J. SHERRILL.

CULTIVATOR.

No. 192,462. Patented June 26, 1877.

Fig: 1.

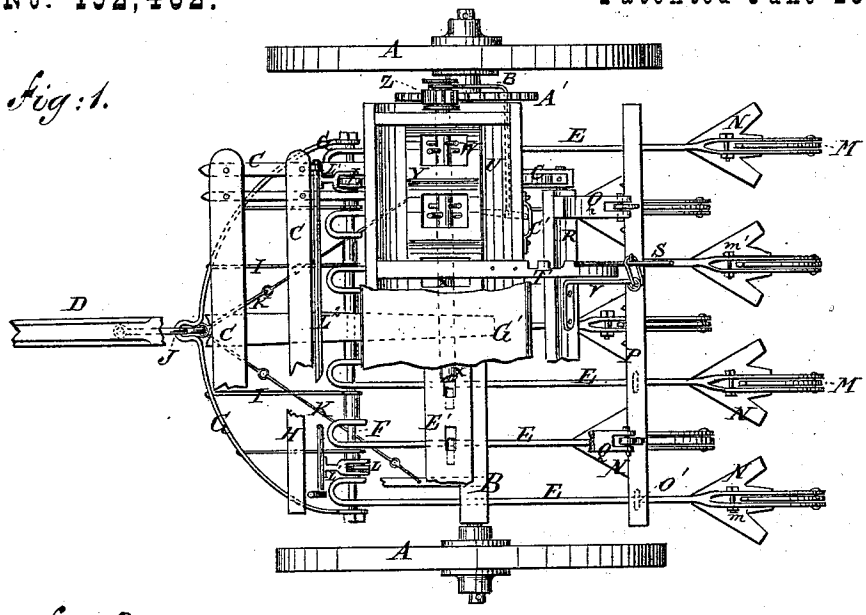


Fig: 2.

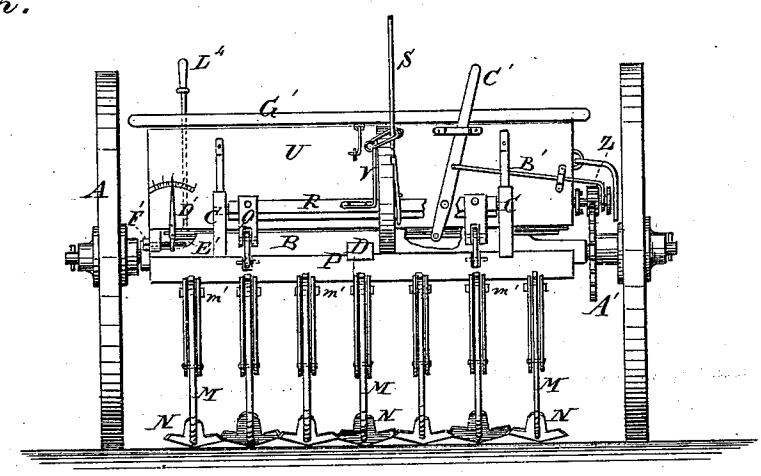
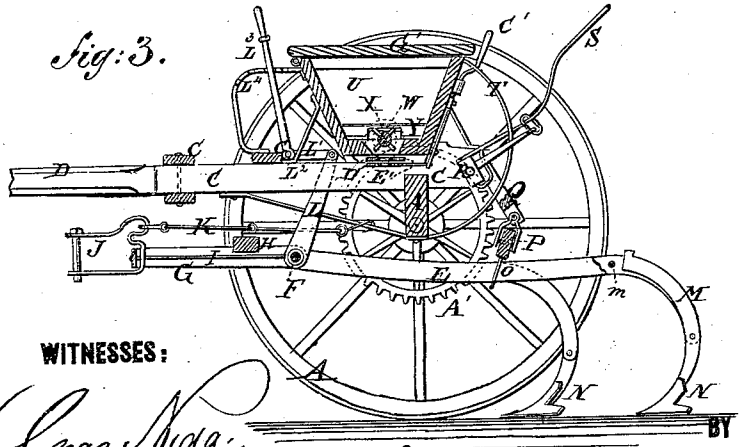


Fig: 3.



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UNITED STATES PATENT OFFICE.

JAMES SHERRILL, OF HARRISBURG, OREGON.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **192,462**, dated June 26, 1877; application filed March 3, 1877.

To all whom it may concern:

Be it known that I, JAMES SHERRILL, of Harrisburg, in the county of Linn and State of Oregon, have invented a new and useful Improvement in Cultivators, of which the following is a specification:

Figure 1 is a top view of my improved machine, parts being broken away to show the construction. Fig. 2 is a rear view of the same. Fig. 3 is a vertical longitudinal section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the cultivator for which Letters Patent No. 134,615 were granted to me January 7, 1873, so as to make it more convenient in use and more effective in operation.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A represents the wheels, which revolve upon the journals of the axle B. To the axle B is attached the stationary frame C.

D is the tongue, which is attached to the stationary frame C, and to the axle B, and may be placed in the center of said frame, or toward one side, according as two or three horses are to be used abreast.

E are the plow-beams, the forward ends of which are bent to one side into U form, and have holes formed through them to receive the rod F, so that the plows cannot tip to one side. The plow-beams E are kept from lateral movement upon the rod F by tubular washers, or by making the bend of said beams so large that the end of one beam will rest against the side of the next beam.

The ends of the rod F are attached to the ends of a curved bar, G, to which, a little in front of the said rod F, is attached a cross-bar, H.

The curved bar G is strengthened against the draft strain by the parallel rods I, the rear ends of which have eyes formed upon them to receive the rod F, and their forward ends are riveted or otherwise secured to the said curved bar G.

In the center of the curved bar G is formed an eye to receive the clevis J, to which the draft is applied.

The clevis J has an eye formed in the upper part of its bend to receive the forward ends of the rods or chains K, the rear ends of which are attached to the axle B, or to braces or other supports attached to said axle, so that the carriage may be drawn directly from the clevis J.

The forward ends of the plow-beams E are supported at the proper height by the bars L, through the lower ends of which are formed holes to receive the rod F. In the upper parts of the bars L are formed a number of holes, to receive the bolts or pins by which they are pivoted to the rear ends of the arms L^1.

The forward ends of the arms L^1 are formed upon, or rigidly attached to, the shafts L^2, which work in bearings attached to the frame C, and to one of its ends is rigidly attached, or upon it is formed, a lever, L^3, so that by operating the said lever L^3 the forward end of the cultivator-beams E may be raised and lowered without stopping the team. The lever L^3 passes up across bar L^4, one end of which is attached to the frame C, and its other end is attached to the seed-box U. The edge of the bar L^4 has notches formed in it, to receive the lever L^3 and hold it in any position into which it may be adjusted.

The rear parts of the plow-beams E are curved downward, and are slotted to receive the standards M, which are also curved, and to the lower ends of which are attached the plows N.

The standards M are pivoted detachably at their middle parts to the ends of the beams E, and their upper parts fit into the slot of the said beams, and are made slightly wedge-shaped in their cross-section, so that the draft-strain, under ordinary circumstances, will not force them through the slots of said beams; but, should the plows N strike an obstruction, the upper parts of the standards M will be forced through the slots of the beams, allowing the lower ends of said standard to swing back, so as to prevent breakage.

Through the slotted parts of the beams E, just in front of the upper ends of the standards M, are passed bolts m', so that the said slotted beams may be adjusted to resist more or less strain upon the said standards before allowing said standards to swing back.

The rear parts of the plow-beams E are kept from lateral movement by passing through staples, loops, or keepers O, attached to the cross-bar P, which is hinged to the lower ends of the arms Q, rigidly attached to the cross-bar R.

The cross-bar R is pivoted, at its ends, to and between the rear ends of the said bars of the frame C.

To the cross-bar R is attached a lever, S, which moves along the notched edge of a curved bar, T, attached to the axle B and the seed-box U, and against which the said lever S is held by a spring, V, connected with the said lever S and attached to the said cross-bar R, so that by adjusting the lever S the plows may be raised and held out of the ground, and adjusted to work at any desired depth in the ground.

The seed-box U is attached to the side bars of the frame C above and a little in front of the axle B, and in its bottom is formed a number of holes for the escape of the seed, which holes are enlarged upon the upper side of said bottom to enable the stirrer-pins W to work through them and through the holes in the inner gage-plate.

The stirrer-pins W are passed through a rod or shaft, X, that passes longitudinally along the upper side of the seed-box bottom.

The rod or shaft X is covered with a plate, Y, attached to the seed-box bottom, and which has holes formed through it over the discharge-holes of the said seed-box bottom, and through which the stirrer-pins W work.

The plate Y between the discharge-holes is corrugated transversely, or raised into V shape, so as to incline toward each discharge-hole.

One end of the stirrer-shaft X projects, and upon it is placed a small gear-wheel, Z, the teeth of which mesh into the teeth of a larger gear-wheel, A′, attached to the inner end of the hub of the wheel A.

The small gear-wheel Z is connected with the stirrer-shaft X by a pin and groove, so that it may have a longitudinal movement upon said shaft X, to enable it to be thrown into and out of gear with the wheel A′.

Around the hub of the gear-wheel Z is formed a ring-groove to receive the forked end of the rod B′. The rod B′ is bent at right angles, so as to pass along the rear side of the seed-box, and is kept in place by passing through a keeper attached to said box.

The end of the shipping-rod B′ is pivoted to the lever C′, which is pivoted to the lower part of the rear side of the seed-box U. The upper part of the lever C′ passes up through a keeper attached to the upper part of the rear side of the seed-box U, and its upper end projects above said seed-box, so that it may be conveniently reached and operated by the driver.

The lower end of the lever C′ is connected with the lower or sliding gage-plate D′, so that the discharge-holes may be covered and uncovered by the same operation that throws the stirrer out of and into gear.

The lower or sliding gage-plate D′ and the upper or adjustable gage-plate E′ are slotted between their holes to receive the bolts that secure them to the bottom of the seed-box U, and that limit their movements. The plates D′ E′ may be further secured in place by keepers that receive their edges. The inner or upper plate E′ is adjusted to regulate the size of the discharge-holes by a screw, F′, that is swiveled to the end of the seed-box U, and passes through a screw-hole in a lug attached to the end of the said plate E′.

The seed-box U is provided with a hinged cover, G′, which serves as a seat for the driver.

I am aware that it is not new to pivot the standard of a shovel or cultivator tooth between the bifurcated ends of beams and clamp it by a screw or nut, so as to resist ordinary force, but to yield to rigid obstructions; hence,

What I claim is—

1. The plow-standard M, pivoted between and at the ends of elastic bifurcations of beam E, and having a wedge-shaped projecting end beyond the pivot, the bifurcations converging from the top downward to hold the standard end, as shown and described.

2. The plow-beams E, having their forward ends bent sidewise into U form, to receive the cross-rod F of the draw-frame G H I, substantially as herein shown and described.

3. The draw-frame formed of the cross-rod F, the curved bar G, the cross-bar H, and the parallel bars I, in combination with the plow-beams E, the clevis J, and the adjustable supporting-bars L, substantially as herein shown and described.

JAMES SHERRILL.

Witnesses:
JAMES S. GRIMES,
JAMES W. LAKIN.