C. MOWREY.
Gang-Plows.

No. 197,159. Patented Nov. 13, 1877.

Fig. 3.

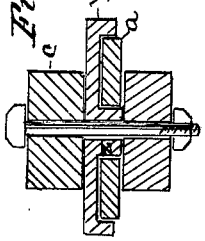

Fig. 1.

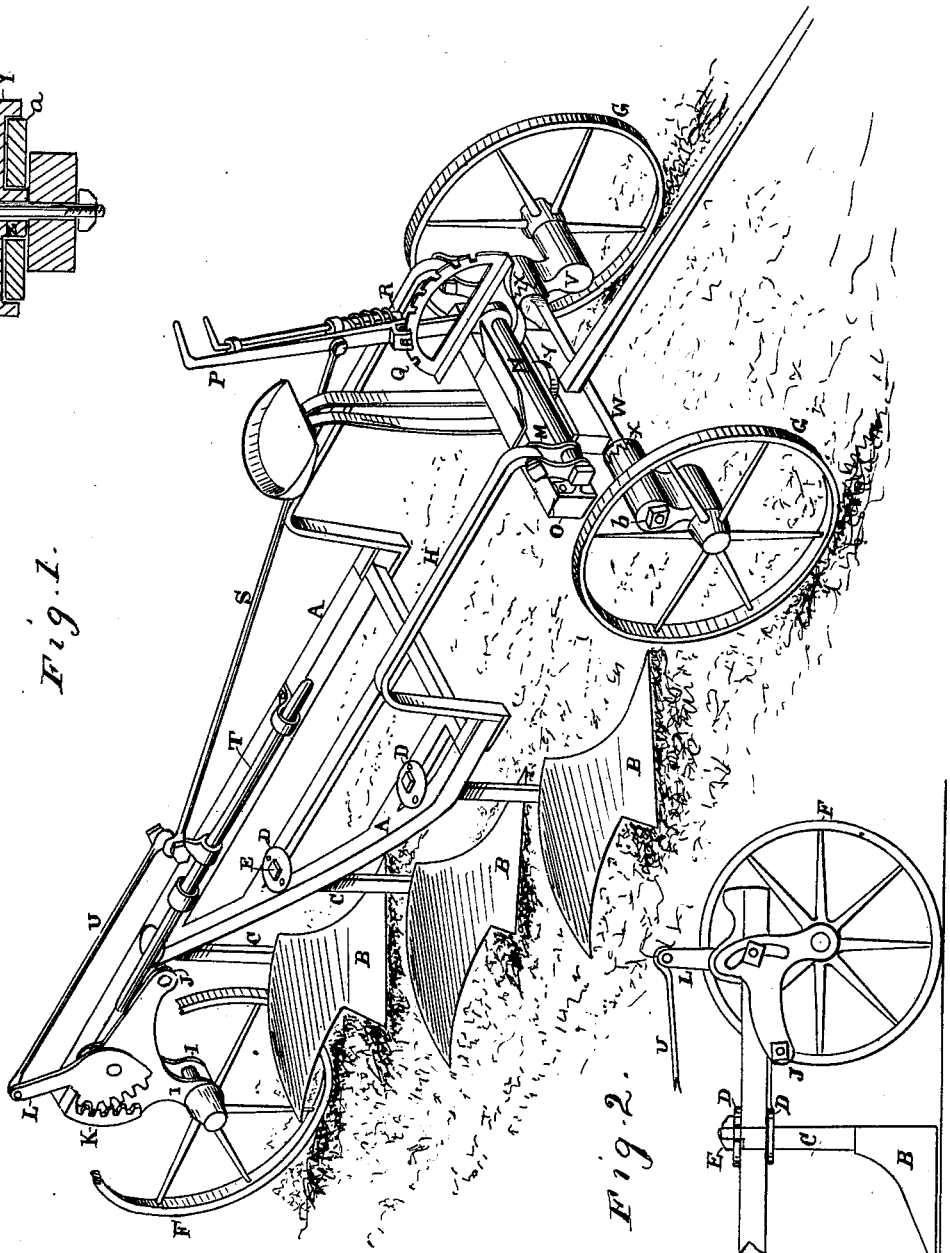

Fig. 2.

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UNITED STATES PATENT OFFICE.

CHARLES MOWREY, OF STOCKTON, CALIFORNIA.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **197,159**, dated November 13, 1877; application filed August 4, 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 Improvement in Gang-Plows; 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-plows of that class in which a number of plows are secured to a suitable frame, (usually triangular;) and it consists in a novel manner of mounting the frame upon bearing-wheels, and in a device by which the frame and plows can be depressed, so that the plows will take the ground, or by which the power of the team will raise them out of the ground, together with certain details of construction.

In the accompanying drawings, Figure 1 is a perspective view. Fig. 2 is a side elevation, and Fig. 2 a detail view.

A is the frame of my plow, and it carries the plows B B B, which are secured to the frame by standards C. These standards pass through two disks or plates, D, one above and one below the frame, fitting with a shoulder against the upper plate, and held in place by a nut, E, which screws upon the upper end of the standard. The disks are bolted through the frame to each other, so that the whole is very solid. The rear end of the plow-frame is supported upon a single wheel, F, and the front is connected with the bolster of a pair of wheels, G, by strong arms H, which are so bent as to allow the wheels to be cramped in either direction without touching the frame or arms.

In order to raise and lower the plows and frame, and control their motion so that they shall not be unwieldy, I have mounted the frame in such a manner that by means of mechanism it can be adjusted at will.

The rear wheel F has its axle secured in a link, I, which is journaled to the plow-frame at some point J in front of the wheel-axle, as shown. The rear end of the link has an internal gear or segment, K, formed upon one side. The link is slotted in a curve corresponding with the radius about which it moves, and a lever, L, has the pin forming its center of motion passing through the slots. The rear end of the lever is formed into a segment-pinion, which meshes with the internal segment K, before described; and it will be seen that any motion of the upper end of the lever will, by the action of the pinion upon the segment-rack, raise and lower the plow-frame about the point of suspension J of the link. The arms H have their front ends journaled to links M, and these links are rigidly secured to a shaft, N, which extends across the front of the bolster O, turning in boxes. A hand-lever, P, is keyed to this shaft, and extends up so as to be within reach of the driver. A notched arc, Q, is secured by its side, and a spring-pawl, R, serves to hold the lever at any point on the arc. This pawl has an arm extending up to the lever-handle, so that it may be easily operated to move the pawl. From the lever P a rod, S, extends back, and is pinned to a sliding guide, T, which can be moved forward and back in boxes upon the plow-frame, as shown. A rod, U, also extends from the lever L to the guide T; and it will be manifest that when the lever P is moved forward there will be a simultaneous and parallel action of the lever L, and the plows will thus be depressed to take as much ground as may be desired.

When it is desired to raise the plows and frame it will only be necessary to raise the pawl from the notched rack Q, when the power of the team exerted upon the axle and front wheels will cause the links M and lever P to rotate backward about the shaft N, this movement being also communicated to the lever L, so that the retarding of the plows will cause them to be lifted at once out of the ground without any manual power being exerted.

The front wheels G may be made of different size, if desired, to accommodate them to the land and furrow; or they may be mounted to turn upon crank-arms V at the end of the axle W. The sleeve which fits the axle has its inner end toothed, as shown at X, and an enlargement upon the axle is similarly notched or toothed, so that by means of a nut, *b*, at the end of the axle these teeth may be firmly interlocked, so as to set the crank-arm at any angle to suit any furrow.

The bolster O has a broad-flanged or cup-shaped disk, Y, secured to its lower slide, and

a boss, Z, projects from its centers. A circular plate, *a*, is secured to the axle-bed, and fits into the cup-shaped disk of the bolster, the boss passing through a hole in the center. The king-bolt passes through this boss and unites the axle and bolster firmly together, and broad disks give a bearing which prevents the rocking of the bolster and plow-frame, while the boss relieves the king-bolt of the strain which would otherwise be brought upon it.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The bent arms H, supporting the front of the frame A, and journaled in the links or arms M, which project from the shaft N, said shaft turning in boxes upon the bolster O, and provided with the lever P, so that the plow-frame A may be raised and lowered, substantially as herein described.

2. The levers P and L, with their operative devices, as shown, in combination with the sliding guide T and connecting-rods S and U, substantially as and for the purpose herein described.

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

CHARLES MOWREY. [L. S.]

Witnesses:
GEO. H. STRONG,
FRANK A. BROOKS.