S. RUFFNER.

Cultivators.

No. 154,915. Patented Sept. 8, 1874.

FIG. 1.

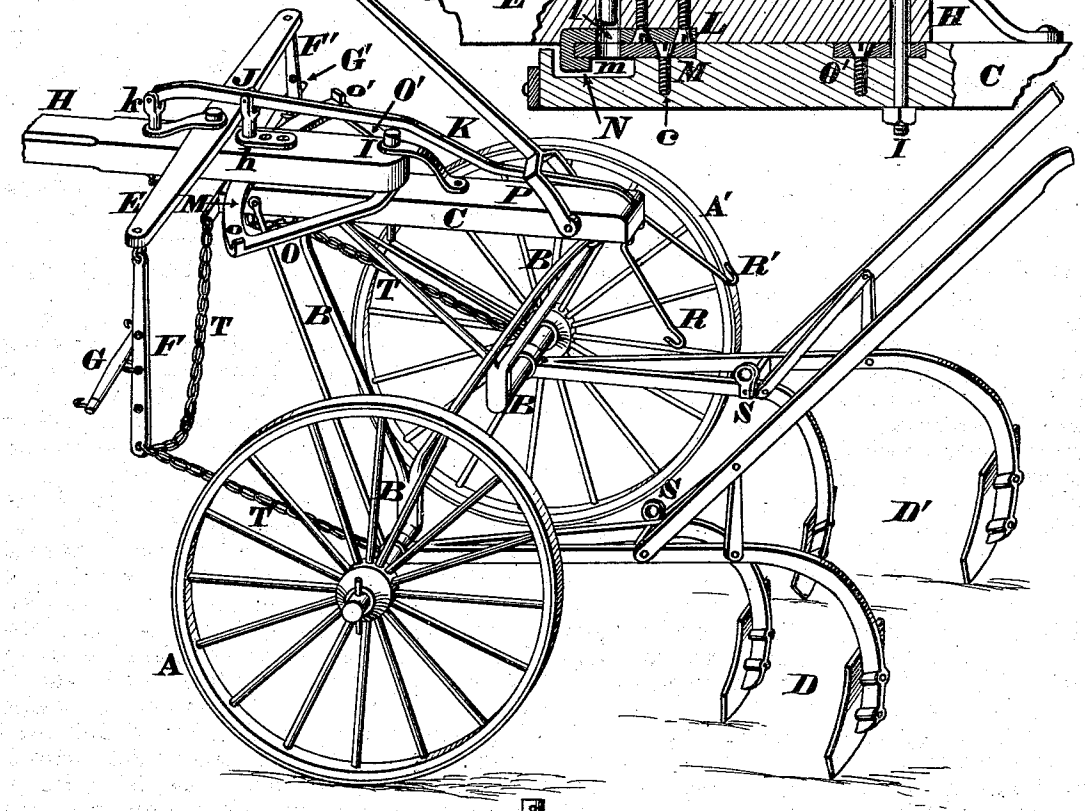
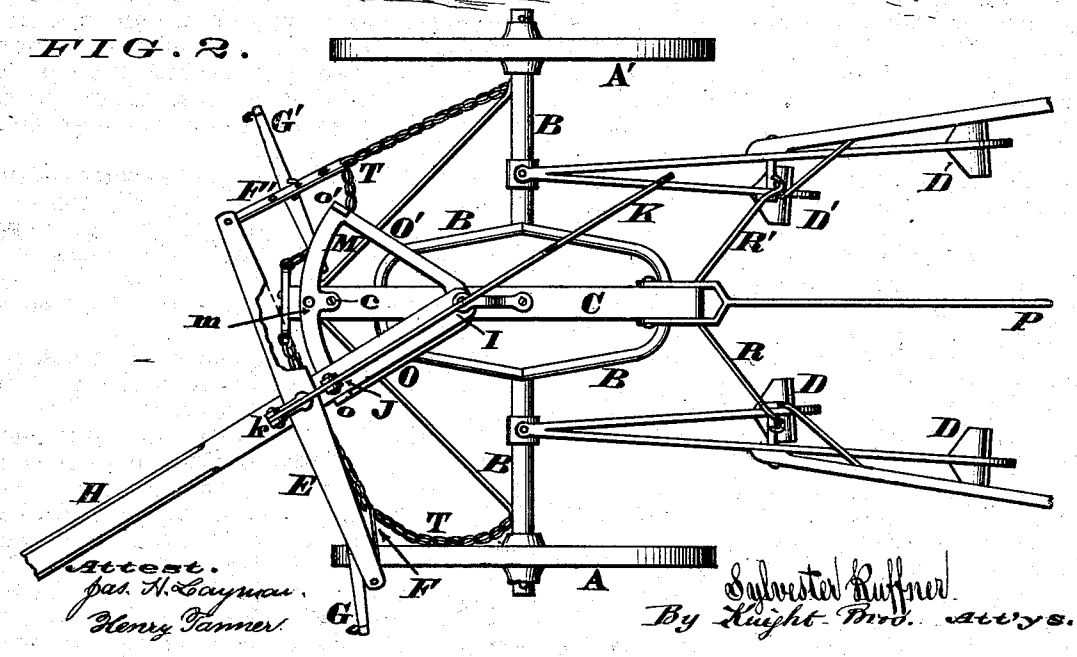


FIG. 3.

FIG. 2.



Attest.
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UNITED STATES PATENT OFFICE.

SYLVESTER RUFFNER, OF CARTHAGE, OHIO.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **154,915**, dated September 8, 1874; application filed June 29, 1874.

To all whom it may concern:

Be it known that I, SYLVESTER RUFFNER, of Carthage, Hamilton county, Ohio, have invented certain new and useful Improvements in Cultivators, of which the following is a specification:

This is an improved construction of those walking-cultivators whose shovels or plows are hitched to a wheeled vehicle, to which the team is harnessed; and the first part of my improvements consists in the provision of a horizontally limber tongue, which enables the husbandman, on releasing said tongue by a suitable trigger, to direct the team to the right or left at will, while the plows may be allowed to continue their operation to the end of the row. The second part of my invention consists in the provision of a brace-chain, whereby the pendants and single-trees are kept clear of the wheels in the sharp turning to the right or left, as aforesaid.

In the accompanying drawing, Figure 1 is a perspective view of a cultivator embodying my improvements, the trigger being depressed so as to maintain the limber tongue in its normal condition, or in line with the beam of the implement, while the directing-lever is shown elevated. Fig. 2 is a plan of the implement, the limber tongue being shown as shifted to the left and the directing-lever brought to a horizontal position. Fig. 3 is an enlarged vertical section through the devices that couple the limber tongue to the beam of the cultivator, the trigger being shown elevated, so as to allow said tongue to be turned either to the right or left.

The following parts may be of the ordinary or of any approved construction, to wit: Ground-wheels A A′, bent axle B, beam C, plows D D′, double-tree E, suspenders or pendants F F′, single-trees G G′, and suspension-hooks R R′.

The tongue H, at all times, while the machine is pursuing its straight course along the row, is a perfectly-rigid extension of the beam C, to which its rear end is secured by a pivot-bolt, I. J is a draw-bolt, whose upper end is connected to a trigger, K, the latter being pivoted to the tongue at *k*, and extending rearward as far as the end of beam C. The draw-bolt passes through a vertical aperture, *h*, in the tongue, and also through perforations *l m*, formed, respectively, in bar L and circle-plate M. Of these two members, the bar L is secured to the under side of tongue H, while the circle-plate M is attached to the upper surface of beam C by screw *c*. The bar L is bent, so as to form a rearwardly-projecting lip, N, which engages beneath the plate M, as more clearly shown in Fig. 3. The plate M is curved, so as to be concentric with the pivot I, and it is attached to beam C by two radius-rods O O′. Projecting upwardly at the junctions of said rods with the ends of plate M are lugs *o o′*, which act as stops to limit the distance to which the tongue H can be turned either to the right or left. The circle-plate M supports the tongue in the same horizontal plane while permitting it to be swung or deflected to the right or to the left on release of the bolt J, as above. Pivoted to the beam C near its rear end is my directing-rod or handle P, capable of being extended horizontally rearward, as in Fig. 2, or of being folded forward over the beam when not in use, as in Fig. 1. Projecting downward and outward from the rear end of the beam are hooks R R′, from which, when desired, one or both of the plows D D′ are suspended by engaging an eye, S, over the appropriate hook, as with leading cultivators now in use.

In order to prevent injurious contact of the pendant with that wheel toward which the tongue is, for the time being, swung, I stay the lower end of the pendant by means of a chain, T, one end of which is attached to the front end of the beam C, and the other end to the axle B.

A spring, U, may be employed, if desired, so as to assist in maintaining the trigger K in its normal or depressed position.

The operation of my implement is the same as that of other walking-cultivators so long as the course is directly onward along the row. When, however, the team can go no farther without collision with the fence, the attendant releases the bolt J by means of the trigger K, and, bringing the handle P down into the position represented in Fig. 2, he, by means of said handle, holds the implement to its course, while, at the same time, directing the team to the right or left, as the case may be; and, in

passing out from the row, he, with the same handle, directs the implement, by a sharp turn, into another row; and, as soon as the tongue has resumed its position in line with the beam, the bolt J is returned to its place, and the implement proceeds in the regular way.

When the free end of trigger K is elevated and the team turned to the left the tongue H swings around accordingly until it comes in contact with the lug *o*, which limits the further movement of said tongue. If, on the contrary, the team should be guided to the right, the tongue will then swing around until it strikes against the other lug or stop, *o'*.

It will thus be seen that the lugs *o o'*, by limiting the swinging of the tongue either to the right or left, prevent it coming in contact with the ground-wheels of the implement; and, as the chain T performs the same functions for the pendants F F′ and their appropriate single-trees G G′, no part of the shifting mechanism can become entangled with the running-gear of the cultivator.

If, in passing to a new row, it is desired not to stir the ground, the appropriate plow can be engaged over either of the hooks R or R′; and the same precaution may be observed in passing over a rock or other immovable obstacle.

On approaching a stump or other like obstruction, or a hill out of alignment, the contact therewith of the plow may be avoided by simply releasing the bolt J and directing the implement around the object to be avoided by means of the handle P, in the manner already indicated, without the team leaving its proper track between the rows.

I claim as new and of my invention—

1. The combination of the pivoted tongue H, trigger K, and pivoted handle P, constructed and operating as and for the purpose set forth.

2. The combination of the pendants F F′, whiffletrees G, and flexible stays T T with the swinging tongue H and beam C, as shown and described.

3. In combination with the beam C *c* of a cultivator and the pivoted tongue H I, the draw-bolt J, trigger K, perforated bar L *l* N, circle-plate M O O′, and stops *o o'*, as and for the objects stated.

In testimony of which invention I hereunto set my hand.

SYLVESTER RUFFNER.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.