A. H. BURLINGAME.

Gang-Plow.

No. 57,081. Patented Aug. 14, 1866.

Fig 1

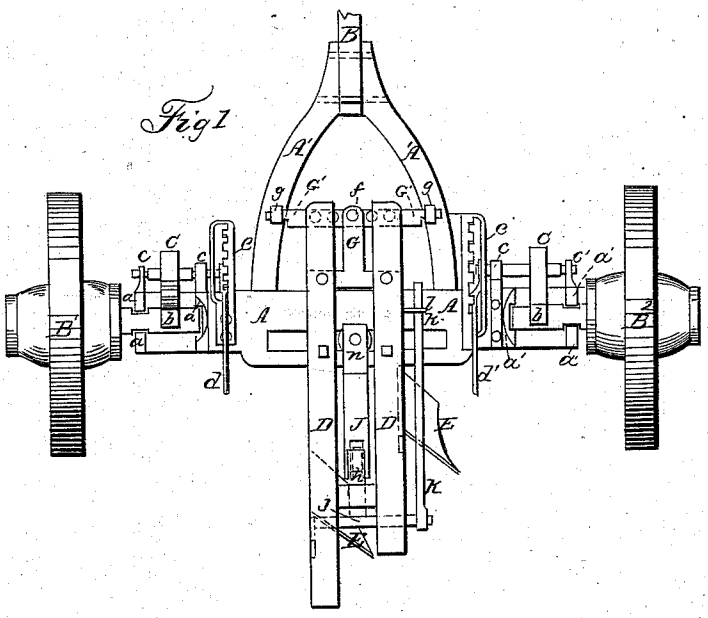


Fig 2

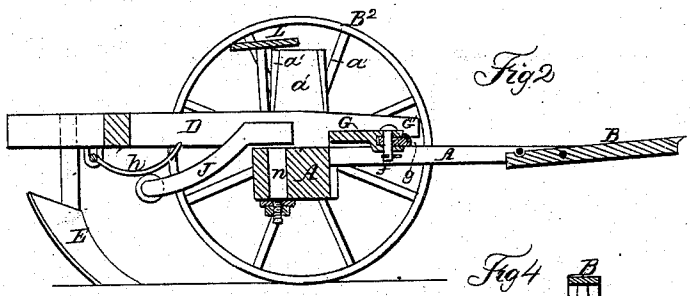


Fig 3

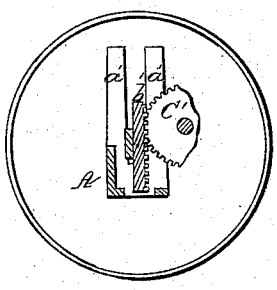
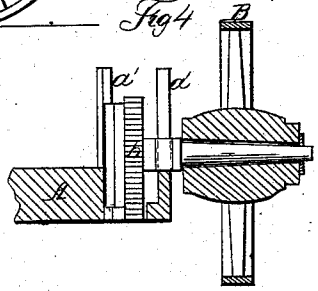


Fig 4



Witnesses;

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UNITED STATES PATENT OFFICE.

A. H. BURLINGAME, OF SPARTA, ILLINOIS.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **57,081**, dated August 14, 1866.

To all whom it may concern:

Be it known that I, A. H. BURLINGAME, of Sparta, Randolph county, State of Illinois, have invented a new and Improved Gang-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of my improved plow complete. Fig. 2 is a longitudinal section taken in a vertical plane through the center of the plow. Fig. 3 is a vertical section of one of the devices for elevating and depressing one of the ends of the axle-tree. Fig. 4 is a front sectional view of one of the devices for adjusting one end of the axle tree or frame.

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

This invention relates to certain improvements on that class of plows which run in gangs and which have the forward ends of their beams supported upon a carriage that can be elevated or depressed, as may be desired, according to the depth at which it may be found necessary to run the plows.

The nature of my invention consists in connecting the forward ends of the plow-beams to a vertically-adjustable carriage-frame by means of a compound pivot-joint, which will admit of the rear ends of said beams rising or falling, and which will also admit of the carriage being turned at corners without lifting the plows from the ground, and in supporting these plow-beams at or near their rear ends upon a rear extension of said carriage-frame by means of a curved lever in such manner that the attendant while mounted upon the machine can lift the plows from the ground at pleasure, as will be hereinafter described.

My invention further consists in connecting the axles of the transporting-wheels to the carriage-frame by means of sliding racks and oscillating toothed segments in such manner that either one or both ends of said frame can be elevated or depressed and fixed in any desired position for the purpose of regulating the depth at which to run the plows, and also for the further purpose of leveling the carriage-frame when the machine is plowing and when it is being transported from one place to another upon level ground, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a strong beam, to which the hounds A′ A′ of the draft-pole B are attached. On the ends of the beam or frame A are vertical guides *a a a′ a′*, within which are fitted sliding racks *b b′*. To these racks short axles are secured, and upon these axles are the transporting-wheels B′ B^2, which are of an equal diameter.

The guides *a a* are secured to the beam A in such manner as to admit of the axle of the wheel B′ being brought in a line below the beam A, and the guides *a′ a′* are secured to the opposite end of the beam A in such manner as to admit of the axle of the wheel B^2 being brought in a line above said beam.

The racks *b b′* have their teeth formed on their front sides, so as to engage with teeth which are formed on oscillating segments C C′, the shafts of which have their bearings in projections *c c′* on the front side of the beam A, as clearly shown in Fig. 1.

On the inner ends of the shafts of the segments C C′ levers *d d′* are secured, which project up and pass through slotted guides *e e′*, one side of each one of which is notched, as shown in Fig. 1, for the purpose of receiving and holding the levers *d d′* in the position in which it is desired they should remain. By releasing the levers *d d′* from the notched sides or edges of their guides and vibrating these levers, the segments C C′ will operate upon the perpendicular racks *b b′* and elevate or depress the beam A.

As the racks and segments are disconnected and independent of each other, the beam A may be elevated and depressed bodily, or one of its ends may be elevated or depressed without moving the opposite end. This being the case, it will be seen that the frame A can be kept in a horizontal plane while plowing, notwithstanding the wheels run in the furrows and upon the land.

The plow-beams D D are secured together by means of transverse braces in planes parallel to each other, and the standards of the two plows E E are secured to these beams in any suitable manner.

From the following description it will be seen that the plow-standards may be secured rigidly to their respective beams without providing at the points of attachment for adjusting the pitch of the plow-points, as this is effected by other means. The forward ends of the beams D D have a central forked tongue, G, secured between them, which receives a pivoted bar, G′, and which is attached to this tongue by a perpendicular pivot-pin that admits of a lateral vibrating movement being given to the rear ends of the said beams, or which will admit of the beam A turning horizontally without moving the plow-beams.

The object of the pivot-point at *f* is to allow the machine to be turned at the corners of the field without the necessity of lifting the plows out of the ground.

The horizontal transverse bar G′ is pivoted at its ends to the hounds A′ A′ by means of strong staples *g g*, and this bar is intended for allowing the rear ends of the plow-beams to rise or fall and the plows to accommodate themselves to uneven surfaces over which the machine may be drawn. This bar G′ has a number of extra holes through it for the purpose of admitting of the attachment of the beams D nearer to or farther from the wheel which is run upon the land, for the purpose of turning wide or narrow furrows.

The rear ends of the plow-beams are sustained upon a laterally-adjustable support, J, which projects upward from the bottom of the beam A, as shown in Fig. 2, by means of a curved support, *h*, which is connected rigidly to a rock-shaft, *j*. This rock-shaft has its end bearings beneath the two plow-beams D D, and on one of its ends a long lever, *k*, is attached, which proceeds forward to a point where it can be conveniently grasped by the driver, who sits upon the seat L. (Shown in Fig. 2.) The object of this arrangement is to enable the driver to raise the plows out of the ground, so as to pass over stones or other obstructions.

When it is desired to keep the plows out of the ground for any considerable length of time the forward end of the lever *k* is moved under a hook, *l*, which projects from one of the plow-beams, as shown in Fig. 1.

The rear supporting-arm, J, has a vertical pin, *n*, formed on its forward end, which passes through a long slot which is through the beam A, and receives upon its lower end a nut, by means of which said support can be secured rigidly to its beam A at any desired point along the length of the beam A, limited only by the length of the slot through this beam. By means of the arm J, with its pin *n* and the nut, the plows may be kept rigid, or allowed to swing back and forth laterally, as may be desired.

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

1. The combination of the tongue G, pivot *f*, rocking bar G′, plow-beams D D, and laterally-adjustable support J, substantially as and for the purpose described.

2. The rear under support, J, applied and operated substantially as herein described, for the purpose set forth.

3. The perforated rocking bar G′, tongue G, plow-beams D D, laterally-adjustable rear support, J, and the device *h j k*, all combined and arranged substantially as described.

4. The combination of the vertical joint *f* and the horizontal joint G′ with plow-beams D D and a carriage A B B′, which is susceptible of being depressed or elevated at one or both ends, substantially as described, and for the purpose set forth.

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