C. MOWREY.
Gang-Plow.

No. 197,160. Patented Nov. 13, 1877.

Fig. 1.

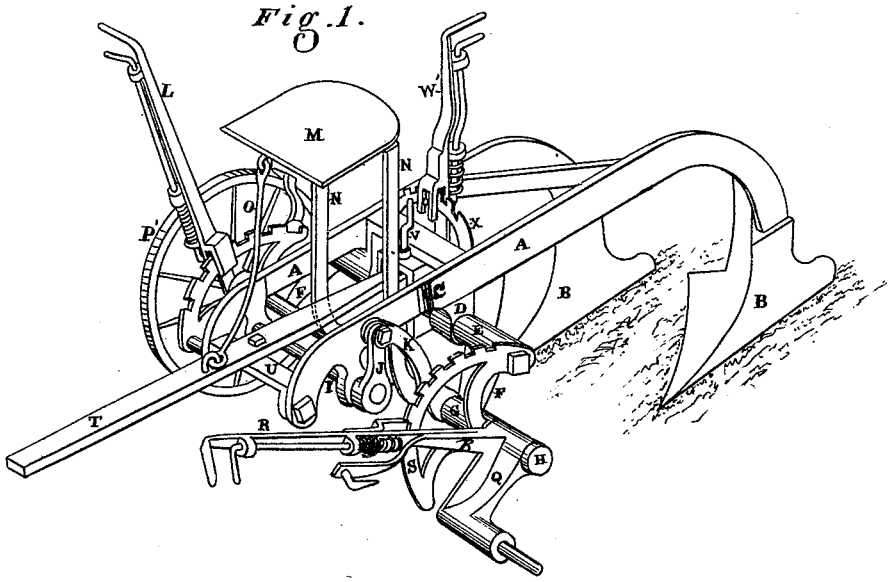


Fig. 4.

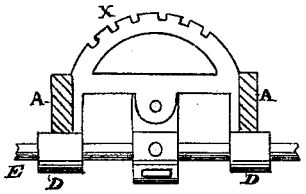


Fig. 2.

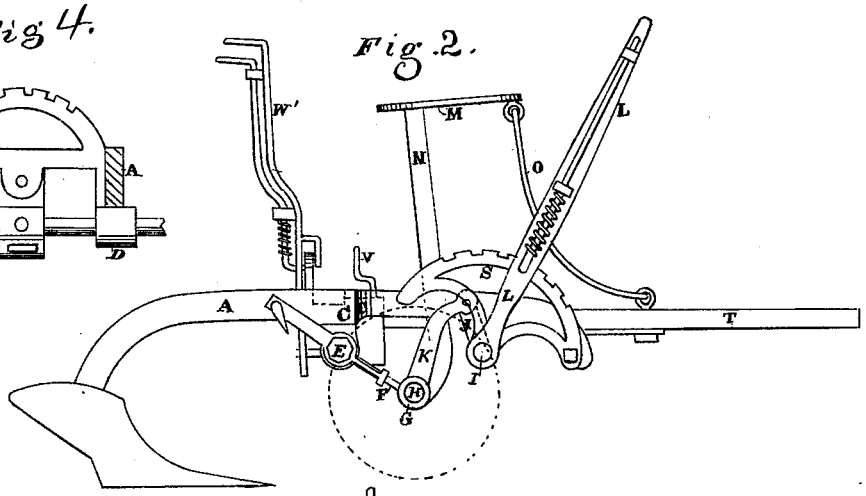
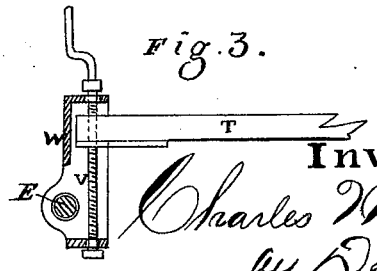


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES MOWREY, OF STOCKTON, CALIFORNIA.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **197,160**, dated November 13, 1877; application filed March 23, 1877.

To all whom it may concern:

Be it known that I, CHARLES MOWREY, of Stockton, county of San Joaquin, and State of California, have invented an Improved Gang-Plow; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in gang or sulky plows; and it consists, first, in a novel mechanism and method of mounting the plow-beams or frame proper, and connecting the frame with the axle of the bearing-wheels, so that by the forward action of a lever the plow-frame is depressed, and the plows are caused to enter the ground, while by a reverse movement of the lever the plow-frame is allowed to move around the axle as a center of motion, rising above it by the force of its own movement, so as to easily and entirely clear the plows from the ground.

My method of connecting and operating the land-wheel is also novel, and makes it important in connection with the raising and depressing of the plows.

My invention finally consists of a novel means for changing the angle of the draft-pole to the plow-frame, either vertically to facilitate the entrance of the plows to the ground, or horizontally to regulate the angle of the plows to the land, all as hereinafter fully described.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my plow. Fig. 2 is a side view with the wheel removed. Fig. 3 shows the rear end of the pole with its operating lever and screw. Fig. 4 is a detail view of the rack and boxes formed in one casting.

A A are the plow-beams, having the plows B secured to their rear ends. These beams are made of sufficient size and strength not to spring, and this part extends forward to a point just in advance of the boxes and shaft, from which they are connected with the axle. At this point the beams are suddenly contracted by an offset at C, so that the smaller size of the remainder of the beams is attained at once, and the beams are thus made rectangular bars with parallel sides, instead of being gradually tapered to lighten them. This allows all boxes and attachments to be fitted squarely to the beams, and the work will easily come into line without any difficulty in fitting.

Boxes D support a shaft, E, extending across beneath the plow-beams, and from sleeves upon the ends of this shaft arms F connect with sleeves G upon the axle H, so that the axle will stand in front of the shaft E. By means of this extended shaft and the arms at each end a strong and rigid support is secured for both sides of the plow-frame, and it cannot be wrenched or twisted out of shape.

Near the front of the plow-beams is another shaft, I, journaled in boxes beneath the beams, and having arms J keyed to each end. These arms have links K, connecting them with sleeves upon the axle between the sleeves G. A lever, L, is keyed to the outer end of the shaft I, and when this lever is thrown forward the plow-beams will be depressed, moving backward around the axle H, to which the arms F connect, and thus entering the ground to the desired depth. When the lever is thrown back the arms J exert, through the links K, a pressure upon the axle H, to force it down and back, or rather to allow the plow-beams to rise up over it, moving, as it were, in an arc of a circle around the axle as a center and fulcrum. This action, which is assisted by the movement of the machine, raises the plows entirely out of the ground with little labor.

The seat M is supported by standards N, which extend down between the plow-beams, and have sleeves surrounding the axle H, so that the seat and driver are supported directly from the axle, and no weight rests upon the plow-beams or is raised by their movement. From the front of the seat a link, O, extends down to the pole or plow-frame, and is loosely attached at both ends. This link steadies the seat, and as the plow-beams are raised or depressed it acts to retain the seat in a level position.

The land-wheel has a crank-arm, Q, extending from its journal to the axle H, where it fits with a sleeve, and the lever R serves to move it, and raise or depress it to run on level ground or in a furrow. A rack, S, has one end of its segment secured to the end of the shaft E, while its center is attached to the axle, and

the other end of the segment stands opposite the journal of the land-wheel. The curve of the segment is thus formed with the axle H as a center, and as the lever R moves about the same center the holding-pawl is ready to drop into the rack at any time.

The position of the land-wheel with its crank is important with reference to the axle H, beams A, and raising and lowering arms F, because when the beams are moved this wheel assists to throw the plows over a greater space, whatever may be its position, and without reference to its own independent motion.

The pole T is attached to a shaft or bar, U, which is journaled between the front ends of the beams A, so that it may have a vertical movement, and it is so secured to this bar that it also has a horizontal movement.

The vertical movement is accomplished by a screw, V, which passes through the rear end of the pole, and is supported in a box, W, so that by turning a crank or hand wheel the pole will be gradually moved up or down, and the points of the plow will take the ground more or less readily.

The box in which the screw works is fitted to the shaft E, so that it can be moved from side to side to change the angle of the pole to the plow-beams, and this movement is accomplished by a lever, W′, which is pivoted to the cross-bar between the beams, and has a rack, X, to hold it at any point. This rack may have arms extending down between the plow-beams, and be cast with the boxes D, the whole being secured to the beams in one piece, so as to support each other and strengthen the beams.

I am aware that the draft-pole of a plow has been pivoted so as to have both a lateral and a vertical adjustment; and I am also aware that a casting which receives the rear end of the pole, has been made to slide upon the axle for the purpose of lateral adjustment; and I do not therefore claim, broadly, these devices; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. The plow-beams A, having the shaft E and arms F, connecting them with the axle, in combination with the arms J, united by the links K to the axle H, and the operating-lever L, whereby the plows are allowed to enter the ground or caused to rise out of it, substantially as herein described.

2. In combination with the beams A, connected with the axle H by the shaft E, arms F, the links K, arms J, and operating-lever L, the wheel, with its crank-arm Q, mounted upon the axle H, substantially as herein described.

3. The rack X and the boxes D, formed in one casting, and so fitted to the frame A A as to support each other and the frame, substantially as herein described.

4. The box W, fitted to the shaft E so as to be moved from side to side, in combination with the lever W′, tongue T, and screw V, said box being constructed to receive the end of the tongue, and to form journal-boxes, within which the crank-screw V turns, and elevates or depresses the pole, substantially as herein described.

In witness whereof I have hereunto set my hand and seal.

CHARLES MOWREY. [L. S.]

Witnesses:

GEO. H. STRONG,

FRANK A. BROOKS.