3 Sheets—Sheet 1.

A. & M. RUNSTETLER.

Corn-Planter.

No. 204,093. Patented May 21, 1878.

Fig. 3.

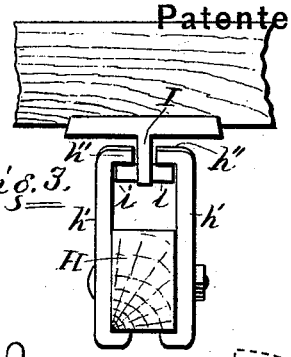


Fig. 2.

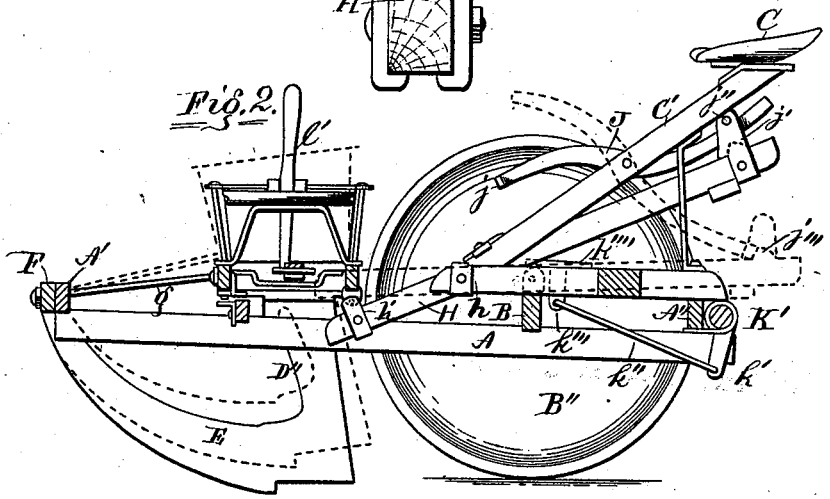
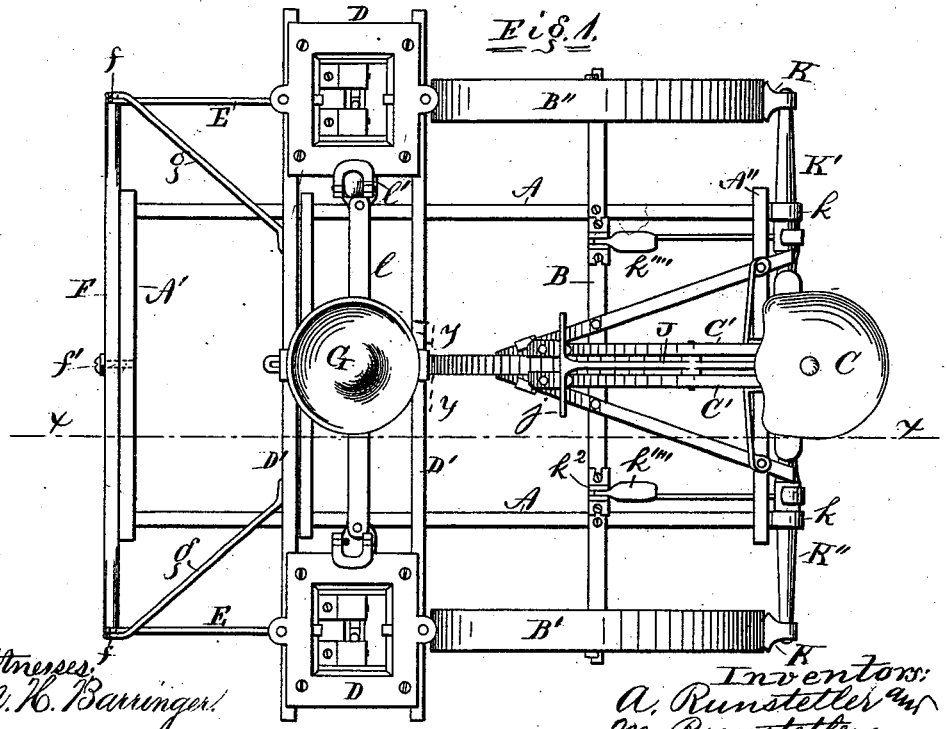


Fig. 1.



Witnesses:
M. K. Barringer.
A. McCallum

Inventors:
A. Runstetler and
M. Runstetler,
By W. B. Richards,
Atty.

3 Sheets—Sheet 2.

A. & M. RUNSTETLER.

Corn-Planter.

No. 204,093. Patented May 21, 1878.

Fig. 3.

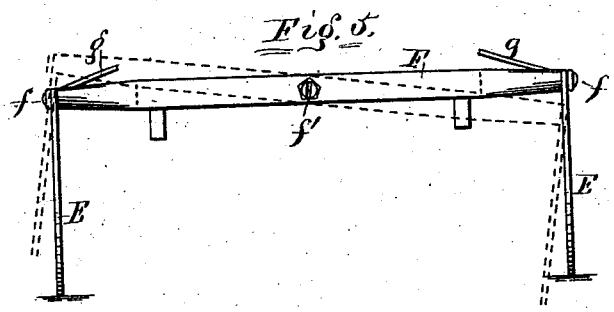
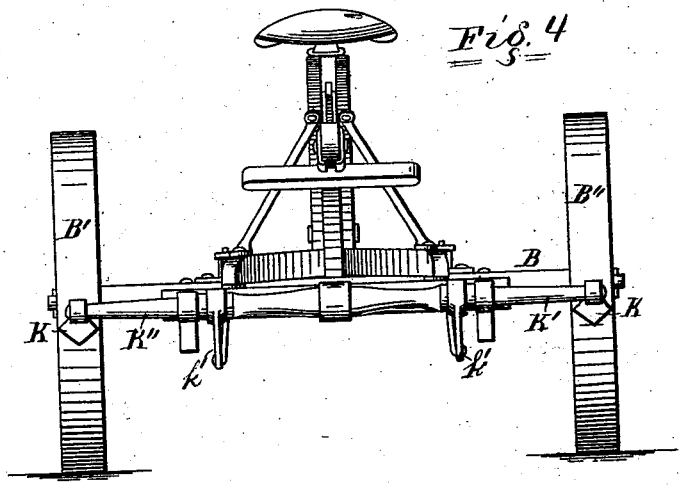


Fig. 4.



Witnesses:
M. H. Barringer
A. McCallum

Inventors:
A. Runstetler
M. Runstetler,
By W. B. Richards,
Atty.

3 Sheets—Sheet 3.

A. & M. RUNSTETLER.

Corn-Planter.

No. 204,093. Patented May 21, 1878.

Fig. 10.

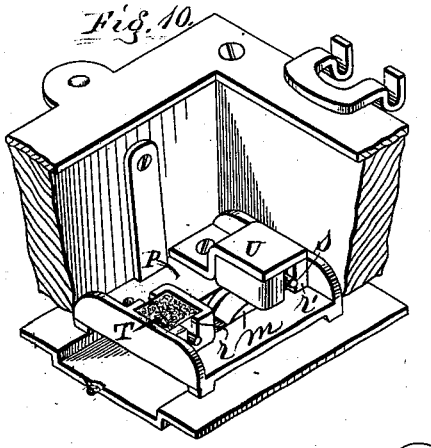


Fig. 6.

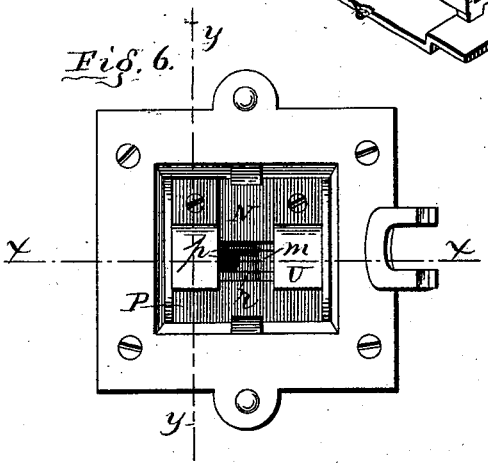


Fig. 9.

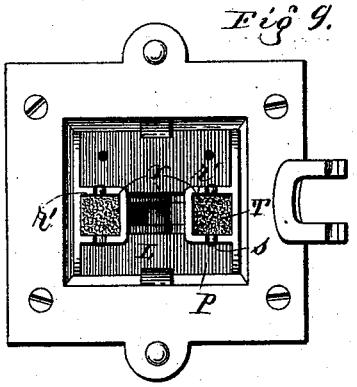


Fig. 7.

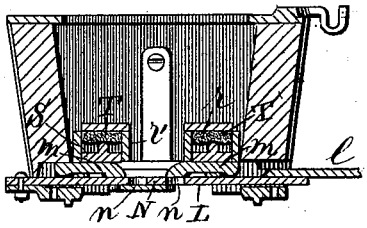
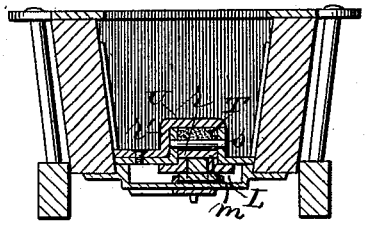


Fig. 8.



Witnesses:
W. H. Barringer.
A. McCallum

Inventors:
A. Runstetler and
M. Runstetler,
By W. B. Richards,
Atty.

UNITED STATES PATENT OFFICE.

ANDREW RUNSTETLER AND MICHAEL RUNSTETLER, OF MOLINE, ILLINOIS, ASSIGNORS TO DEERE & MANSUR COMPANY, OF SAME PLACE.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **204,093**, dated May 21, 1878; application filed January 2, 1878.

To all whom it may concern:

Be it known that we, ANDREW RUNSTETLER and MICHAEL RUNSTETLER, of Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Corn-Planters; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a top-plan view of a corn-planter embodying our invention. Fig. 2 is a vertical sectional view in the line *x x* in Fig. 1. Fig. 3 is an enlarged vertical sectional view in the line *y y* in Fig. 1, and elevation of adjacent parts. Fig. 4 is a rear elevation of the rear portions of the machine. Fig. 5 is a front elevation of the forward parts of the machine. Fig. 6 is an enlarged top-plan view of the interior of one of the seed-boxes. Fig. 7 is a vertical sectional view in the lines *x x* in Fig. 6. Fig. 8 is a vertical sectional view in the lines *y y* in Fig. 6. Fig. 9 is a similar view to Fig. 6, with portions removed. Fig. 10 is a perspective view of a seed-box, partly broken away to show the interior.

Our invention relates to improvements in corn-planters; and consists, first, in a forward frame, which carries the seeding devices, pivoted to the rear main frame, which carries the wheels, in such a manner that the forward and rear frames may be oscillated, either upon the other, in a vertical plane transversely with the planter, to permit of either furrow-opener or runner rising and falling independent of the other runner, and to permit of similar results for the wheels; second, in the use of a sliding connection between the lever for raising and lowering the forward frame, and the supplemental lever for operating said primary lever; third, in the use of connecting devices between the lever for raising the forward frame, and said frame, which permits of separating said parts without removal of bolts or other fastening; fourth, in the peculiar method of seating and securing the springs for controlling the action of the cut-offs or valves in the seed-slides, all as hereinafter fully described, and set forth in the claims hereto annexed.

Referring to the parts by letters, the same letter indicating the same part in the different views, A A represent the side bars, connected by a front bar, A′, and rear bar A″ and axle B, and constituting an ordinary rear frame of a corn-planting machine, supported on wheels B′ B″, and carrying a driver's seat, C, mounted on inclined bars C′ C′.

D D are seed-boxes, connected by bars D′, and provided with seed-tubes D″ and runners or furrow-openers E, the forward ends of which are journaled, one to each end of a bar, F, by stud-bolts *f*, and constitute, with a dropman's seat, G, an ordinary forward frame of a corn-planter.

The bar F is journaled at its central part by a journal, *f′*, to the central part and front side of the bar A′, so the bar F may be oscillated on the bar A′ to permit either runner E to rise and fall independent of the other, or the bar A′ to oscillate on the bar F to permit either wheel B′ or B″ to rise and fall independent of the other, thus adapting the machine to regular depth of planting on ground with an uneven surface.

The ends of the bar F are connected to one of the bars D′ by braces *g*, so that the ends of the bars D′ and the bar F must rise and fall together in oscillating the bar F, and so that the bars D′ may be raised to raise the rear ends of the runners simultaneously on the pivot *f*.

H is an ordinary lifting-lever, journaled to the rear frame at *h*, and provided at its forward ends with upwardly-projecting plates *h′*, having inwardly-projecting ledges *h″* on their upper adjacent faces, which ledges *h″* fit over studs *i*, projecting laterally from a plate, I, which projects downward from one of the bars D′. (See Fig. 3.) This connection between the lever H and the forward frame permits of raising and lowering the forward frame by the lever, and also permits of removing the lever from the forward frame without releasing bolts or other fastenings, in the evident manner.

J is an auxiliary lever, journaled mid-length

between the bars C′, its front end provided with the plates *j* for the driver's feet, and its rear end projecting back between two plates, *j′*, which project upwardly from the rear end of the lever H, and carry a pulley, *j″*, between their upper ends, against which pulley the rear end of the lever J acts when the driver presses downward on its forward end to raise the rear end of the lever H and depress its forward end to bear down upon the forward frame. *j‴* is a lug or catch projecting upward between the lower ends of the plates *j*, and against which the rear end of the lever J may rest, as shown by dotted lines at Fig. 2, to lock the levers J and H, for retaining the forward frame in an elevated position above the ground.

K K are wheel-scrapers, hung on bars K′ K″, which are independent of each other, and which are journaled in bearings *k*. Each bar K′ K″ has a pendent arm, *k′*, connected by a rod, *k″*, with a pendent arm, *k‴*, from a foot-pedal lever, *k⁗*, the forward end of which is pivoted between lugs k^2 on the axle B, and the rear end of which projects, and, by its overhanging weight, keeps the scraper K pressed against the wheels until the driver may desire to release either of them by raising the rear end of either pedal *k⁗* with his foot.

L L are the seed-slides, connected by the usual connecting-rod *l*, and operated by a lever, *l′*, or otherwise. The slides L are of the class which have each two valves or cut-offs, *m*, attached to it, with their free ends toward each other and their distant ends pivoted to the slide, so as to permit their adjacent ends to rise and fall. The slides are also of that class which ~~are~~ slotted horizontally, so that they may be reciprocated astride a fixed plate, N, having openings *n n*, which constitute the seed-measuring cups, and which discharge their seed alternately to the seed-tubes D″ in the manner common to this class of slides. P is a cap over the seed-slide, with an opening, *p*, for the seed to reach the seed-cups, and with an opening, *r*, over each valve, surrounded by an upwardly-projecting wall, *r′*, slotted in opposite sides for the reception of lugs *s*, which project laterally from plates S, which rest upon the valves *m*. T is a rubber spring over each plate S. U is a cap, bolted at one end to the cap P, and its other end, projecting over the wall *r*, serves to retain the spring T and plate S in place over the valve *m* and within the walls *r′*, and to protect the valve from the seed, and may be removed for access to either valve separately when desired.

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

1. In a corn-planter having a forward frame carrying the seeding devices and a rear frame supported on wheels, the forward frame journaled to the rear frame, so as to permit of either frame oscillating in a vertical plane transversely with the machine, substantially as and for the purpose specified.

2. The lever J, pivoted to the seat-standard C′, and arranged to operate with the lever H, having plates *j′* and pulley or roller *j″*, which permits the lever J to slide beneath it, and with the lug or catch *j‴*, against which the end of the lever J rests, substantially as and for the purpose specified.

3. The lever H, having plates *h′*, with ledges *h″* on their upper inner faces, combined with the plate I, having studs *i*, for raising and lowering the forward frame of a corn-planter and permitting easy separation of the parts, substantially as and for the purpose specified.

4. The opening *r*, having walls *r′*, slotted for the lugs on the plates S, and combined to operate with the plates S, spring T, and valves *m*, substantially as described, and for the purpose specified.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

ANDREW RUNSTETLER.
MICHAEL RUNSTETLER.

Witnesses:
J. T. BROWNING,
J. W. ATKINSON.