2 Sheets—Sheet 1.

A. M. SOUTHARD.

CORN-PLANTER.

No. 185,140. Patented Dec. 5, 1876.

Fig. 1.

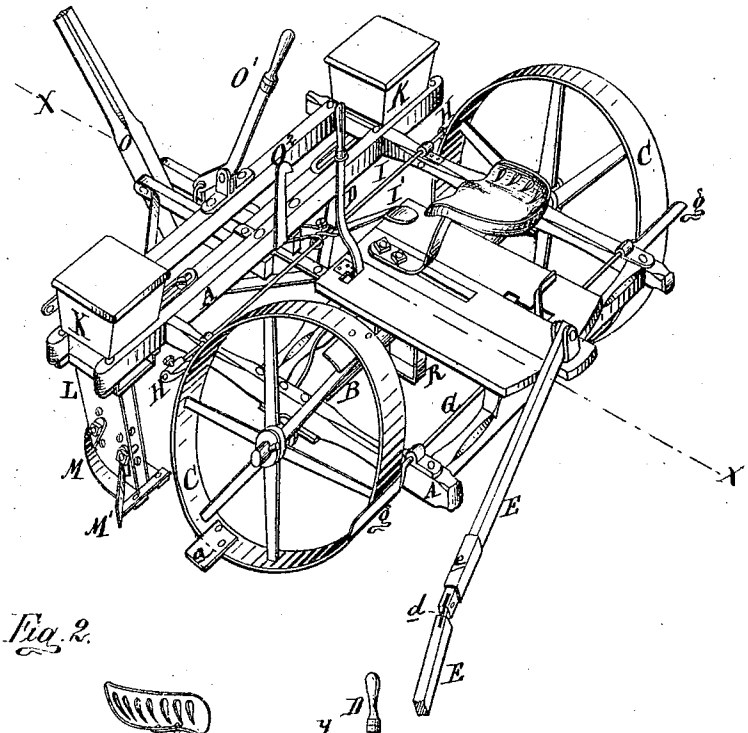
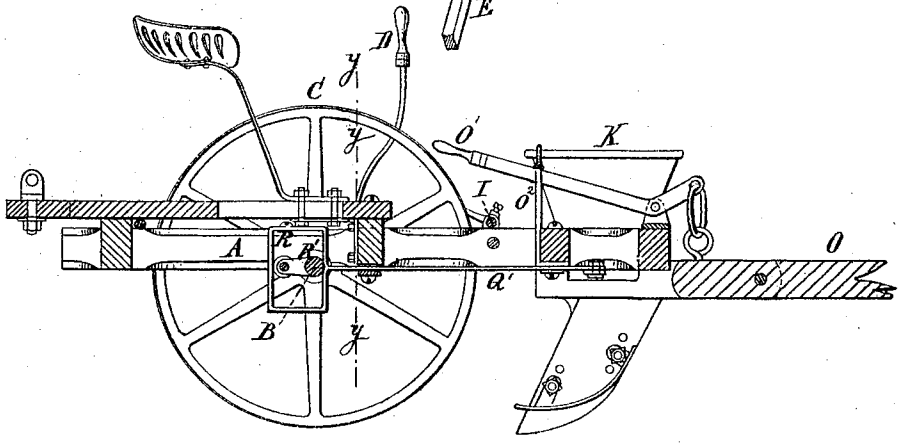


Fig. 2.



Attest:
A. Ed. Barthel.
H. G. Eberts.

Inventor:
A. M. Southard
By Atty
Phil. S. Sprague

2 Sheets—Sheet 2.

A. M. SOUTHARD.

CORN-PLANTER.

No. 185,140. Patented Dec. 5, 1876.

Fig. 3.

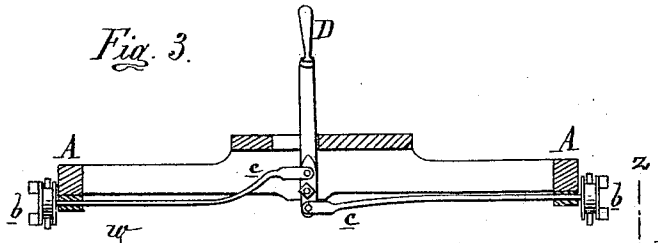


Fig. 4.

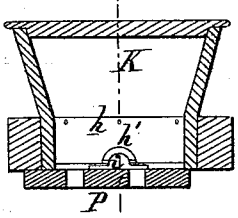


Fig. 5.

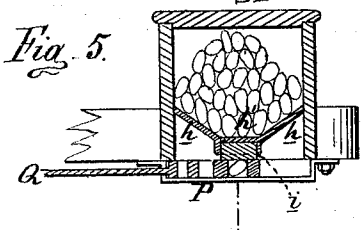


Fig. 6.

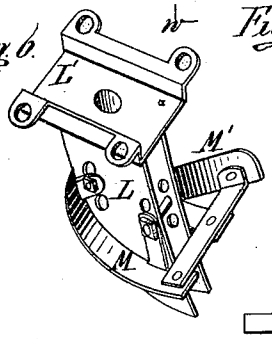


Fig. 8.

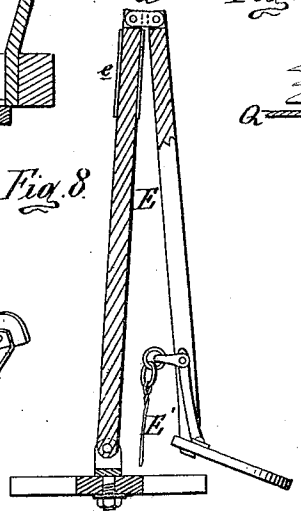


Fig. 7.

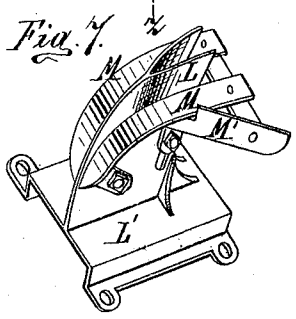
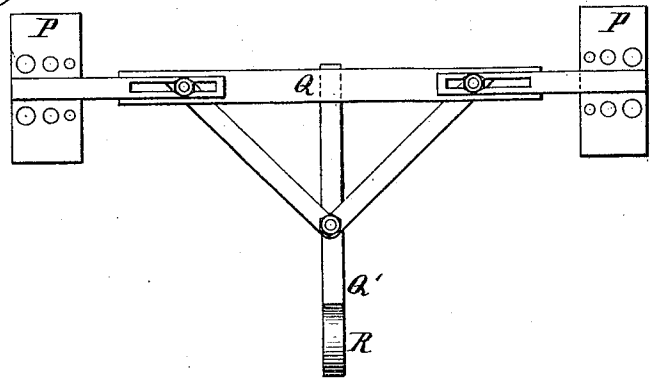


Fig. 9.



Attest:
A. Edd. Barthel.
H. G. Eberts.

Inventor:
A. M. Southard
By Atty
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UNITED STATES PATENT OFFICE.

ABRAHAM M. SOUTHARD, OF MARSHALLTOWN, IOWA.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **185,140**, dated December 5, 1876; application filed April 19, 1876.

To all whom it may concern:

Be it known that I, ABRAHAM M. SOUTHARD, of Marshalltown, in the county of Marshall and State of Iowa, have invented an Improvement in Corn-Planters, of which the following is a specification:

My invention has relation to a check-row corn-planter, and is more particularly designed as an improvement on the implement of that class for which Letters Patent No. 169,307 were issued to me October 26, 1875.

The invention consists, first, in the peculiar construction of the furrow-opener, forming also the seed-spout; secondly, the combination therewith of adjustable depth-gages, and guards or scrapers for leveling the earth in the path of the marker, as more fully hereinafter explained.

Figure 1, Sheet 1, is a perspective view of the implement ready for operation. Fig. 2 is a longitudinal vertical section at *x x*, in Fig. 1, with the fore end of the frame raised up to lift the furrow-openers from the ground. Fig. 3, Sheet 2, is a cross-section at *y y* in Fig. 2, showing the clutch-lever and connections in elevation. Fig. 4 is a longitudinal vertical section through a seed-box at *z z*, in Fig. 5, which is a transverse vertical section of the same at *w w*. Fig. 6 is a rear perspective view of a furrow-opener and its attachments. Fig. 7 is a perspective view of the same inverted. Fig. 8 is a plan of the dropper-plates and their carrier-bar, and Fig. 9 a top detached view of the seed-plates, and the bar and frame through which they are reciprocated.

In the drawing, A represents the main frame, having the axle B journaled under it, and having a traction-wheel, C, upon each arm, each with two marking-plates, *a*, upon its rim, as described in the said Letters Patent. The inner end of each hub is notched to engage with a clutch-box, *b*, sliding upon the axle, and actuated by a lever, D, pivoted to a girt in frame, through a connecting-rod, *c*, pivoted to said lever above the fulcrum. The other rod *c* is connected thereto below the fulcrum, so that said clutch-boxes can be simultaneously adjusted, as shown in Fig. 3. The wooden bar E, carrying at its outer end the guide-marking runner, as described in said Letters Patent, is divided in the middle of its length, the two parts being connected by a plate-hinge, *d*, which enables it to be compactly folded for transportation, or in moving about. When in use, a sleeve, *e*, is slipped over the joint, giving it sufficient rigidity, more especially as the strain is taken by the guy-rope E′. G is the rock-shaft at the rear end of the frame, carrying the scrapers *g g* for removing earth adhering to the rims of the traction-wheels and marking-plates. H is a brake mounted at each end of a rock-shaft, I, journaled across the frame, and actuated by a treadle, I′. The object of these brakes is to compel the machine to make up or regain lost distance without dropping seed, as set forth in the said Letters Patent. K K are the seed-boxes in the front corners of the frame, each having in its lower part two inclined bottom boards, *h*, one at each side, connected at the middle by a hollow semi-cylindrical bridge-piece, *h′*, Fig. 4, which serves as a saddle for a rib on the back of a cut-off plate, *i*, under which reciprocates the seed-plate P, adjustably secured to a bar, Q, having a T-shaped prolongation, Q′, to rear, terminating in a vertical frame, R, which, with all its connections, is twice in each revolution of the axle reciprocated by an arm, R′, revolving with the latter, as described in the said Letters Patent. The rib on the back of the cut-off plate serves to keep the latter in position, while the dropper-plate can be adjusted laterally on its bar Q. L is a combined seed-spout and furrow-opener, formed of a sheet of steel bent vertically upon itself, with a rounded fore-foot, its front edge being sharp, and its sides flaring apart, pendent from a plate, L′, bolted to the under side of each seed-box, or preferably to the frame A under it. To each side is bolted a vertically-adjustable gage-shoe, M, which gages the depth of furrow, and which also levels off the ground in the path of the wheel. A laterally-projecting guard, M′, also throws aside lumps and clods to level the ground in the path of the marking-plates on the wheels, so that said plates will always leave a clear and well-defined impression in the ground to locate each hill dropped so clearly that the operator can make no mistake in the next round. The furrow-opener thus constructed has at least six inches less friction-surface in the ground than any shoe-run-

ner used for that purpose, and reduces the draft of the implement proportionately, while the surface being leveled by the gage-shoes will cause the traction-wheels to vary the dropping-distances less than on uneven ground.

To raise the furrow-openers above the ground, the draft-tongue O is pivoted between hounds projecting in front of the frame. A lever, O^1, is pivoted to a standard on the front girt of the frame A, its short arm being connected by a link with the heel of the tongue. By depressing the long arm of the lever the front end of the frame may be raised bodily, and held by locking the long arm of the lever to a spring-hook, O^2, on the frame.

What I claim as my invention is—

1. The combination, with the plate L′, of the seed-spout and furrow-opener L, constructed from a sheet of steel bent vertically upon itself, with a sharp rounded front edge and flaring sides, substantially as described and shown.

2. The combination, with the seed-spout and furrow-opener L, of the adjustable gage-shoes M, and the guards M′, constructed and arranged substantially as described and shown.

ABRAHAM M. SOUTHARD.

Witnesses:

OSCAR ALLEN,

L. P. HARRINGTON.