

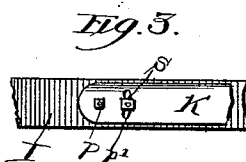
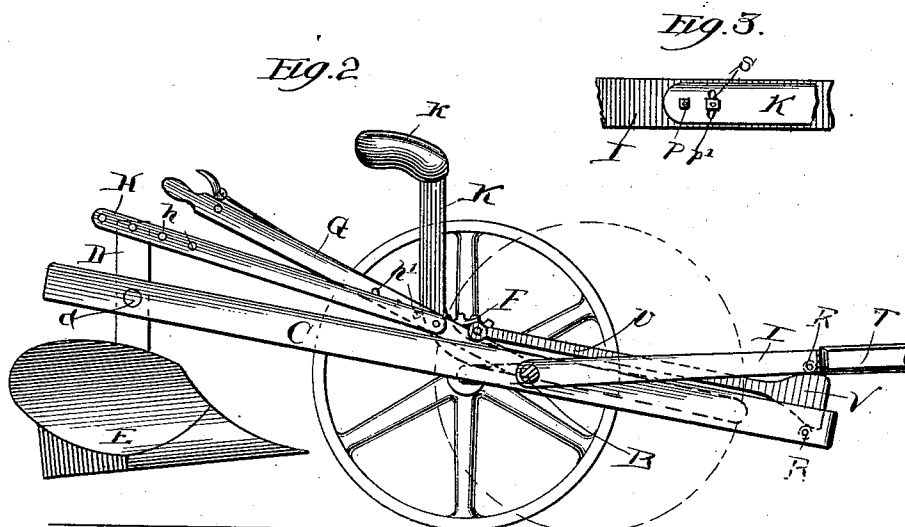
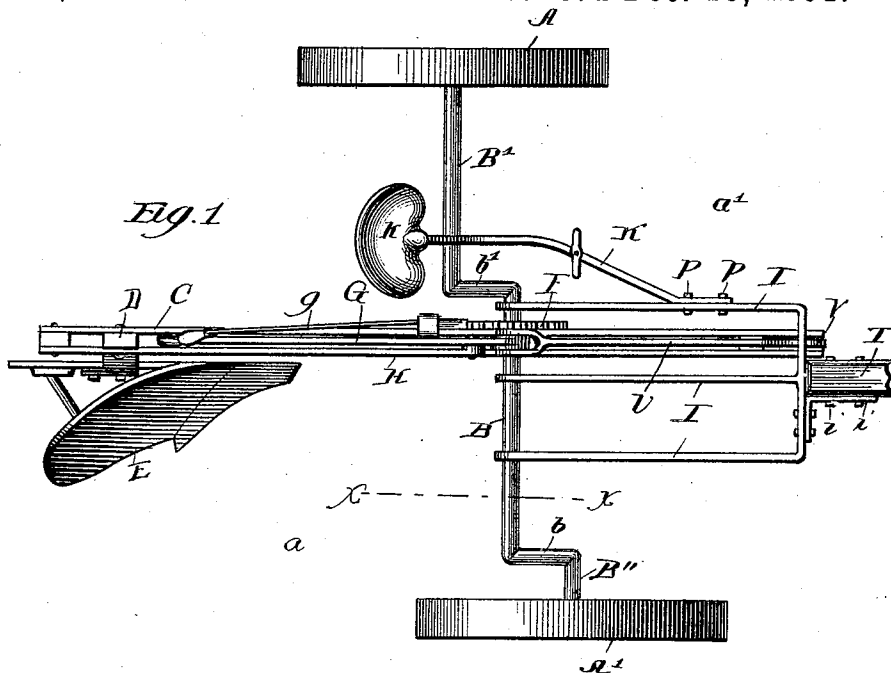
(No Model.)

M. SUGHROUE.

WHEEL PLOW.

No. 465,329.

Patented Dec. 15, 1891.



Witnesses:
Chas. Shawey.
C. P. Smith.

Inventor:
Martin Sughrue
By Miles, Green & Bitner,
Attys.

UNITED STATES PATENT OFFICE.

MARTIN SUGHROUE, OF PLEASANT VALLEY, ILLINOIS.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 465,329, dated December 15, 1891.

Application filed May 8, 1891. Serial No. 392,009. (No model.)

To all whom it may concern:

Be it known that I, MARTIN SUGHROUE, of Pleasant Valley, in the county of Joe Daviess and State of Illinois, have invented certain new and useful Improvements in Wheeled Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to plows of the general class illustrated in Letters Patent No. 430,846, issued to me June 10, 1890, in which a cranked axle supported by suitable wheels is combined with a plow-beam lying in the rear of the axle and pivoted thereto, a plow provided with a standard pivoted to the plow-beam, and suitable means for varying the position of the cranked axle and the relative height of the wheels and for adjusting the angle of the plow-standard with reference to the plow-beam.

The invention is fully described and claimed in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a top plan of a plow embodying my present improvements. Fig. 2 is a view, partly in vertical section and partly in side elevation, the plane of section being passed through line $x x$, Fig. 1, and the view being in the direction indicated by the arrow a in Fig. 1. Fig. 3 is a side elevation illustrating the connection of the seat-support with the tongue-supporting frame of the plow, the view being in the direction indicated by the arrow a' , Fig. 1.

In the view A A' are two wheels of ordinary construction mounted loosely upon the ends of an axle made up of a central portion B, two cranks $b b'$, formed on the ends of said central portion and at right angles thereto, and two terminal portions B' B'', parallel with the central portion B, whose axial line is midway between the lines of the terminal portions B' B'' and is the axis proper of the machine. On the central portion B of the axle and preferably about midway between the wheels is pivoted a plow-beam C, preferably made up of two flat bars spaced by suitable blocks for the purposes hereinafter indicated. Between the two bars which make up the plow-beam and near their rear ends is piv-

oted an approximately vertical plow-standard D, on the lower end of which is rigidly fastened in a suitable manner a plow E, made up of a landside and mold-board in a manner common in plows of various classes.

On the axle B, preferably between the bars of the plow-beam C, is rigidly fastened an operating-lever G, adapted to be swung through a suitable angle about the axial line of the axis, and thus to change the position of the plane of the two cranks $b b'$ of the axle, and on the plow-beam C is rigidly fastened a toothed segment F, concentric with the central portion of the axle, the lever G being provided with a pawl and pawl-lever g , adapted to engage the segment F and hold the lever securely in any given position with relation to the plow-beam. A bar H connects the levers G with the plow-standard D, the rear end of the bar being provided with a series of bolt-holes h and the inner or lower end of the lever G being provided with a series of similar holes h' , whereby the position of the bar H with reference to the lever and the plow-standard may be suitably adjusted. It is evident that the backward movement of the free end of the lever G (or movement from right to left as the parts are shown in the drawings) must not only rock the axle and change the plane of its cranks, but must also swing backward the upper end of plow-standard and change its angle with reference to the plow-beam, and the movement of the free end of the lever in the opposite direction must necessarily have an opposite effect upon the axle and the plow-standard. The lever is fastened to the axle in a position preferably nearly coincident with the plane of the cranks, so that when it is in the position indicated in Fig. 2 the cranks of the axle are horizontal, and when the lever is raised to a vertical position or when slightly in front of a vertical position the cranks shall be vertical. The position of the lever being thus fixed, the position of the plow-standard with reference to the beam may be varied for any given position of the lever by changing the connection of the rear end of the bar H with the upper end of the plow-standard; and, on the other hand, the variation of the angle of the standard to the beam for any given movement of the lever may be adjusted by changing the

point of connection of the front end of the bar H with the lever G. These details being satisfactorily adjusted, it is evident that any given movement of the lever must vary the position of the axle and correspondingly adjust the plow-standard with reference to the beam, the point of the plow being lowest with reference to the beam when the lever is raised and the plane of the axle is vertical, or nearly so—that is to say, when the plow is in working position—the wheels being so adjusted with reference to each other that one can run in the furrow, while the other runs upon the land.

In front of the axle and pivoted at its rear end thereto is a frame I I, preferably made up of three parallel bars connected at their front ends by a transverse bar lying above the front end of the plow-beam. An extension *i* is formed on the front end of the frame, and to this extension is rigidly bolted the rear end of a tongue T, of ordinary form, the front end of the beam being provided with any suitable means for the attachment of the horses that draw the plow. To one of the bars I of the frame is secured the front end of a seat-supporting bar K, extending backward and upward from its point of attachment and provided at its upper end with a seat *k*, of ordinary construction. The rear end of the seat-support is directly over the part B' of the axle and preferably rests thereon at all times, the front end of the seat-support being secured to the bar I by a bolt *p* passing through the end of the support, and a second bolt *p'* passing through a slot *s* a short distance from the end. These two bolts prevent lateral movement of the seat-support, but permit it to swing about the bolt *p* sufficiently to rest its weight constantly upon the axle in the manner hereinbefore referred to, no matter what the position of the axle may be.

The operation of the lever, the axle, and the plow-standard has already been described, and as the front end of the plow-beam is the point of draft, and is therefore practically stationary as to vertical position, it is evident that the rocking of the axle by means of the lever must correspondingly raise and lower the rear end of the plow-beam to an extent dependent upon the length of the cranks of the axle. While this movement of the rear end of the beam is sufficient to drop the plow to the bottom of a furrow of any desired depth and to raise the plow clear of the surface of the ground when the plow is out of use, it is desirable in moving the plow from place to place to raise it still farther in order to avoid obstacles upon the surface. For this reason I consider it advisable to provide some means through which the front end of the plow-beam shall be considerably lowered and the rear end thereof correspondingly raised when the cranks of the axle are in a horizontal position and the wheels are at the same height and adapted to move upon the same level. One

device for this purpose is illustrated in the drawings, and consists, merely, of a bar U, pivoted at its rear end to the lever and provided at its front end with a wedge-shaped head V, which lies between the front end of the plow-beam and the front end of the tongue-supporting frame, suitable anti-friction rollers R R being preferably mounted upon the beam and the frame, respectively, in order to facilitate the sliding of the bar and its head. These parts are so arranged that when the cranks of the axle are in a vertical plane and the plow is in working position the narrow main portion of the bar U lies between the rollers and has no effect whatever upon the position of the plow-beam with relation to the frame I; but when the free end of the lever G is thrown downward and the cranks of the axle brought into a horizontal plane the bar U is correspondingly drawn backward and the V-shaped head drawn between the rollers R R, so as to press downward the front end of the plow-beam and lift the plow a considerable distance above the surface of the ground until the wheels only rest thereon.

It is evident that the details of this device may be varied in many ways, and I desire, therefore, not to limit the invention in this regard to the form shown, as I believe it to be broadly new to provide means for this purpose operated by the same lever which rocks the axle.

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

1. In a plow of the class described, the combination, with the wheels and a cranked axle supported thereby, of a plow-beam pivoted to the axle, a plow-standard pivoted to the plow-beam near its end and provided with a suitable plow, a lever rigidly mounted upon the axle and adapted to rock the same, means for locking the lever at any given angle to the plow-beam, and a bar pivoted at its ends to the lever and the plow-standard, respectively, whereby the movement of the lever rocks the axle and varies the position of the plow-standard to the plow-beam, substantially as and for the purpose set forth.

2. The combination, with the cranked axle and wheels, of the lever G, rigidly fastened to the axle, the plow-beam C, pivoted to the axle and extending backward therefrom, the segment F, rigidly fastened to the plow-beam, the plow-standard D, pivoted to the plow-beam and provided with the plow E, and the bar H, connecting the lever G and the standard D, the front end of the bar being adjustable upon the lever and the plow-standard being adjustable from point to point upon the bar H, substantially as and for the purpose set forth.

3. The combination, with the wheels and the cranked axle, of the tongue-supporting frame pivoted to the axle and extending in front thereof, and the seat-support pivoted at its front end to the tongue-supporting frame and resting at its rear end upon the axle, the front

end of the seat-support being adapted to oscillate slightly with reference to the tongue-supporting frame, whereby the contact of the rear end of the seat-support with the axle is preserved in all positions of the axle, substantially as and for the purpose set forth.

4. The combination, with the wheels and the cranked axle, of a plow-beam pivoted thereon and extending in front and rear thereof, a tongue-supporting frame pivoted to the axle and extending in front thereof and lying above the front end of the plow-beam, a lever rigidly fastened upon the axle and adapted to rock the same, means for securing the lever at any given angle with reference to the plow-beam, and means interposed between the front end of the plow-beam and the front end of the tongue-support and operated by the lever, whereby the bringing of the cranks of the axle into an approximately horizontal plane depresses the front end of the plow-beam and raises the rear end thereof, substantially as and for the purpose set forth.

5. The combination, with the wheels and the cranked axle, of the plow-beam C, pivoted to the axle and extending in front and rear thereof, the tongue-supporting frame I, pivoted to the axle and extending forward above the front end of the plow-beam, the lever G, rigidly fastened to the axle, the segment F, rigidly fastened to the plow-beam, and the bar U, pivoted at its rear end to the lever and extending forward between the plow-beam and the tongue-supporting frame, said bar being provided at its front end with a wedge-shaped head adapted to be drawn between the plow-beam and the tongue-supporting frame by the movement of the lever and thereby to depress the front end of the plow-beam and raise the rear end thereof, substantially as and for the purpose set forth.

MARTIN SUGHROUE.

Witnesses:

JOHN MURRAY,
R. A. OLIVER.