

Wheel Plow.

Patented Oct. 18, 1870.

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IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. **108,311**, dated October 18, 1870.

Be it known that I, CARELL ATWOOD, of Lebanon, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Gang-Plows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters of reference marked thereon.

This invention combines strength, simplicity, and economy of construction, steadiness and regularity of running, facility of operation, and lightness of draft; and it consists, first, in an arrangement of one or more plows in a stationary frame, in combination with suitable devices for lowering them into and raising them out of the ground, being self-fastening in either position, and adjusting them to any required depth of furrow to be plowed; and, secondly, an arrangement of curved slotted bars or plates, extending around the front end of the machine, and forming the hounds and jaws which support the tongue or draft-pole, by which the same can be adjusted right or left, and in consequence thereof the plows be made to run more or less to land, to take a greater or lesser width of furrow, and by the peculiar construction of which and the manner of their attachment to said stationary frame, and its arrangement of supporting wheels and axles, admit of a much closer gearing of the team thereto, and consequent lightness of draft, than would otherwise be practicable, and at the same time cause the plows to preserve under all conditions their proper alignment, and to run with increased steadiness.

Figure 1 represents a side view of a machine embodying my invention. Fig. 2 is a vertical view and plan of the same. Fig. 3 represents a transverse section and front view of the machine.

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

A represents the frame of the machine, supported upon wheels B B and F, the axles of wheels B B being firmly bolted to frame A at the forward end of the same.

In practice, I prefer a separate axle for each wheel, and the forward wheel upon the right-

hand side to be placed in advance of the other, in order to admit of a more convenient arrangement of the plows near the team, as also to secure greater economy of space, said right-hand wheel, which is intended to run in the furrow, being so arranged by means of its longer offset axle from the frame A as to admit of a horizontal position to said frame and the plows connected therewith, even while said wheel is running on this lower level. The wheels B B may, however, if desired, be placed upon one axle, and the same attached to the extreme forward end of the machine, if necessary.

H represents a block upon said frame, as far back as possible or convenient, upon which the double-trees are fastened.

The hinder or caster wheel F is attached to its axle F¹ and arm F², and by bolt F³ to the frame A, so that it may move freely upon said bolt, either right or left, as far as to a position at right angles to said frame A, in order to enable the machine to be turned readily and easily when desired.

The plows E E are supported in frame A, the standards of which, *b b*, pass upward through slotted metallic plates or bars *c c* and *c' c'*, respectively, upon the lower and upper sides of said frame A, and bolted thereto, said standards having holes *d d* in the upper part of the same, into which the pins or bolts *d' d'* are fastened, supporting levers *e e*.

Connected with and attached to levers *e e* by bolts *l l* are crank-shafts *g g*, extending downward to frame A, at which point they are bent at right angles to the plow-standards, and to the upper parts so connected with levers *e e*, and fastened across and upon frame A by staples or other equivalent devices, for securing them in proper position and allowing the necessary oscillatory motion thereto. By means of these levers *e e*, connected with and attached to crank-shafts *g g* and the plow-standards, as aforesaid, the driver, seated upon seat G, can, by reversing the levers *e e* either forward or backward, let the plows into or raise them out of the ground at pleasure, these levers meanwhile, by their peculiar construction, being self-fastening when in a horizontal position, thus holding the plows securely when either up or down. These rests or supports

for the levers may be upon the frame itself or attached to the levers; or any other simple device of like character may be employed for like purpose.

I am aware of the many existing devices employed for lowering plows into and raising them out of the ground by means of the lever combined with other mechanical contrivances; but they are all substantially different from mine, and I especially disclaim for the purpose the combination of the lever and link, as shown in Patent No. 62,004, and dated February 12, 1867.

The lower bars or metallic plates, *c c*, are attached immovably to said frame A. The upper bars, *c' c'*, at the point where the plow-standards pass through them, are curved or offset upward, in order to give greater bearings or support to the plows when in operation. They are also slotted at *c² c²*, where bolts *c³ c³* pass through them, by means of which, when the nuts on said bolts are loosened, they may be made to slide either forward or backward, carrying the plow-standards with them, in consequence of which, when the bolts are again tightened, the plows may be made to run upon heel or point, as desired.

When it is required to adjust the plows to a greater or lesser depth of furrow, it is only necessary to insert the pins *d' d'* higher or lower in the plow-standards, in the holes *d d*—higher to make the plows run deeper, and lower to make them run more shallow.

The curved bars C C at the forward end of the frame A, and forming the hounds and jaws which support the tongue or draft-pole D, are slotted at the points *a a*, where the bolt *a'* passes through, by means of which slots and bolt the bars C C may be turned or adjusted to the right or left, and the plows thereby set more or less to land, and caused to take wider or narrower furrows, as may be desired.

It is deemed advisable, in practice, to use but one bolt, extending entirely through frame A, in support of slotted bars C C, on account of the greater strength to the machine thus afforded, and the increased steadiness of running; but two may be used, extending halfway through, more or less, with practically the same results.

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

1. The combination of the levers *e e*, bolts *d' d'*, rock-shafts *g g*, bolts *l l*, with the plow-standards, constructed to operate in the manner and for the purpose substantially as described.

2. The slotted plates C C, with bolt or bolts *a'*, for adjusting the draft right or left, substantially as and for the purpose hereinbefore set forth.

CARELL ATWOOD.

Witnesses:

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