2 Sheets--Sheet 1.

L. O. ROCKWOOD.

Gang-Plows.

No. 162,254. Patented April 20, 1875.

Fig. 1

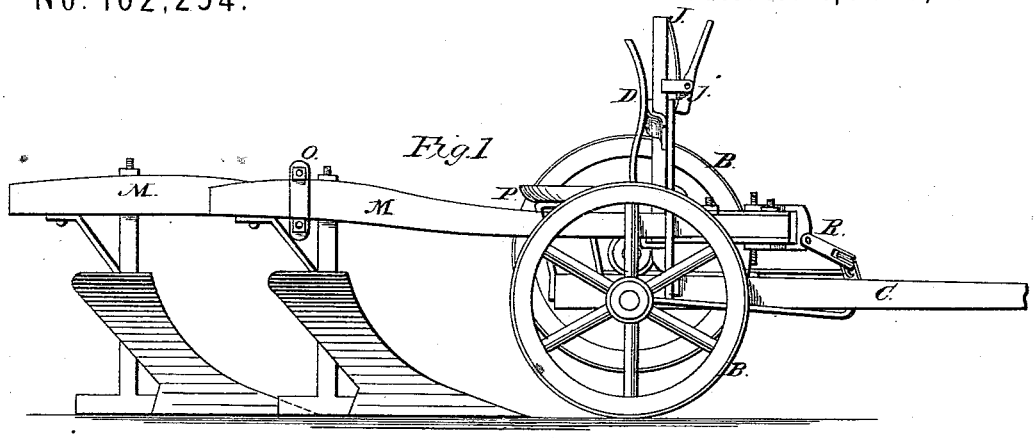


Fig. 2.

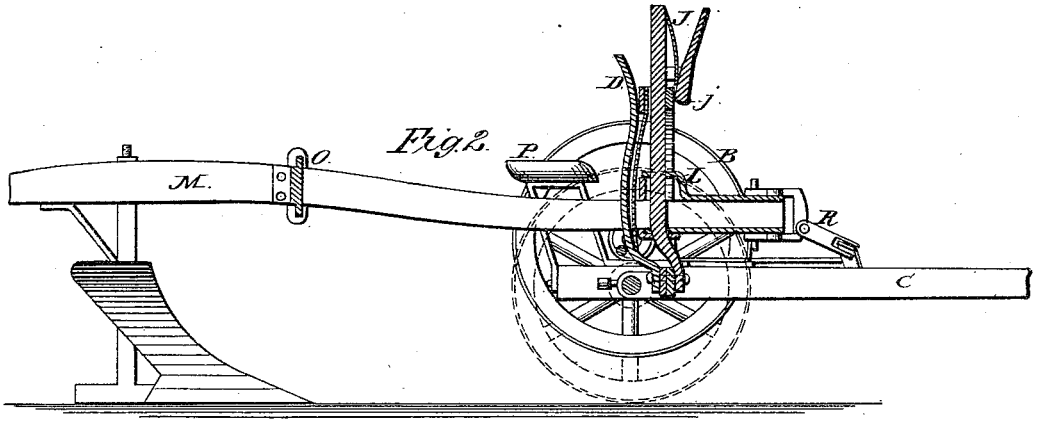
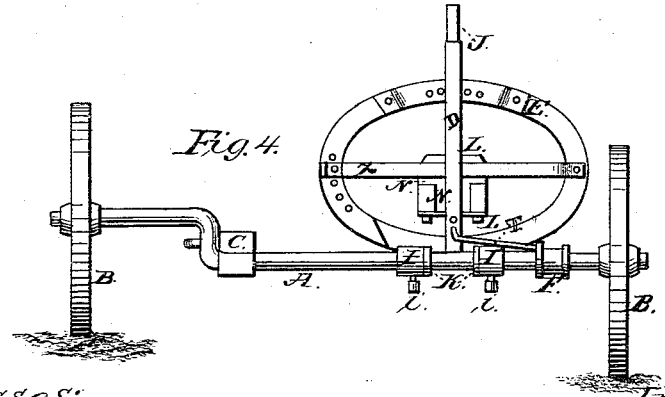


Fig. 4.



Witnesses:
Edward Rose.
John Stark.

Inventor:
Loring Otis Rockwood.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

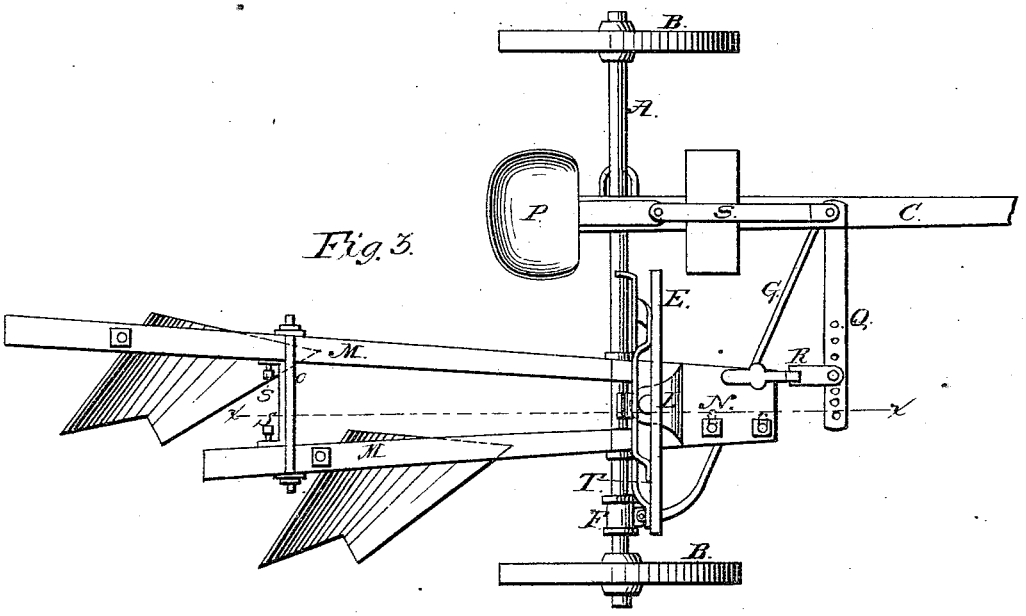
2 Sheets--Sheet 2.

L. O. ROCKWOOD.

Gang-Plows.

No. 162,254. Patented April 20, 1875.

Fig. 3.



Witnesses:

Edward Ross.

John Stark.

Inventor:

Lorung Otis Rockwood.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

LORING O. ROCKWOOD, OF OTTAWA, ILLINOIS.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **162,254**, dated April 20, 1875; application filed February 4, 1875.

To all whom it may concern:

Be it known that I, LORING OTIS ROCKWOOD, of Ottawa, in the county of La Salle, in the State of Illinois, have invented certain Improvements in Gang-Plows, of which the following is a specification:

My invention consists in the use of a sliding lever-frame, sliding laterally upon the axle, and made adjustable by rings and set-screws for securing them, for the purpose of adjusting the plows at the proper distance from the furrow-wheel for the desired width of furrow, and to afford adjustment for the several levers.

My invention also consists in adjusting the plow-beams to the cross-section, for holding the two plows together by set-screws screwing against the inside of the plow-beams, one screw near the upper edge and the other screw near the lower edge of each plow-beam, for the purpose of readily tipping either plow to the right or left, in relation to the other, as may be necessary, to make their shares cut in the same plane.

Figure 1 is a side elevation of the machine. Fig. 2 is a vertical longitudinal section taken through the line *x x*, Fig. 3. Fig. 3 is a plan view. Fig. 4 is a rear view of the axle and sliding lever-frame.

The machine is constructed and operated as follows:

The axle A is bent upward at the left-hand side about eight inches, which is the average depth of a furrow, so as to enable one wheel to run in the furrow, while the other wheel runs on the "land," the said wheels B B being about three feet in diameter. The tongue C is hinged to the bent portion of the axle A, near the land-side wheel, in a manner to allow it to swing in every direction. A lever, D, is hinged to the lower part of the lever-frame E, and engages into the series of holes in the upper part of this lever-frame, where it is held in the desired position by a spring. This lever D is connected by means of a rod, T, with the sliding sleeve F on the axle A, this sleeve being connected with the tongue C by a brace-rod, G, so that by moving the lever D the tongue C is deflected to the right or left. This device is to enable the operator to guide the plows without tipping them, independent of the team. The elliptical ring or lever-frame E is attached to the axle A by means of the slide K and two rings, I I, having set-screws *i i*, to hold the sliding lever-frame E in any desired position, thus making it adjustable sidewise, and gaging the width of land taken by the plows. A lever, J, is attached at its lower end to the lower part of the sliding lever-frame E by a pin or bolt, on which it turns, and, passing up through the sockets L L, attached to the plow-beams M M, is made adjustable at its upper end to the upper portion of the sliding lever-frame E by a spring-latch, *j*, engaging in the series of holes in the upper part of the lever-frame. By the use of this lever J the operator is enabled to keep the plow in an upright position while the wheels are passing over uneven portions of ground.

To open or close the distance between the plows and adjust their position in relation to each other, so that their shares shall cut in the same plane, the front end of the plow-beams M M is provided with plates N N, having slots in them, to receive the bolts that secure them to the beams, while at the rear end a cross-section or clamp, O, is extended across between the two plow-beams M M, having set-screws *s s s s* in each end of the cross-section O, screwing against the inside of the plow-beams M M, one screw near the upper edge and the other near the lower edge of each beam. When the two plows are set in their proper position in relation to each other, these screws are set so as to all bear against the plow-beams M M, and the plates extending across the outside of the plow-beams are then screwed up, holding the beams firmly against the screws *s s s s*. The driver's seat P is placed over the axle A, near the land-side wheel, while the lever-frame E and plows are attached to the axle near the furrow-wheel, making the distance between the seat P and the plows as great as the space between the wheels B B will admit, so as to bring the point between them, where the resistance of the driver's weight shall balance the resistance of the plows as far as possible from the furrow, to make room for two horses between the plowed ground and this center of combined resistance, which is the place

where the team should be attached to avoid side draft, thus enabling four horses to be used abreast without producing side draft. The team is hitched in this center of resistance by means of a balance-lever, Q, one end of which is attached to the gage-piece R at the front end of the plow-beams M M, and the other end by a sway-rod, S, attached under the driver's seat P to the tongue C. A lever, X, is placed horizontally across the elliptical ring E, and is used for gaging the depth of plowing by raising or depressing the forward ends of the beams M M.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The elliptical lever-frame E, secured in a vertical position upon the axle A, and adjustable upon it by the slide K and the collars I I, substantially as and for the purpose set forth.

2. The elliptical frame E, in combination with the lever J, the lever D, and the lever X, in the manner and for the purposes set forth.

3. The elliptical frame E, in combination with the plow-beams M M, the slotted plates N N, the gage-piece or clevis R, the balance-lever Q, the sway-rod S, the sleeve F, and the brace-rod T, in the manner and for the purposes set forth.

4. The solid clamp O, having the ends cut away to receive and secure the plow-beams M M to each other, with set-screws *s s s s* passing through the flanged inner ends, and impinging against the inside of the plow-beams, to adjust their relative position, in the manner and for the purposes set forth.

LORING OTIS ROCKWOOD.

Witnesses:

EDWARD ROSE,

JOHN STARK.