

J. H. GOODWIN & D. WOODARD.  
SULKY AND GANG PLOWS.

No. 195,001.

Patented Sept. 11, 1877.

Fig. 1

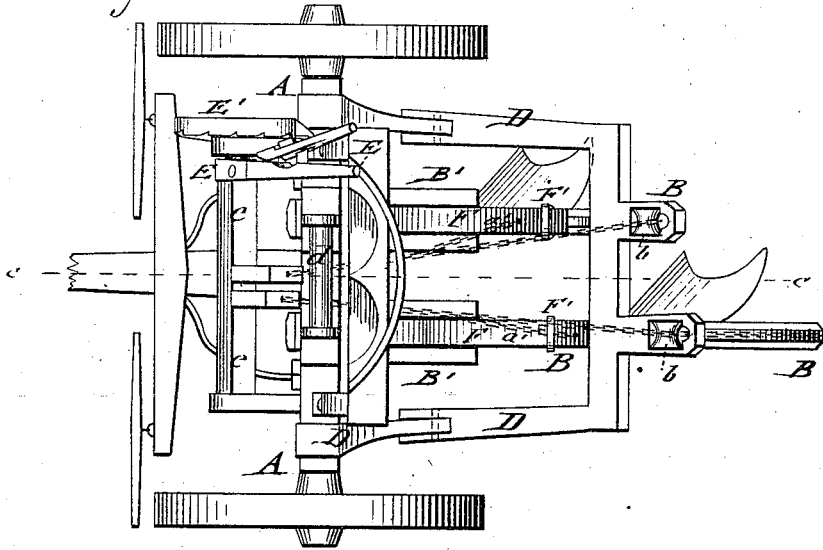
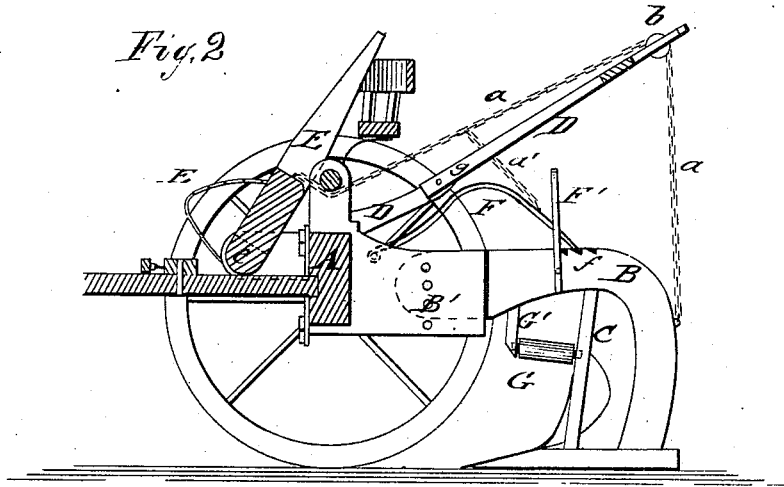


Fig. 2



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN H. GOODWIN AND DAVID WOODARD, OF LAMAR STATION, MO.

## IMPROVEMENT IN SULKY AND GANG PLOWS.

Specification forming part of Letters Patent No. **195,001**, dated September 11, 1877; application filed February 3, 1877.

*To all whom it may concern:*

Be it known that we, JOHN H. GOODWIN and DAVID WOODARD, of Lamar Station, in the county of Nodaway and State of Missouri, have invented a new and Improved Sulky and Gang Plow, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a plan view, and Fig. 2 a vertical longitudinal section on line *c c*, Fig. 1, of our improved gang-plow.

Similar letters of reference indicate corresponding parts.

The invention relates to improvements in gang-plows; and consists, mainly, of an axle with swinging plow-beams that are raised or lowered by a pulley-frame, chains, and lever to the required depth. The pulley-frame is jointed, to admit the raising of the plow-beams into upright position after work.

In the drawing, A represents the axle, and B the beams, of our improved gang-plow. The beams B are pivoted to supports or bearings B' of the axle in suitable manner, and curved at the rear end to connect with the land-side, which is further stiffened by a brace, C.

The rear ends of the plow-beams B are connected by chains *a* that pass over pulleys *b* of a frame, D, and below a guide-roller, *d*, to crank-arms of a lateral front shaft, *e*, that is operated by a hand-lever, E, from the driver's seat.

The hand-lever E is secured in any required position by a suitable spring lever or bolt to a notched and arc-shaped guide, E', in the customary manner, so as to hold the plows up while turning around or traveling. The depth of the plows is regulated by placing the pivot-bolts higher or lower in the bearings, and also by raising or lowering the tongue by the breast-strap.

The plow-beams B are retained in position by curved metallic brace-pieces F, that are hinged to the axle in front of and above the turning-points of the plow-beams, and seated in notches *f* of the same, according to the higher or lower position of the beams.

The hinged braces F are connected, by short chains *a'*, to the beam-suspending

chains, so as to be lifted from the notches and raised jointly therewith by the lever. They are guided by upright metallic frames or supports F', attached to the plow-beams B.

The pulley-frame D is made of two sections, of which the lower stationary part is secured, at suitable inclination, to the axle, while the upper section is pivoted, by its fork-shaped ends, thereto, in such a manner as to rest on a supporting extension or bearing, *g*, of the lower part when the plows are dropped for work.

After use, the plows are raised and thrown, with the upper section of the pulley-frame, into nearly vertical position on the axis, so that the gang-plow may be carried to and from the field with great facility.

In place of the longer breaking-plow beam B a listing-plow may be inserted by taking out the pivot-bolt and passing it through the beam of the listing-plow, securing the same in fixed position by a second fastening-pin below the pivot. The listing-plow prepares, in connection with the other plow, the field for drilling.

Any size of mold-board may be used on these plows, according to the number of horses employed with the same.

Above the mold-board of each plow is arranged, in the direction of the beam and in horizontal or inclined position, a roller, G, that turns in bearings of brace C, and of a downward-extending support or arm, G'. The roller G prevents the plow from getting choked. The roller is made of polished cast-iron or other metal, and bears on the earth or sod as the same passes forward on the molding-board, assisting in throwing the ground over without choking the plow.

The shape of the plow-beams produces a light draft, and the ready adjustment or entire raising of the same a gang-plow of convenient construction and use.

The plow may also be used as a sulky-plow by using one plow only, taking off the others, the plow being thus a gang or sulky plow, as desired.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. As an improvement in gang-plows, the combination of the pivoted plow-beams B and hinged beam-braces F with the connecting-chains, pulley-frame, and adjusting crank-lever mechanism, substantially as and for the purpose set forth.
2. The combination of the pivoted plow-beams B and hinged braces F with the connecting-chains *a a'*, jointed pulley-frame D, and crank-lever mechanism to raise plows into upright position with pulley-frame after work, substantially as set forth.

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