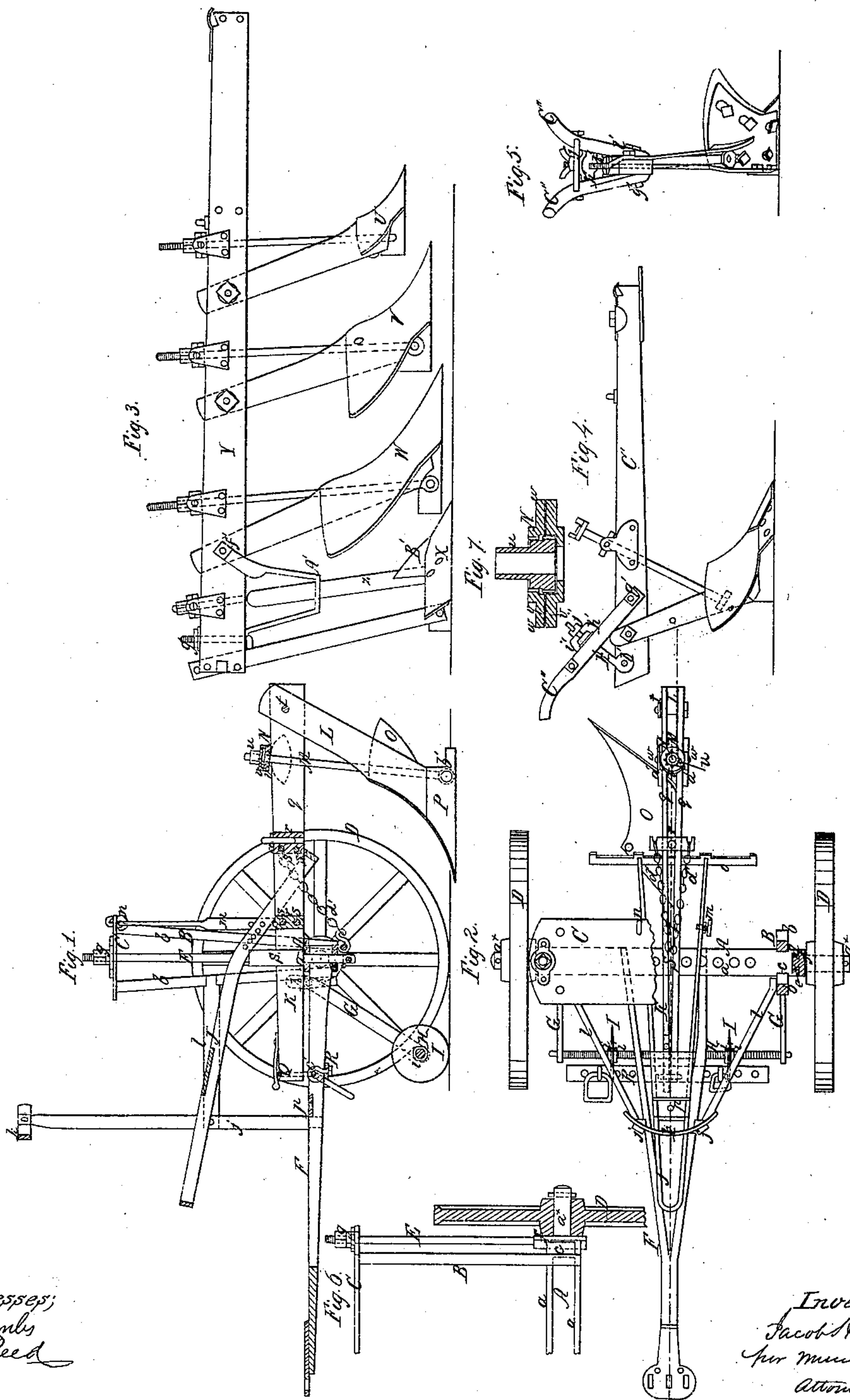


J. Haeger.
Wheel Plow.

N^o 37,750.

Patented Feb. 24, 1863.



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UNITED STATES PATENT OFFICE.

JACOB HAEGE, OF SHILOH, ILLINOIS.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. 37,750, dated February 24, 1863.

To all whom it may concern:

Be it known that I, JACOB HAEGE, of Shiloh, in the county of St. Clair and 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 of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same, a portion being in section, as indicated by the line *x' x'*, Fig. 6; Fig. 3, a detached side view of a beam provided with four plows for deep tillage; Fig. 4, a detached view of a beam provided with a single plow; Fig. 5, a back view of Fig. 4; Fig. 6, a sectional view of Fig. 2, taken in the line *y y*; Fig. 7, a detached sectional view of a nut-box.

This invention relates to an improved gang-plow designed more especially for western or prairie use.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an axle, which is formed of two perforated bars, *a a*, placed one over the other, and having an upright frame, B, formed of two bars, *b b*, attached to each end of it. To the upper ends of the frames B B the driver's seat C is attached. The ends of the bars *a a*, which form the axle A, are connected by uprights or standards *c c*, in which vertical dovetail grooves *d* are made to receive dovetail projections *e*, which have plates *f* attached to their outer surfaces, said plates having the arms *a'* of the wheels D D secured to them. (See more particularly Fig. 6.) To each plate *f* the lower end of a vertical rod, E, is attached. These rods E extend up through the seat C near its ends, and have screw-threads cut on them on which nuts *g* are fitted. By turning these nuts it will be seen that the axle A may be raised or lowered, and the plows which are attached to the machine may be made to penetrate a greater or less distance into the earth. This feature of the invention will be fully understood by referring to Fig. 6.

F represents the draft-pole, which is forked or of V form, and permanently attached to the

axle A; and G G represent two curved arms, the upper ends of which are attached by pivot-bolts *h h* to the front and lower parts of the frames B B. The lower ends of the arms G G are connected by a screw-shaft, H, on which three circular cutters, I I I, are placed and secured in proper position by jam-nuts *i*. (See Figs. 1 and 2.) These cutters may be of steel, (at least that would be the preferable material,) and they work on the surface of the ground, just in front of the axle A, as shown in Fig. 1. To the draft-pole F there are secured two uprights, *j j*, the upper ends of which are connected by a curved bar, *k*. These uprights are braced from the frames B B by bars *l l*, both of which are shown in Fig. 2.

J represents a treadle or lever, which is suspended from the back part of the seat C by two rods, *m m*, which are attached to the seat by means of hooks *n n*, so that they may swing freely. (See Fig. 1.) The treadle or lever J is of V form, and it has a bar, *o*, attached to its back part at right angles, and a foot-piece, *p*, is attached to it near its front end.

K, Figs. 1 and 2, represents a plow-beam, which is constructed of wood and of two longitudinal parts, *q q*, with blocks *r* placed between them, through which and the parts *q* bolts *s* pass. To the back part of this beam K an inclined standard, L, is attached by a pivot-bolt, *t*, and said standard has the lower part of a rod, M, passing loosely through it. The upper end of this rod M has a screw-thread cut on it, on which a nut, *u*, is fitted. This nut *u* is placed in a box, N, which is formed of two parts, *v v*, and the box is provided with trunnions *w w*, which are fitted in suitable bearings, *a' a'*, attached to the beam. (See Fig. 7.) To the lower end of the standard L a plow, O, is attached, and the lower end of the rod M is connected by a pivot, *b'*, with the landside P thereof. (See Fig. 1.)

From the above description it will be seen that by turning the nut *u* the point of the plow O may be raised and lowered as desired, to regulate the depth of the penetration thereof in the soil; and in consequence of having the nut-box N hung on trunnions *w w*, as described, the latter and also nut *u* are allowed to adjust themselves in line with the rod M as the latter is raised or lowered under the ac-

tion of the nut, and the former cannot in consequence be bent out of a straight or right line, as would be the case if the rod M passed through a rigid guide or bearing. The box N also serves as an oil-box and keeps the screw of rod M well lubricated. The beam K passes over the bar *o* at the back part of the treadle or lever J, and the front end of the beam is fitted in a metal stirrup or loop, Q, which is attached by a hook, *e'*, to a double-tree, R, the latter being connected to the draft-pole F.

S is a vertical pin, the lower part of which is of cylindrical form, and is fitted in the perforations of the parts *a a* of the axle A. The upper part of this pin is of flat form, and is fitted between the two parts *q q* of the beam K. To the lower part of the pin S there are attached two chains, *d' d'*, and the ends of these chains are attached to the ends of a small bar, T, which is connected to the beam K by a wooden pin, *e'*.

As the machine is drawn along it will be seen that the driver can from his seat C elevate the plow at any time by simply treading on the treadle or lever J, leaving the seat C, and allowing his whole weight to bear on said treadle or lever, the curved bar *k* serving as a support for the driver when standing on the lever or treadle. The plow-beam, it will be seen, is raised by the back part of the lever or treadle as the front part of the same is depressed. When the plow is in operation the strain or pull is upon the wooden pin *e'*; and in case the plow comes in contact with any obstruction that it cannot throw aside, the wooden pin *e'* will break and the beam will draw out from the stirrup or loop, Q, leaving the beam and plow detached from the axle A. The plow therefore cannot be broken or strained, nor any of the parts connected therewith.

Any number of plows may be attached to the beam K. In Fig. 3 four plows, U V W X, are shown attached to a beam, Y. This arrangement is designed for deep tillage, U being a surface-plow, V W deeper plows, and X a subsoil-plow. This latter plow, X, has its adjusting-bar Z, which corresponds to the rod M of plow O, made sharp at its front edge to serve as a cutter or colter, and it passes through a yoke, A', the front end of which is secured by a pivot, *f'*, to beam Y, and the back end secured to the beam by a screw-bolt, *g'*.

To the lower part of the bar Z and front part of the plow X there is attached a cutter, B'. This cutter acts upon and divides roots, and is very essential in deep tillage. In Figs. 4 and 5 a plow-beam, C', is represented with handles

C'' attached at their lower ends to the beam by a pivot-bolt, *g'*. The handles are connected by a cross-bar, *h'*, which has a box *i'* attached, in which a nut, *j'*, is fitted, and through which nut a screw-rod, *k'*, passes, the lower end of the screw-rod being pivoted to the back part of the beam C', as shown at *l'*. By turning the nut *j'* the handles C'' may be raised or lowered to suit the height of a man or boy. These handles are applied to the beam in case it should be necessary to detach the plow from the carriage at any time and use it separately.

The rotary cutters, I I I, cut all stalks, weeds, trash, &c., which may lie in their path, and thereby greatly facilitate the work of the plows. These cutters, it will be seen, are allowed to rise and fall to conform to the irregularities of the surface of the ground, in consequence of their shaft H being placed in the arms G G, which are allowed to work on their pivots *h*, and by adjusting the jam-nuts *i* the cutters may be secured at a greater or less distance apart, as may be desired. One or more beams may be attached to the axle A, as the nature of the work may require.

I do not claim in this specification the box N, hung on trunnions *w w*, and containing the nut *u* of the screw-rod M, for that feature forms the subject-matter of another or separate application.

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

1. The attaching of the plow-beam to the axle A by means of the stirrup or loop Q, pin S, chains *d' d'* and bar T, and wooden pin *e'*, in combination with the lever or treadle J, all arranged as shown, whereby the plow or plows may be readily raised above the surface of the ground when necessary, and the beam allowed to become detached from the axle or carriage when the former comes in contact with any obstruction which may lie in their path.

2. The rotary cutters I, when placed on a screw rod or shaft H, and secured thereon by jam-nuts *i*, and said shaft hung in the arms G G, substantially as and for the purpose specified.

3. The combination of the bar Z, and cutter B', when applied to the subsoil-plow X, and used in connection with a gang-plow, for the purpose set forth.

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