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T. M. BOWLES & J. W. FARMER.

Planter and Cultivator.

No. 212,178. **Patented Feb. 11, 1879.**

Fig. 1.

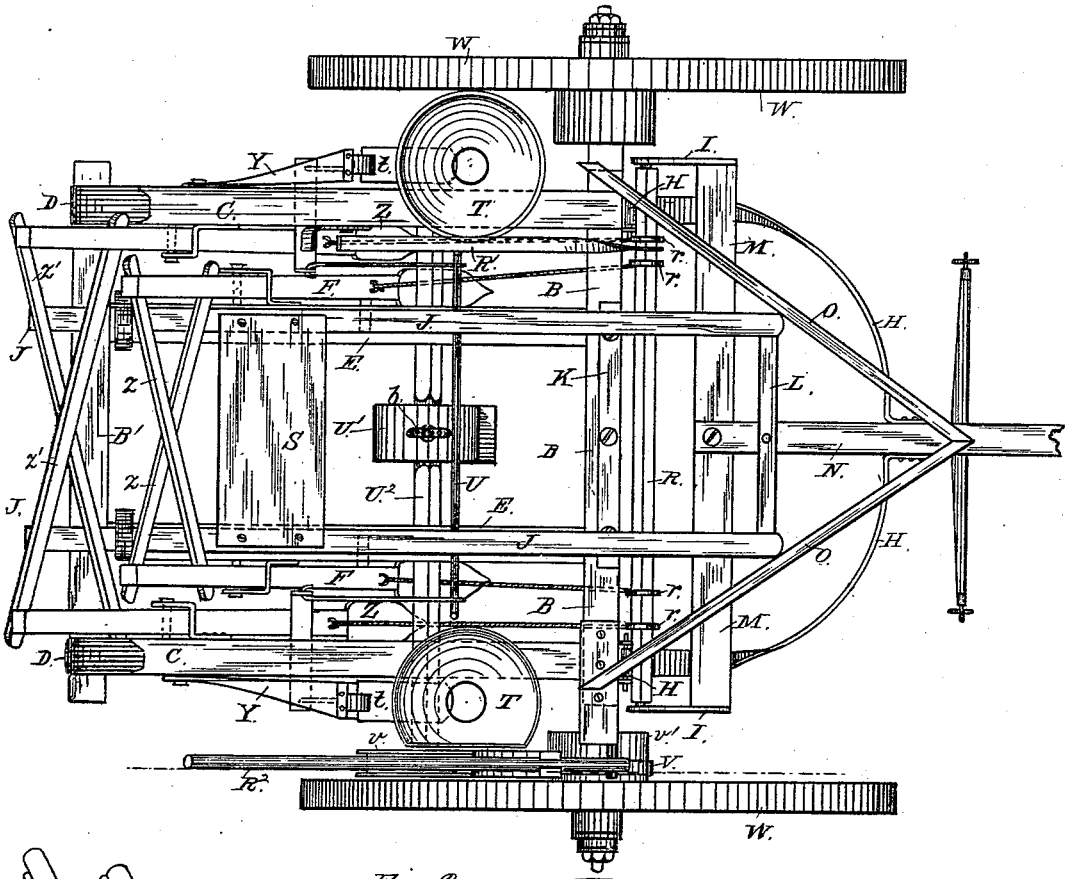

Fig. 2.

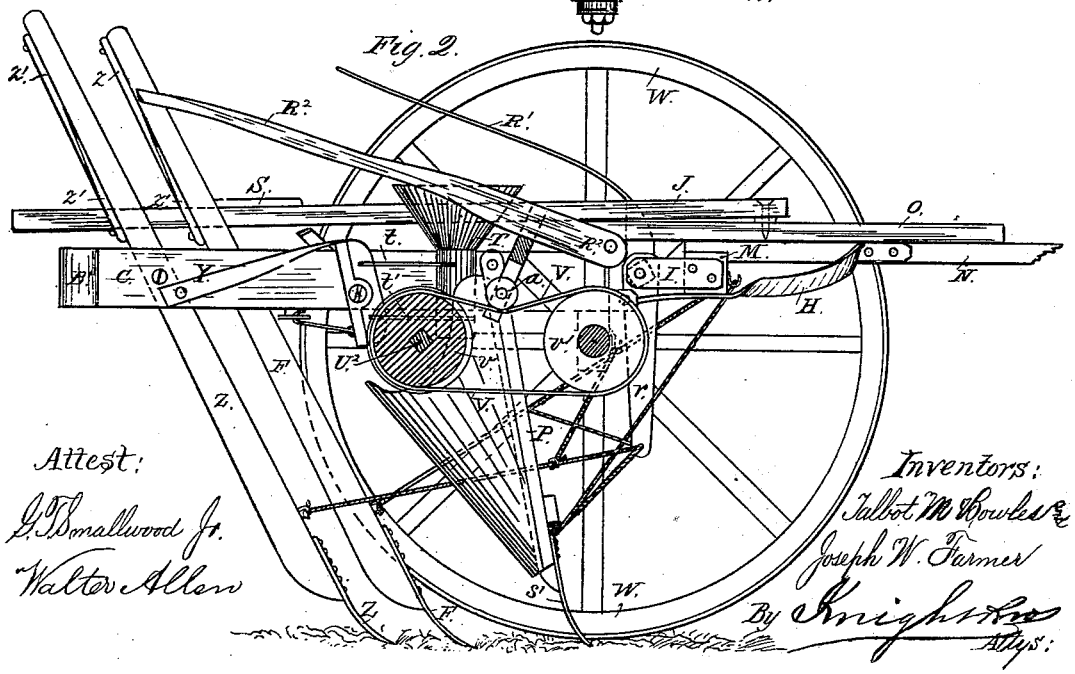

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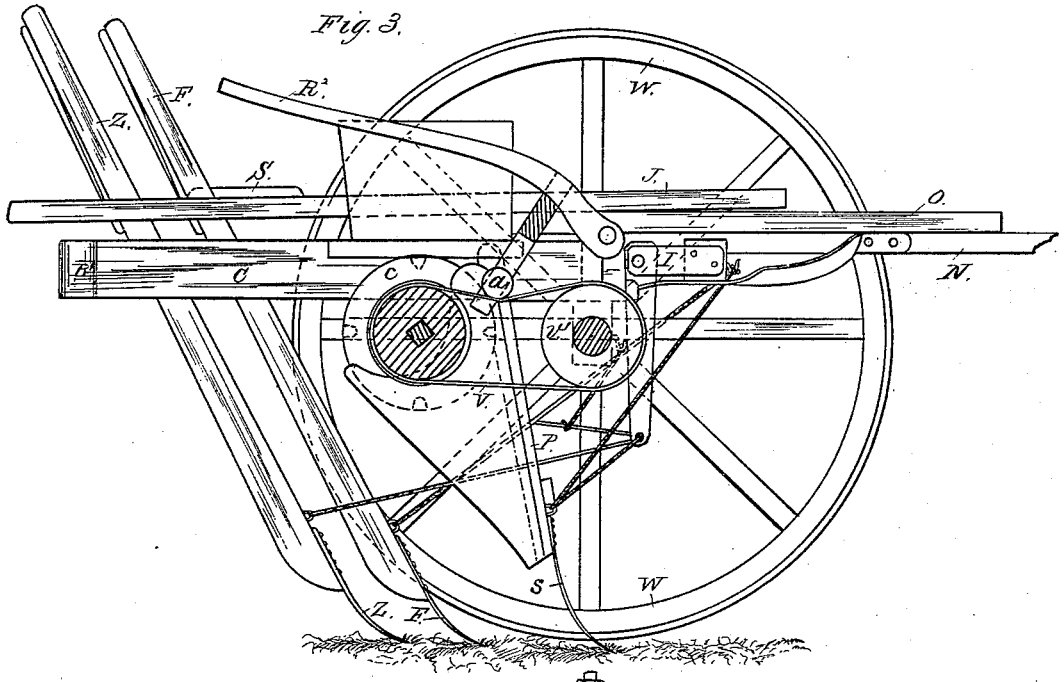
Fig. 3.



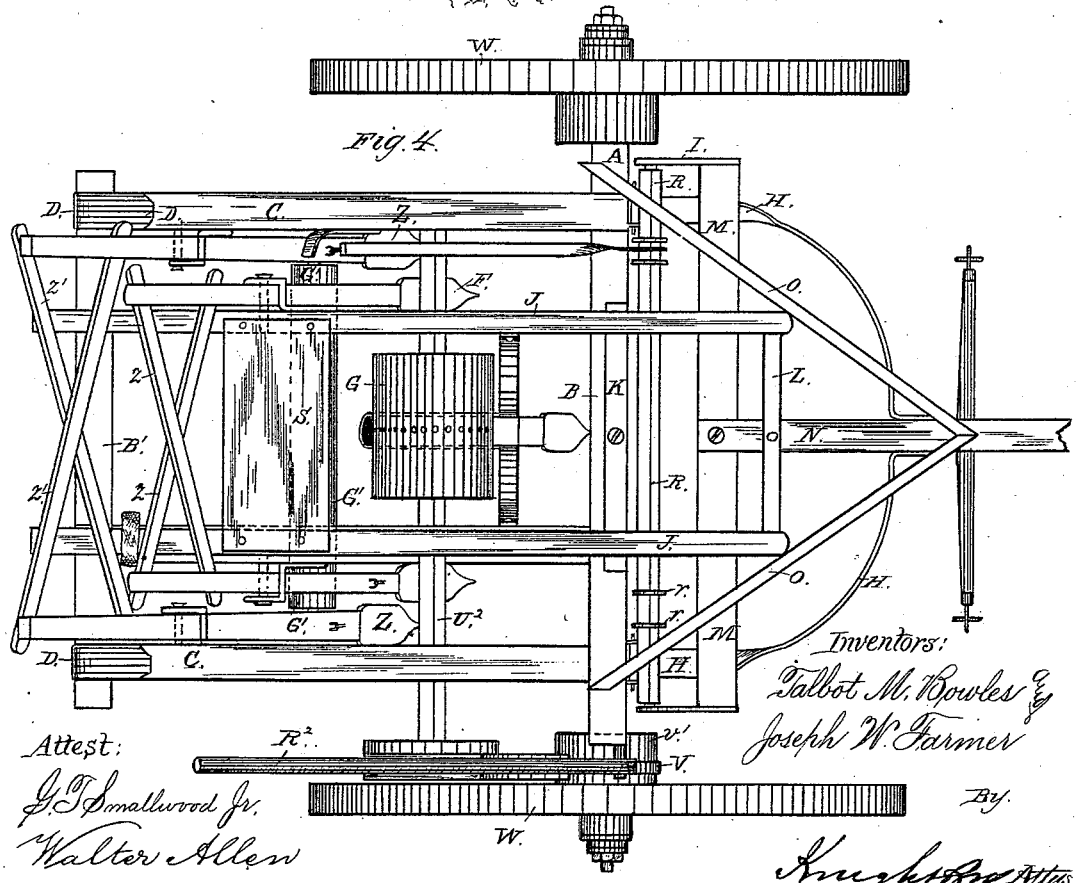


Fig. 4.

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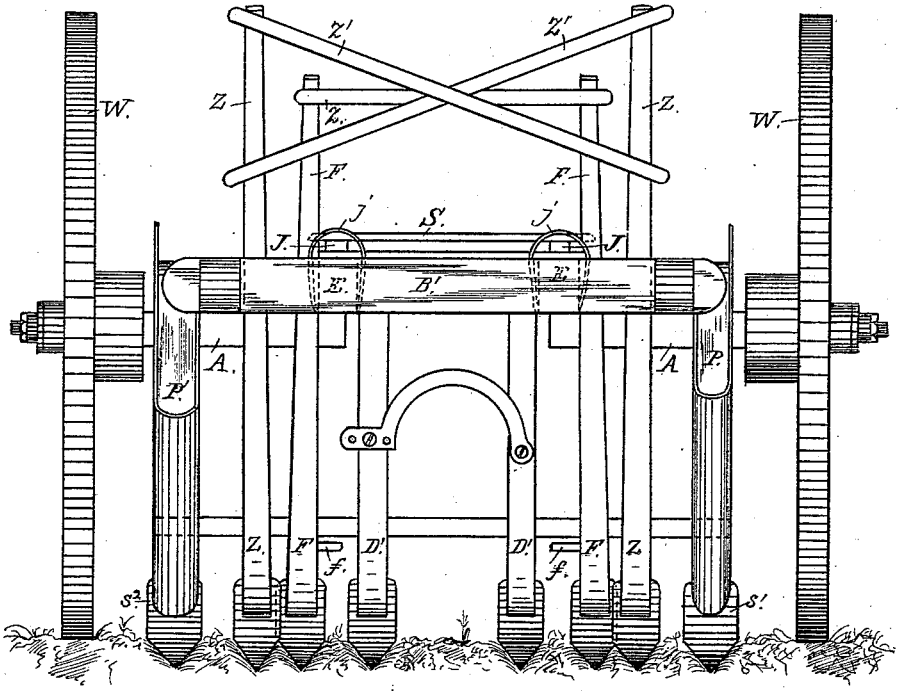
Fig. 5.



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UNITED STATES PATENT OFFICE.

TALBOT M. BOWLES, OF COOK'S POINT, AND JOSEPH W. FARMER, OF CALDWELL, ASSIGNORS OF ONE-THIRD THEIR RIGHT TO THOMAS M. HUNT, OF CALDWELL, TEXAS.

IMPROVEMENT IN PLANTER AND CULTIVATOR.

Specification forming part of Letters Patent No. **212,178**, dated February 11, 1879; application filed August 1, 1878.

To all whom it may concern:

Be it known that we, TALBOT M. BOWLES, of Cook's Point, and JOSEPH W. FARMER, of Caldwell, both in the county of Burleson and State of Texas, have invented a new and useful Planter and Cultivator, of which the following is a specification:

The object of our invention is to produce a combined machine which may be readily adapted and converted for planting corn in "check-rows" or drilling corn or cotton or cultivating growing crops.

In the drawings, Figure 1 is a plan of the machine as adapted for planting corn. Fig. 2 is a longitudinal section of the same machine. Fig. 3 represents a longitudinal section of the machine as adapted for drilling corn. Fig. 4 represents a plan of the machine adapted to be used as a cotton-planter. Fig. 5 represents a rear view of the machine when adapted to be used as a cultivator.

The implement is mounted on wheels W W, which may be about four and a half feet in diameter, and run loosely on arms A A, secured adjustably to an axle-tree, B, which forms the front of the main frame B′ C C, B′ being the rear transverse member of the frame, and C C the outer beams, which are secured at their respective ends to the frame-pieces B B′ by means of straps D D, serving the double purpose of connecting and strengthening the frame and permitting keying up when it becomes loose. The adjustment of the arms A A admits of making the axle longer or shorter, as required.

E E are inner beams, pivoted at their respective ends to the end pieces B B′ of the frame, so as to be capable of a rocking motion therein. S is the driver's seat, mounted on spring-bars J J, firmly secured in front to a cross-bar, L, and resting on a second cross-bar, K. The bar K is mounted on the axle-tree B, and the bar L is attached to the tongue N. The tongue is secured to a transverse draft-beam, M, and is stayed by braces O O. The transverse beam M and the tongue attached thereto have a hinged connection with the axle-tree B by means of hounds H.

At the ends of the cross-beam M are lugs or cheek-plates I I, affording bearings for a rock-shaft, R, which is provided with a hand-lever, R^1, and arms r r, connected to the furrow-openers S^1 S^2 and plows P P′ in order to raise them out of the ground when required for turning or for moving from place to place.

When used for planting corn in check-rows two rows at a time, the implement is arranged as illustrated in Fig. 1, with hoppers T T delivering into the tubes in the rear of the furrow-openers S^1 S^2, and provided with double measuring and dropping valves t t', which are opened at the proper intervals by means of a crank-shaft, U, actuated by a cam, U^1, on a shaft, U^2, which is driven by a band, V, running over pulleys v v' on the said shaft and on the hub of the wheel W. Springs Y Y, of either rubber or steel, and adapted to act either by tension or compression, are employed to retract the valves t t', closing the lower ones and opening the upper ones, to admit a new charge when released by the cam U^1. The plows Z Z, pivoted to the inner faces of the outer beams, C C, and connected above by braces z' z', serve as coverers.

Cams U^1 of different sizes are provided to regulate the distance between the hills.

The crank-shaft U is driven, as here illustrated, by smooth pulleys v v' and a plain band, V, of leather or rubber, or it may be driven by a chain-band and sprocket-wheels. If a plain band is used we employ an idler, a, on a lever, R^2, for the purpose of tightening the band on its pulleys when the shaft U^2 is to be rotated, or permitting it to slacken when the motion of the seeding mechanism is to be stopped.

Some such ready means of stopping and starting the seeding mechanism is necessary in order to start the dropping at the right point after turning at the end of a row, and also to correct any irregularities in check-row dropping which may be caused by undulations or unevenness in the surface of the ground. The idler being lifted, the operator can readily set the shaft by hand. If preferred, the same effect may be accomplished by loosening the set-screw b and turning the

cam on its shaft, the set-screw having preferably the form of a thumb-screw, so that the cam may be shifted and set without the use of a screw-driver. The mode of adjustment by shifting the cam on its shaft is necessary where the shaft is driven by sprocket-wheels and chain.

For drilling corn the cam U^1, the crank-shaft U, and the valves *t t'* are dispensed with, and the shaft U^2, driven in either way already described, is provided with measuring or dropping wheels *c*, as illustrated in Fig. 3.

The plows or coverers Z Z are applied in the manner already described.

Additional coverers may in either case be placed on the outer side of the beams C C, suitable blocks being interposed between the beams and the outer coverers to throw the latter outside the track of the furrow-openers S^1 S^2.

When the implement is to be used as a cotton-planter, the hoppers and dropper-wheels are removed and a cylinder, G, is applied to the center of the shaft U^2, said cylinder being perforated with a series of holes around the center of its circumference, as illustrated in Fig. 4. The rotation of this cylinder suffices to keep the seed placed within it stirred up, and the motion results in a uniform and gradual deposit of seed in drills.

G' represents a roller applied at the rear of the coverers Z Z for leveling the ground over the seed.

An idle or loose wheel is applied to the end of the shaft, as shown in Fig. 4, to receive the band when dropping is to be arrested.

When the implement is to be used as a cultivator the dropper-shaft and all the seeding attachments are readily removed, and the frame then is well adapted for the application of as many pairs of cultivator-standards as may be required. This is illustrated in Fig. 5.

The plows Z Z are pivoted to the inner sides of the outer beams, as already described in connection with Fig. 1. The plows F F are fastened in the same manner a suitable distance ahead to the outer sides of the two inner beams, E E, and the plows D' D' a suitable distance ahead of the plows F F to the inner faces of the inner beams, E E. The driver's feet rest on the rods or stirrups *f f*, projecting inward from the plow-standards, so that he is enabled to rock the pivoted inner beams, E E, in order to deflect the plows F F and D' D' from side to side, as may be required.

z z and *z' z'* are light braces, which prevent lateral motion of the plows when the implement is used for planting.

In cultivating, the outer and rearmost plows, Z Z, are still braced in this manner; but to enable the driver to rock the inner beams, as described, for the purpose of deflecting and guiding the plows F F and D' D', one of the braces *z* is removed, and the other one is placed horizontally across the top of the standards F F, as shown in Fig. 5.

Leather straps *j j* pass over the seat-bars J J, and are attached to the beams E E, so as to limit the upward motion of the said seat-bars, while permitting them to act as springs for the seat. These straps also permit the free motion of the beams E E on their pivots when cultivating and the free play of the plows when the implement is passing over rough or uneven ground.

The driver's seat may be moved backward or forward on the bars J J, to suit the preference of the user.

Some farmers prefer finishing up one row at a time. When this is desired place the hopper or dropper-rod as shown for cotton-planting, secure the hopper to the cross-piece K and the front end, B, of the frame, move the planting-wheel under the hopper on the hopper or dropper rod to suit the location of the hopper so fastened, and put the idler-wheel in the place of the planter-wheel so moved. This prevents the shaft from playing from side to side.

The opening-plow is used when planting cotton or drilling one row of corn, and is fastened to the frame, as shown in Fig. 4.

Having thus described our invention, the following is what we claim as new therein, and desire to secure by Letters Patent:

1. The combined planter and cultivator herein described, constructed with a frame, B B' C C, horizontal rocking beams E E, and the removable and adjustable plows Z, F, and P, the frame being adapted to receive the removable hoppers and dropping mechanism and the openers, all as specified.

2. The combination of the frame B B' C C, tongue N, intermediate draft-beam M, and connections H O, substantially as and for the purposes set forth.

3. The combination, with the frame B B' C C, of the lever R', rock-shaft R, arms *r*, cheek-plates I, transverse beam M, and plows Z F P, for the purpose set forth.

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Witnesses:
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W. N. HESLEP.