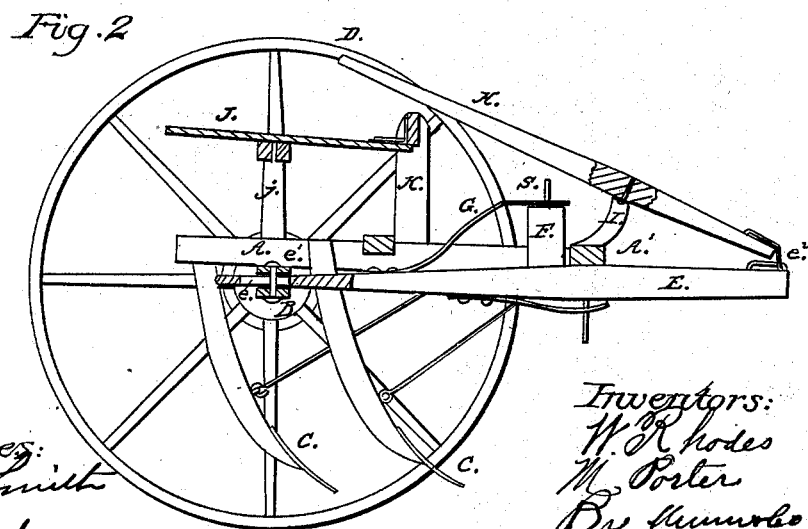
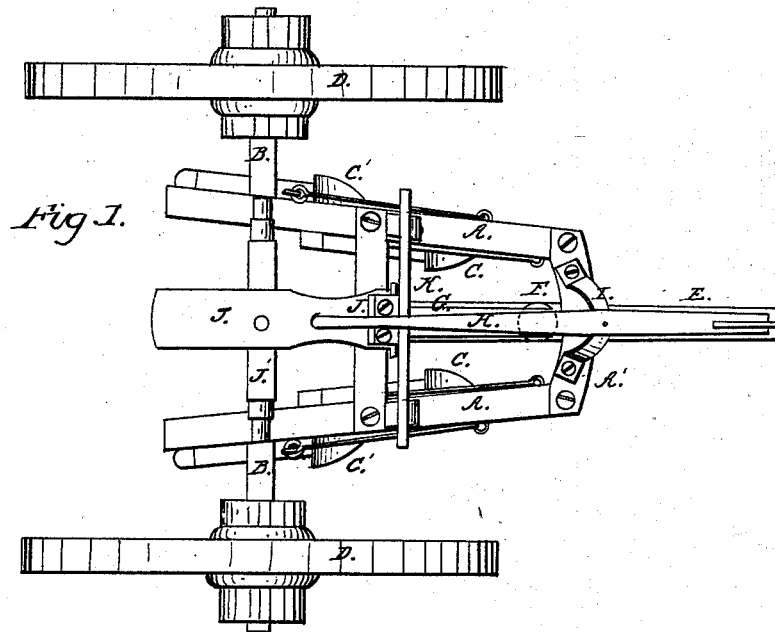


RHODES & PORTER.

Wheel Cultivator.

No. 47,568.

Patented May 2, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM RHODES AND MOSES PORTER, OF LOVINGTON, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **47,568**, dated May 2, 1865; antedated April 29, 1865.

To all whom it may concern:

Be it known that we, WILLIAM RHODES and MOSES PORTER, of Lovington, in the county of Moultrie and State of Illinois, have invented a certain new and useful Improvement in Cultivators; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan or top view of a cultivator embodying our invention, and Fig. 2 is a vertical section of the same.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to provide novel and simple means for causing the plows to remain in the furrows between the plants and continue to effectually cultivate therein while the machine is in the act of turning or where sinuosities or crooks in the furrows would, if the parts were permitted to maintain their normal relative positions, throw the plows out of the furrows and thus probably cause the demolishment of the hills and the uprooting of the plants, or at least interfere with the operation of the plows by occasional suspensions.

The invention consists in a peculiar manner of varying the line of draft and thus throwing the frame in such position as may be necessary to adapt the plows to conform to curvatures or sinuosities of the furrows, as hereinafter more particularly explained.

In order that others skilled in the art to which our invention appertains may be enabled to fully understand and use the same, we will proceed to describe its construction and operation.

In the accompanying drawings, A A A' represent the various parts of a frame, which in itself may be of any desirable construction. This frame rests upon the axle B at a point between the respective pairs of plows C C C' C', the shanks of which are attached to the frame in customary manner—that is to say, the plows are so arranged that one pair, C C, occupies a position in front of and between the plows constituting the remaining pair. The axle B, together with the wheels D D and the manner of bracing the plows, being common, need no specific description.

The tongue E is adapted to have a lateral movement imparted to it independently of the main body of the machine, the rear end of said tongue being inserted through an aperture in the axle of sufficient size horizontally to allow the tongue to turn therein to any desired extent. The tongue is secured in this receptacle in the axle by means of a pivot or bolt, *e'*, which extends from the upper to the under side of the axle B and passes through a slot, *e*, in the tongue E. The slot permits the tongue to have longitudinal movement imparted to it independently of the axle and other parts of the implement for the purpose to be presently explained.

F is a cylindrical block or roller located behind and adapted to be moved in contact with the front bar, A', of the frame from which the plows depend. This roller F is provided at its upper and lower ends with strong journals or projections *f*, (one shown,) the one at the lower end being fitted within a corresponding aperture in the tongue, and that at the upper end passing through a brace-bar, G, having its attachment upon the tongue at a point in the rear of the roller F. Both the bearings of the roller permit it to freely rotate upon its axis. The shape of the rear edge of the bar A' is that of an arc of a circle in which the roller may be supposed to move.

H is a lever, which is fulcrumed upon a bracket, I, secured to the bar A', and connected by a joint, *e''*, to the tongue E. The driver sitting upon the seat J has full control of this lever H, by which he is enabled to so move the tongue E in a lateral direction as to throw the roller F at any desired point away from the transverse center of the bar A' at either side thereof. The roller F, having been thus caused to assume a position away from the center of the machine, may be placed against and rigidly held in direct contact with the bar A' by slightly depressing the free end of the lever H, which imparts a forward movement to the tongue E, the latter carrying with it the roller F. The adaptability of the roller F to rotate will prevent it from presenting any impediment to the turning of the tongue if the said roller should chance to come in contact with the bar A' during this movement.

It is apparent that the changing of the position of the roller F produces a correspond-

ing change or variation in the line of draft, inasmuch as the roller, when in contact with the bar A', constitutes the point of action, the draft being transmitted from the tongue to the roller F and not to the axle, as in the ordinary working condition of the parts. Hence the use of the slot *e* is manifestly to adapt the draft to be shifted from the tongue E to the roller F. The line of draft, being varied in this manner, governs the direction or position in which the frame A A A' moves, and the plows are thus made to operate as well within a curved furrow as in one which preserves a direct course.

The seat J is connected at one end by a hinge, *i*, to a frame, K, which rises from the cultivator-frame A A A', and the seat rests at a point equidistant from its ends upon a frame, J', also erected upon the cultivator-frame. When the plows are in their working condition the driver may sit upon the forward end of the seat J in front of the frame J'. His weight

thus contributes to retain the plows in their working position. By sitting upon the rear end of the seat J behind the frame J' his weight will serve to elevate the frame A A A', and thus retain the plows out of contact with the ground.

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

1. The roller F, mounted upon the tongue E, and adapted to move simultaneously therewith, so as to change the line of draft, in the manner and for the purpose herein set forth.

2. The slot *e*, whereby the draft may be shifted at will from the tongue E to the roller F, in the manner and for the purpose explained.

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