J. E. SWALLOW.

Wheel Plow.

No. 109,684. Patented Nov. 29, 1870.

Fig. 1.

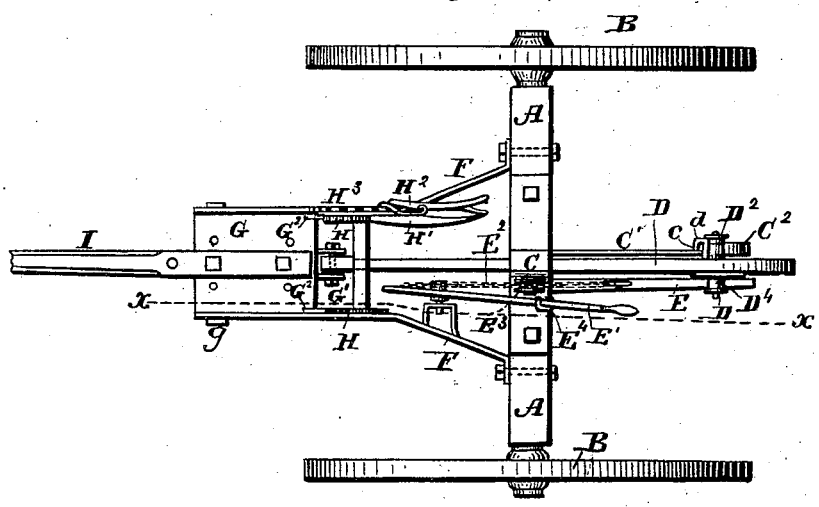


Fig. 3.

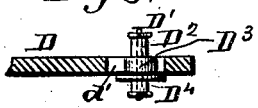
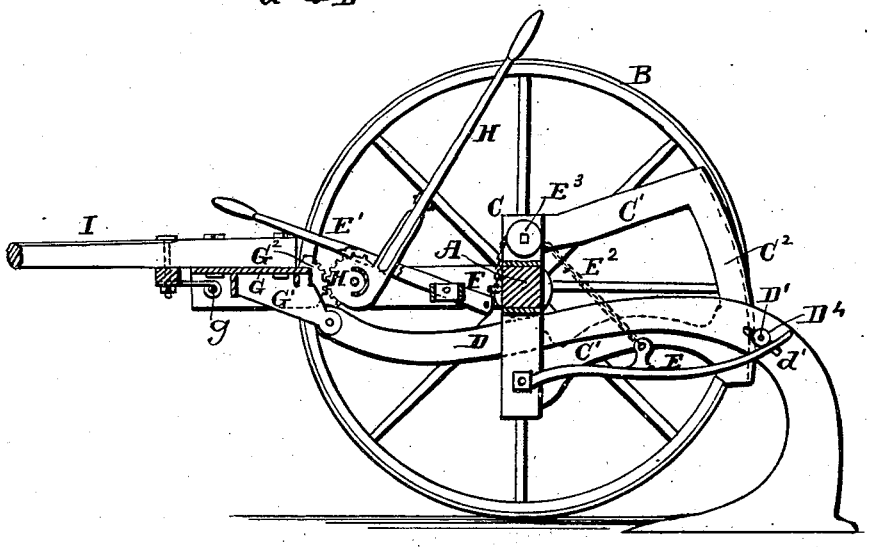


Fig. 2.



Witnesses:
A. Ruppert Jr.
E. D. Callahan

Inventor:
John E. Swallow
per Edson Bros.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN E. SWALLOW, OF HAGERSTOWN, MARYLAND.

IMPROVEMENT IN WHEEL-PLOWS.

Specification forming part of Letters Patent No. **109,684**, dated November 29, 1870.

To all whom it may concern:

Be it known that I, JOHN E. SWALLOW, of Hagerstown, in the county of Washington and State of Maryland, have invented certain Improvements in Wheel-Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan view of my improved wheel-plow. Fig. 2 is a sectional elevation on line *x x* of Fig. 1. Fig. 3 is a horizontal section of the rear portion of the plow-beam.

The same letters are used in all the figures in the designation of identical parts.

This invention relates to gang or wheel plows; and my improvements consist, first, in the employment of a novel coupling or clevis for connecting the tongue and front end of the plow-beam, in connection with mechanism for adjusting these parts vertically to adapt the plow to different kinds of work to be performed; and, secondly, in the combination and arrangement of devices for raising and lowering the rear end of the plow-beam and its appendages and guiding its movements, all as will be more specifically pointed out in the subjoined description and claims.

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

The different parts constituting my improved plow are attached to the divided axle A, which is supported upon wheels B B in the ordinary manner. The two ends of the axle are rigidly connected by a casting, C, the sides of which extend vertically above and below the ends of the axle to form a loop, wherein the plow-beam may work up and down. A suitable socket is formed upon each side, in one horizontal line, for the reception of the ends of the axle, which are firmly bolted to them. The open frame C′, which may form a part of it, extends to the rear from one side of the casting C, on a line at right angles to the axle, and terminates in a bar, C^2, segmental in outline upon its rear edge, the segment forming a part of a circle described over the axis of the front end of the plow-beam at its medium height, or thereabout.

The forward end of the plow-beam D is pivoted between lugs depending from the coupling G, and passing thence to the rear through the loop in the casting C. The plow-beam is connected near its rear end, or the point where it is turned downward to form the standard for the share and mold-board, by means of a sliding pin or bolt, D′, and a sleeve, D^2, to the segmental bar C^2, the latter being provided with a rib or way, *c*, upon the side farthest from the plow-beam, while the sleeve D^2 is constructed with a hook, *d*, fitting loosely over the way *c*, in the manner shown in Fig. 1. The bolt D′ is constructed with a flanged cross-head, D^3, fitting in a longitudinal slot, *d′*, in the plow-beam, in which it may slide back and forth to permit the sleeve D^2, with its hook, to accommodate itself to the rigid way *c* in case the center of the segment and that on which the plow-beam moves do not coincide. The plow-beam is raised and lowered at its rear end by means of a lever, E, which is pivoted upon a stud projecting from the side of the casting C, near its lower end, extending thence a little distance beyond the bolt D′, which projects through the plow-beam upon both sides. The overhung end of the bolt, upon the side where the lever passes under it, carries an anti-friction roller, D^4, by which it rests upon the lever. The latter is operated by a hand-lever, E′, through the medium of a chain, E^2, which reeves over a pulley, E^3, connecting the two former, in the manner clearly indicated in Fig. 2. On raising the plow-beam the hand-lever is stationed by means of a hook or rack, E^4, secured to the axles. The hounds or braces F F, in passing from the axle forward, converge for some distance, and then run parallel to each other to the end, in the manner shown in Fig. 1.

The coupling G is constructed with a downwardly-projecting flange upon each side and ribs upon its under side to strengthen it, and is neatly fitted between the parallel ends of the hounds, to which it is pivoted, near the forward end, by a transverse bolt, *g*. The tongue I is bolted upon the top of the coupling, and the plow-beam between two lugs, G′, depending from its under side. The coupling is swung upon its pivot, and held in any desired position which it may be necessary in operating the plow to occupy, by two sectoral pinions, H H, arranged upon a shaft in rear of it, and gearing into segmental racks G^2 G^2 upon the rear edges of the flanges of the coupling. These pinions are operated simultane-

ously by a hand-lever attached to one of them, which lever (marked H′) is provided with a spring-pawl, H^2, to engage with a sectoral rack, H^3, whenever the coupling has been properly set, so as to throw the tongue and plow-beam into the desired position.

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

1. The coupling G, connecting the tongue and forward end of the plow-beam, and constructed with segmental racks G^2, in combination with the pinions H H, substantially as set forth.

2. The slotted plow-beam D *d′*, in combination with the guide-bars C^2 *c*, sliding bolt D′, provided with a sleeve, D^2 *d*, and means, substantially such as described, to operate upon the sliding bolt to raise and lower the rear end of the plow-beam.

In testimony whereof I have signed my name to this specification, this 29th day of September, 1870, in the presence of two attesting witnesses.

JOHN E. SWALLOW.

Witnesses:
JOS. R. EDSON,
E. D. CALLAHAN.