

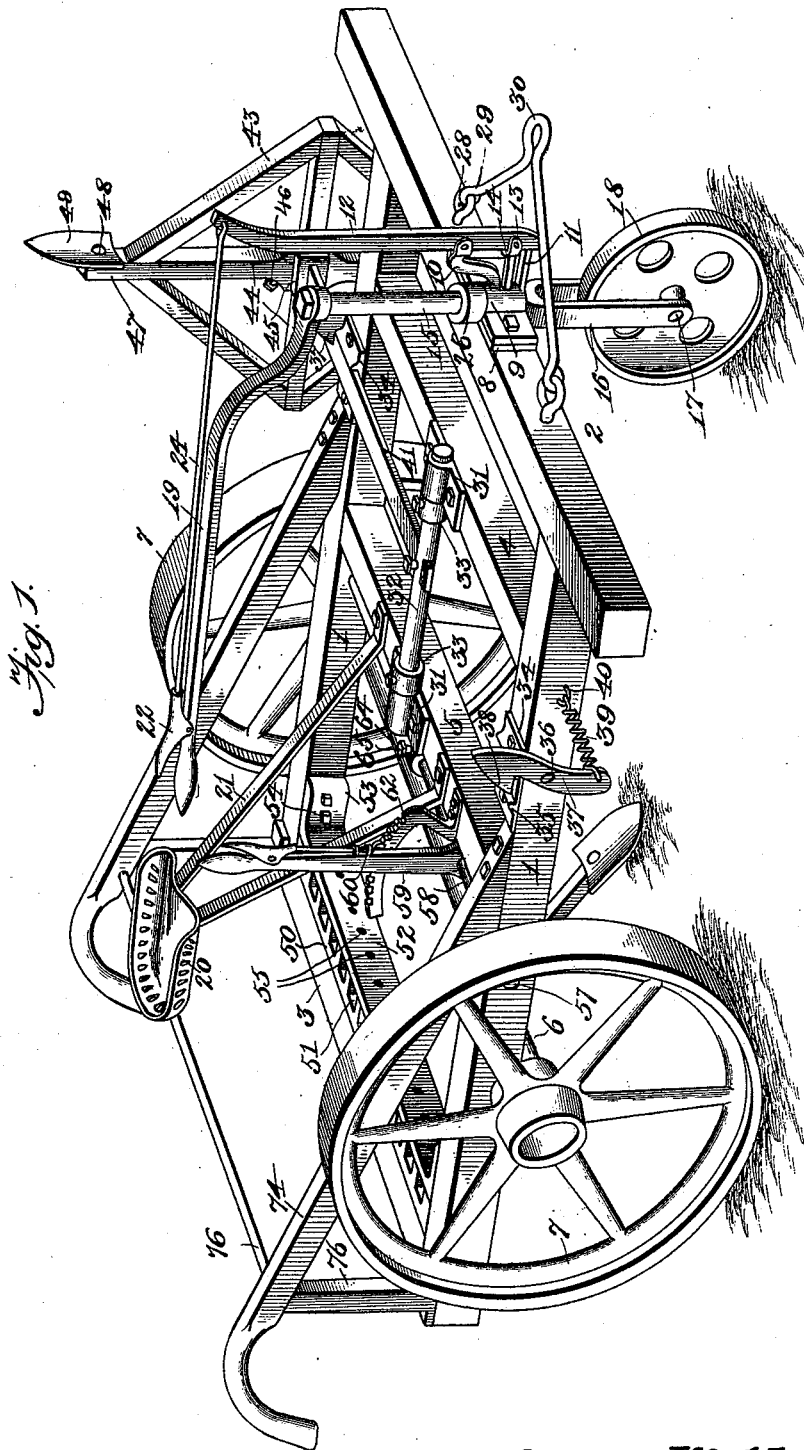
(No Model.)

2 Sheets—Sheet 1.

G. W. MURRAY.  
CULTIVATOR AND MARKER.

No. 517,961.

Patented Apr. 10, 1894.



Inventor

Witnesses

*John C. Shaw*  
*W. S. Duwall*

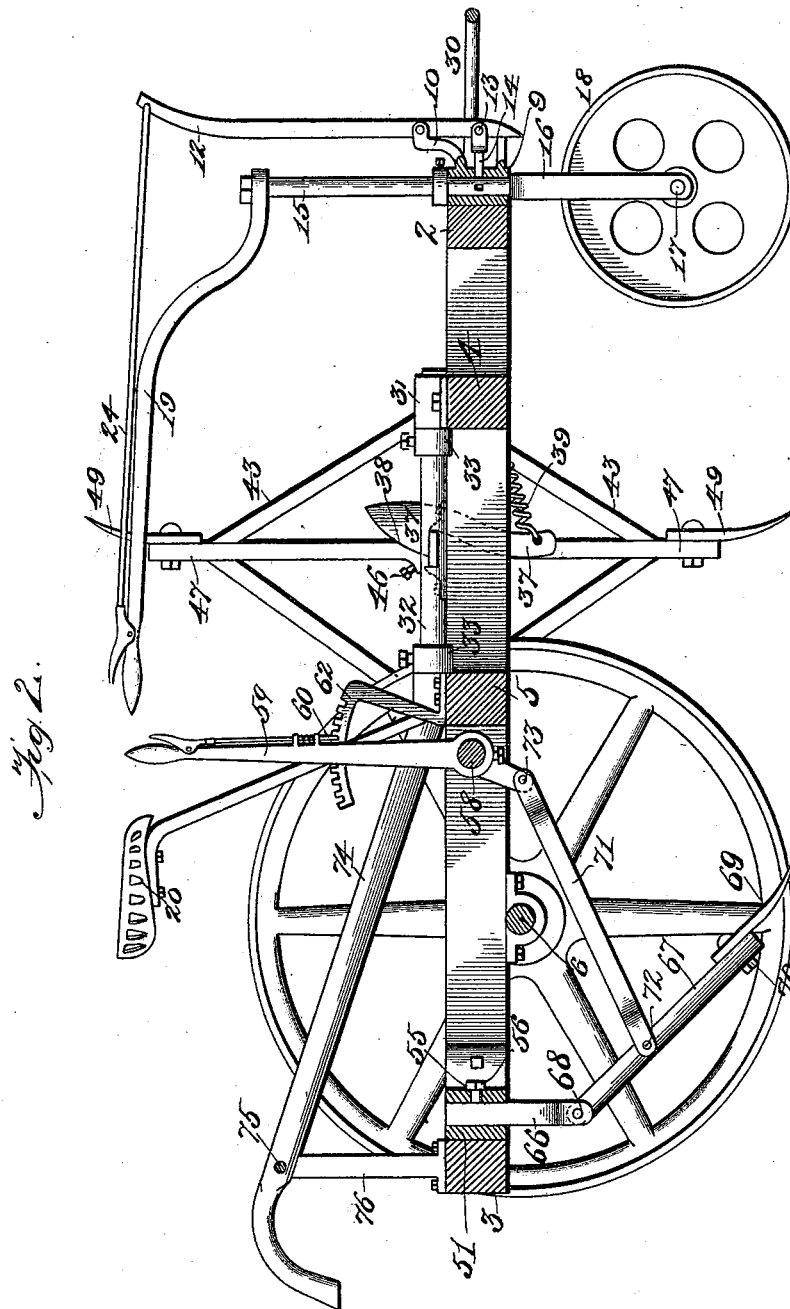
By *his* Attorneys,  
*George W. Murray.*

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*Cashow & Co.*

# UNITED STATES PATENT OFFICE.

GEORGE W. MURRAY, OF REMBERT, SOUTH CAROLINA.

## CULTIVATOR AND MARKER.

SPECIFICATION forming part of Letters Patent No. 517,961, dated April 10, 1894.

Application filed September 15, 1893. Serial No. 485,612. (No model.)

### *To all whom it may concern:*

Be it known that I, GEORGE W. MURRAY, a citizen of the United States, residing at Rembert, in the county of Sumter and State of South Carolina, have invented a new and useful Cultivator and Marker, of which the following is a specification.

My invention relates to improvements in cultivators and to that particular class thereof employed for opening furrows for the reception of seed.

The objects of my invention are to provide a simple machine of this class that is light of draft; designed to be operated by a single operator; to be adjustable so as to set the marking device at either side of the machine and with relation to the furrow-opening shovels, all of which I accomplish with facility.

Various other objects and advantages of the invention will appear in the following description and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a machine constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same.

Like numerals of reference indicate like parts in both figures of the drawings.

In the practice of my invention I employ a rectangular framework, and the same comprises opposite longitudinal frame-bars 1, which are connected in the present instance by a front cross-bar 2 and a rear cross-bar 3, and between the same by front and rear intermediate cross-bars 4 and 5, the said bars being suitably mortised and tenoned into each other to constitute a rigid frame. A transverse axle 6 is journaled in the frame-bars 1 near the rear end of the latter, and the ends of the axle accommodate ground-wheels 7.

The front end of the framework, namely, at the center of the front cross-bar 2, has secured thereto a metal plate 8 which is provided with a vertical eye 9. A bracket 10 having a stop 11 extends from the front side of the eye and pivoted to the upper end of this bracket is a bolt operating lever 12, which between the points of contact with the bracket has pivoted thereto as at 13 a bolt 14 whose inner end extends through a perforation formed in the vertical eye 9, before mentioned. A

vertical spindle 15 is swiveled and mounted for reciprocation in eye 9, and at its lower end below the eye is bifurcated to form a shank 16 in which is journaled the transverse bearing or axle 17 of a caster-wheel 18 employed to guide the machine. The upper end of the spindle 15 has secured rigidly thereon by a nut or otherwise a curved guide-handle 19 which extends rearward over the machine to within easy reaching distance of a person following in the wake of the machine or of one who may be mounted upon the seat 20, which is supported over the rear end of the machine by means of standards 21 that rest upon the rear cross-bar 3 and the transverse cross-bar 5. A small lever 22 of bell-crank-shape is pivoted at 23 upon the aforesaid handle 19, and is connected by means of a wire 24 to the upper end of the bolt-operating lever 12. It will thus be seen that a person following the machine or mounted upon the seat may, by compressing the lever 22, operate the lever 12, and thus withdraw the bolt from any one of a series of notches 25 with which the spindle 15 is provided, and after such disengagement it will be seen that through the movements of the handle 19 the machine may be guided or the caster-wheel set at any desired angle to the line of draft. As before stated, the spindle 15 is loose within the eye 9 and hence in order to secure the same I provide the spindle with a bearing-collar 26 which rests upon the upper end of the eye. This completes the front end of the machine with the exception of a pair of eye-bolts 28 located upon the front cross-bar 2 at each side of the spindle 15 and in which are engaged the opposite ends 29 of a draft-bail 30 to which the draft-animals may be attached through suitable draft appliances.

Upon the cross-bars 4 and 5, and arranged in longitudinal alignment, is a pair of journal-boxes 31, and in said journal-boxes are located loosely the opposite ends of a short longitudinal rock-shaft 32. Adjusting-collars 33 are arranged upon the shaft near its ends and bear at the inner side of the aforesaid boxes, whereby the shaft is held in position. The opposite beams 1 transversely opposite the shaft 32 are provided with L-shaped plates 34, the same therefore having at their rear sides vertical shoulders or flanges 35. Below

these plates and pivoted to the beams 1 at their outer sides, as indicated at 36, are latches 37. These latches are pivoted between their ends, as shown, and have the upper beveled shouldered ends 38, the said shoulders being designed to coact with the plates 34 and through shoulders 35 which they oppose in a manner hereinafter described. The upper ends of these latches are normally thrown backward toward the flange 35, and this is accomplished through the medium of a pair of coiled springs 39 whose rear ends are connected to the lower ends of the latches, and whose front ends are connected to the eye-bolts 40 which extend from the sides of the frame-bars 1.

The center of the rock-shaft 32 has a mortise therein, and in the same engages the inner tenoned end of a marking-shaft or bar 41 which extends laterally to either side of the machine a suitable distance beyond the framework. This bar is preferably rectangular in cross-section though it may be of other shape if so desired, and is designed to be seated in either of the plates 34, and at its rear edge bear against the vertical shoulder 35 of said plate. In assuming this position its front edge rides down the beveled upper end of the latch at that side of the machine, pressing said latch to the front against the tension of its spring until said bar passes below the shoulder of the latch, when the spring being relieved of the pressure of the bar instantly throws the upper end of the latch forward, whereby its shoulder is caused to engage over the upper end of the bar, and thus said bar is locked securely in position upon the plate.

A diamond-shaped frame 43 having transverse and longitudinal braces 44 and a central hub 45, is mounted upon the marker-bar 4 and may be adjusted at any point thereon and secured through the medium of a binding-bolt 46. The longer ends of this frame are extended to form arms 47, and to each is secured by a heel-bolt 48 a marking shovel or plow 49. It will be observed that these shovels or plows will mark the soil for the succeeding furrow and may be swung to either side of the machine with the bar and also adjusted so as to bring the same at any desired point from the furrow formed by the hereinafter described shovel.

Applied to the inner or front side of the cross-bar 3 at the rear end of the framework is a transverse bar 50, the same having its front face provided with a series of vertical rectangular recesses 51. In advance of this bar 50 a clamping-bar 52 is located, the same having forwardly disposed opposite ends 53, through which and the frame-bars 1 securing-bolts 54 are passed. The clamping bar 52 is at points opposite each of the recesses 51 of the bar 50 provided with threaded bolt-receiving openings 55 into any one of which a binding-bolt 56 may be passed.

Immediately in rear of the cross-bar 5 upon the frame-bars 1 bearings 57 are located, and

they accommodate a transverse rock-shaft 58, which may be rocked through the medium of a hand-lever 59 located at one side of the seat 20, said lever having a locking-bolt or pawl 60 designed to engage in one of a series of teeth formed in a toothed segmental standard 62. An adjustable standard 63 has an eye 64 which loosely receives the rock-shaft 58, but is secured rigidly in position thereon at any point through the medium of a binding-bolt 65 that passes through said eye and bears upon the shaft. A standard 66 is arranged in any one of the recesses 51 of the bar 50 and depends below the same and may be secured in position in any one of said recesses through the medium of the binding-bolt 56. A standard 67 is pivoted at its upper end as at 68 to the lower end of the standard 66, and is provided at its lower end with a furrow-opening shovel 69 of any desired design, the same being secured in position by a heel-bolt 70 or otherwise. A link-bar 71 is pivoted as at 72 to an intermediate point of the standard 67, and at its front to the adjustable standard 63, as indicated at 73.

This completes the construction of the invention, and it will be seen that through the medium of the hand-lever 59, the shaft 58 may be rocked and hence through the connections described the shovel 69 raised and lowered from contact with the ground or into operative position, and, furthermore, may be regulated to run at any depth. This shovel may be secured at any of its adjustments through the medium of the locking-bolt or pawl 60 engaging with the segmental standard 62.

It will be seen that the aforesaid shovel 69 may be adjusted laterally, it being simply necessary to remove the standard 66 and reinsert the same into some other one of the series of notches or recesses 51 with which the bar 50 is provided. Such adjustment also requires a loosening of the set-bolt 65, which will permit of the standard 64 being moved laterally upon the aforesaid rock-shaft 58 and readjusted or secured in position.

The operation is obvious, the shovel 69 forming the furrow and the reversible marking-shovels designed to be employed at each side of the machine scoring the ground for the succeeding furrow, and thus facilitating the production of a series of furrows for the reception of seed, the same being uniform, straight, and parallel. By reason of the reversibility of the crank the machine may be reversed when going in either direction.

Changes in the details of construction of my invention will readily suggest themselves to those skilled in this class of inventions, and I therefore do not limit the invention to the precise details of construction herein shown and described.

If desired I may employ a pair of handles 74, the same being secured at their front ends to the upper sides of the frame-bars 1, extend rearward beyond the frame of the machine above which they are connected by the usual

tie-rod 75. Standards 76 may be interposed between the under sides of the handles and upper sides of the frame in order to render the same rigid.

5 Having described my invention, what I claim is—

1. In an agricultural machine, the combination with the framework, of a marking-bar carrying opposite marking-devices at its front  
10 end, opposite flanged plates let into the side of the framework and adapted to receive the bar, opposite latches pivoted between their ends to the sides of the framework and having upper beveled shouldered portions for  
15 engaging the bar, and coiled springs interposed between the lower ends of said latches and the framework, substantially as specified.

2. In an agricultural machine, the combination with a framework, of a swinging marking bar, means for locking the same at either  
20 side of the machine, a diamond-shaped frame having internal braces, and a hub arranged on the locking-bar, a binding-bolt passed through the hub and impinging upon the  
25 locking-bar, and marking-shovels carried by

the ends of the frame, substantially as specified.

3. In a machine of the class described, the combination with the framework, a plate secured at the front end thereof and having a  
30 vertical eye provided with a perforation, and a bracket extending forwardly from the eye and provided with a bore communicating with the perforation, of a lever pivoted upon the bracket, a locking bolt pivoted to the lever  
35 and passing through the perforation of the eye and the bore of the bracket and into said eye, a caster-carrying spindle arranged in the eye, a handle for the upper end of the spindle, a bell-crank lever arranged upon the  
40 handle, and a wire leading from the bell-crank lever to the upper end of the bolt-operating lever, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in  
45 the presence of two witnesses.

GEORGE W. MURRAY.

Witnesses:

E. G. SIGGERS,

W. S. DUVALL.