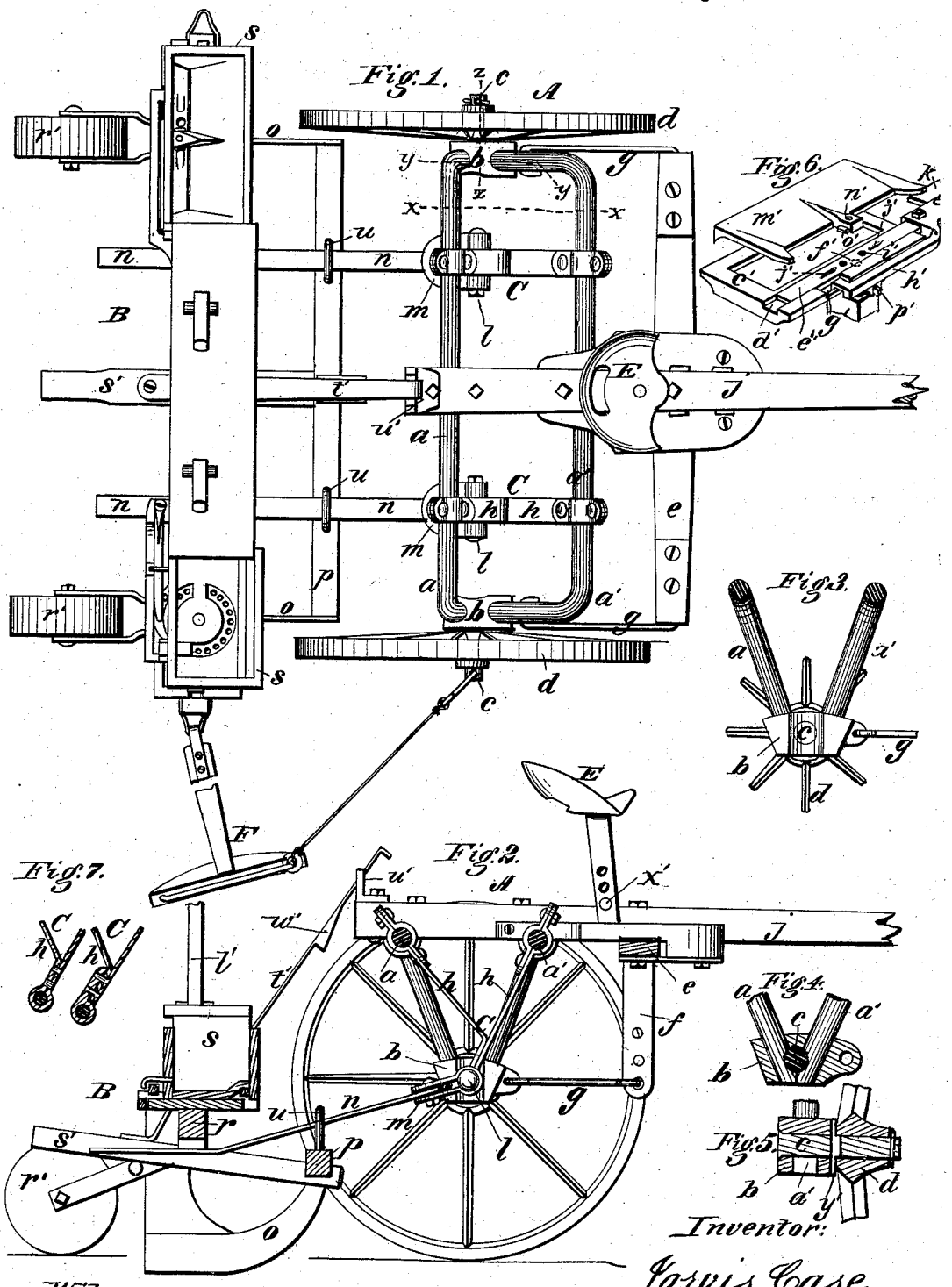
J. CASE.

CORN-PLANTERS.

No. 194,127. Patented Aug. 14, 1877.



Witnesses:

Donn P. Twitchell.

Will M. Dodge.

Inventor:

Jarvis Case.

By his Attys.

Dodge & Son.

UNITED STATES PATENT OFFICE.

JARVIS CASE, OF WASHINGTON COURT-HOUSE, OHIO.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **194,127**, dated August 14, 1877; application filed May 22, 1877.

To all whom it may concern:

Be it known that I, JARVIS CASE, of Washington Court-House, in the county of Fayette and State of Ohio, have invented certain Improvements in Two-Row Corn-Planters, of which the following is a specification:

The object of my invention is to produce a simple and efficient planter, which may be readily converted into a cultivator by substituting ordinary cultivator-beams in place of the planting devices; and to this end the invention consists in various details of construction, but more especially in the peculiar construction of the main frame.

Figure 1 represents a top-plan view of the planter; Fig. 2, a longitudinal vertical section of the same; Fig. 3, a vertical section of the main frame on the line *x x;* Fig. 4, a section of the same on the line *y y;* Fig. 5, a vertical section through one end of the frame on the line *z z;* Fig. 6, a perspective view, showing the construction of the feeding mechanism; Fig. 7, a view showing the construction of the adjustable arms or brackets of the main frame.

The machine consists, primarily, of two main parts—a front-wheeled draft-frame, A, and a rear frame, B, provided with the runners, hoppers, and all the other planting devices, connected to the front frame in such manner that it may be readily detached to permit the substitution of cultivator-beams in its place.

The main frame consists, essentially, of two parallel transverse iron bars, *a a'*, arranged at some distance apart, and having their ends bent downward and united in two metal blocks, *b*, which latter are provided with outwardly-extending journals, *c*, on which the two supporting-wheels *d* are mounted, as shown in Figs. 1, 2, 3, and 5, one on each side of the frame. Upon the bars *a a'* there is secured, by hook-bolts or other suitable fastening devices, a forwardly-extending tongue or draft-pole, *j*, which may consist of a single straight bar, as shown in the drawing, or of two diverging bars, as commonly used in walking-cultivators. To the under side of the tongue, in advance of the frame, there is pivoted a transverse equalizing-bar, *e*, to the ends of which there are pivoted downwardly-extending bars, *f*, which latter have their lower ends jointed to the ends of links *g*, extending backward, and hooking at their rear ends through ears on the axle-blocks *b*, as shown in Figs. 1 and 2. The bars *f* are provided with a series of holes, which admit of the single-trees being attached thereto at different heights.

As a means of attaching and drawing the planter-frame B or the cultivator-beams, the main frame is provided with two depending arms or brackets, C, each consisting of an eye or socket provided with two upwardly-diverging arms, *h*, the upper ends of which are clamped fast to the bars *a a'*, respectively, as shown, the parts being so arranged that the brackets may be adjusted laterally on the frame, and that the eyes at their lower ends are always maintained in line with the axis of the wheels, so that the rocking or tilting of the frame has no effect upon the position of the eyes, and strain received by the latter has no tendency to tip the frame.

The form and construction of the brackets may be varied, provided the above-mentioned peculiarities are retained. Their upper ends may be drawn against one side of the bars *a a'* by means of bolts passing through plates or washers on the opposite side, as shown in the drawings, or hook-bolts used, or the ends of the arms carried around the bars and tightened upon themselves by bolts. The eye at the lower ends may be a separate piece bolted to the arms, or it may be forged or cast in one piece therewith.

To the lower end of each bracket I connect, by means of a horizontal pivot-bolt, *l*, a plate or clevis, *m*, to receive the arms *n* of the planter-frame, or in their stead the ends of the cultivator-beams.

The planter-frame consists of two runners, *o*, of the form generally used in corn-planting machines, connected at their forward ends by a cross-bar, *p*, and at their rear ends by a second and heavier bar, *r*, which latter also sustains the two seed-hoppers *s*, from which the seed is dropped by the feeding devices through the heels of the runners. The two bars or arms *n*, preferably made of elastic steel, are secured at their rear ends by bolts to the under side of the bar *r*, and extended thence forward through two loops or guides, *u*, on the

bar p, and attached by vertical bolts to the clevises m of the draft-frame, as before mentioned, and as clearly shown in Figs. 1 and 2. This arrangement of parts causes the planter-frame to be drawn directly after the main frame without moving laterally, while at the same time the height of the guides u and the flexibility or looseness of the bars n admit of the runners rocking sufficiently to follow the surface of the ground and form clean continuous furrows therein.

The feeding mechanism may be of any of the ordinary forms; but the construction represented in Figs. 2 and 6, and in the left-hand hopper in Fig. 1, is considered better than any other. A rectangular base plate or frame, c', to sustain the hopper is formed with a groove, d', in one side to receive and guide the feed-slide e', with a hole, f', to permit the passage of the seed down into the runner below, and with a slot, g', to guide the end of an arm, h', which latter serves to actuate the usual flip-valve located in the runner. The feed-slide e' is simply a straight bar provided with two holes or cells, i', and with the two inclined depressions j'. At one end the slide is bolted to the arm h', which is in turn bolted to a bar, k', which latter extends across the machine from one feed mechanism to the other, and receives motion from a hand-lever, l', to be operated by a boy, as usual.

Owing to the fact that the feed-slide is of the straight and regular form, it may be drawn out after unbolting its end, and replaced by another, without removing or disturbing any of the other parts.

The bottom of the hopper above the feed-slide, which is located at one side, is formed by a single plate of metal, m', inclining downward toward the slide, but cut away in such manner that the seed may rest upon the whole slide, except at the middle of the hopper, where the metal bottom has a point or cut-off, n', extending across the slide directly over the hole f' in the under frame or plate.

The cut-off n', which is cast upon the bottom plate, has secured to its under side a block of soft leather, o'. As the feed-slide moves to and fro, the two cells i' pass alternately under the cut-off, carrying the grain thereunder, and discharging it, through the hole f', into the runner in the ordinary manner.

The arm h' has its free end provided with a hook or lip, to enter the before-mentioned guiding-slot g', and also has on its under side a notched stud, which engages upon and operates a lip, p', on the upper end of the flip-valve.

For the purpose of giving the runners the required position, and governing the depth to which they enter the ground, and also to cover the corn in the furrows, a roller, r', is mounted in vertically-adjustable arms directly behind each runner.

The planter-frame is provided with a rigid arm, s', extending backward, as shown, as a means by which to lift the runners when required.

For the purpose of suspending the runners out of the ground when moving the machine to or from the field, the arm s' of the rear frame is provided with a metal strap or arm, t', extending upward through a notched block, u', on the rear end of the main tongue, and provided with a beveled block, w', which engages automatically with the block w' when the frame is raised.

The seat for the dropper is formed by extending a board from one hopper to the other, and steps to aid the dropper in mounting are formed by extending the ends of the draft or coupling-arms n backward, as shown.

The driver's seat E is provided with two supporting-legs, seated in holes in blocks of wood bolted to the sides of the tongue j of the main frame, as shown, the descent of the legs being prevented by a pin, x', connecting them and resting upon the tongue. A series of the holes for the legs are provided in order that the seat may be shifted forward and backward, and, if desired, a series of pin-holes may be made in the legs to admit of the seat being adjusted in height.

Referring back again to the main frame, I will now explain more in detail the construction of its sides.

The bars a a' have their converging ends or arms passed down through the block b too near each other to admit the journal c between them, and therefore have their adjacent faces notched or cut away to receive it. When the journal is driven home between the bars thus notched it serves as a key and fastens them firmly in the block, preventing them from moving up or down, and also preventing the block from turning or working under the strain exerted upon the journal by the wheels. At its inner end the journal is enlarged or headed to prevent it from passing outward through the block; and it is prevented from turning or sliding inward by a key or pin, y', passed through it and seated in a groove in the outer face of the block b, as shown. The key y' is provided with a shoulder or projection, over and under which the hub of the wheel engages, as shown in Fig. 5, thereby holding the key in place.

For the purpose of marking the ground I provide the machine with a shifting or changeable marker, F, consisting of an arm having its inner end provided with a hook engaging in an eye on the frame, and its outer end provided with a runner, and drawn forward by means of a cord, having a hook to engage in an eye or ring on the linchpin or axle of the main wheel. When required, the marker may be detached from one side of the machine and applied to the other. The cord, as shown, is attached to the runner by a ring sliding on a rod on the runner, so that the cord may shift from end to end of the runner, as required.

Having thus described my invention, what I claim is—

1. In combination with the arched bars *a a'*, blocks *b*, journal *c*, and wheels *d*, the rigid depending laterally-adjustable brackets C attached to the two bars, and provided at their lower ends with eyes or sockets in line with the journals *c*, as shown.

2. The arched draft-frame having the two supporting-wheels, a tongue, and two rigid depending laterally-adjustable brackets, C, having their lower ends adapted to receive beams or drag-bars, substantially as shown and described.

3. In combination with the blocks *b* and the notched ends of the bars *a a'* inserted therein, as shown, the journals *c*, seated in the blocks, and the arms, as shown, to hold the arms in place.

4. In combination with the blocks *b*, the notched arms *a a'*, and the journals *c*, the shouldered keys *y'*, and the wheels *d*, applied, as shown, to retain the keys in place.

5. In combination with the tongue *j* and the mortised blocks attached to its side, the adjustable seat E, provided with the two legs and the transverse sustaining-pin *x'*.

6. In combination with the draft-frame A, the planter-frame B, constructed as shown, and provided with the guides *u* and the draft-bars *n*, the latter extending through the guides and connecting with the draft-frame, as shown.

7. The combination of the metal frame *c'*, having the groove *d'*, the feed-slide *e'*, and the inclined cast-metal bottom *m'*, having the cut-off point *n'*, as shown.

JARVIS CASE.

Witnesses:
ELI CRAIG,
WILLIAMS CRAIG.