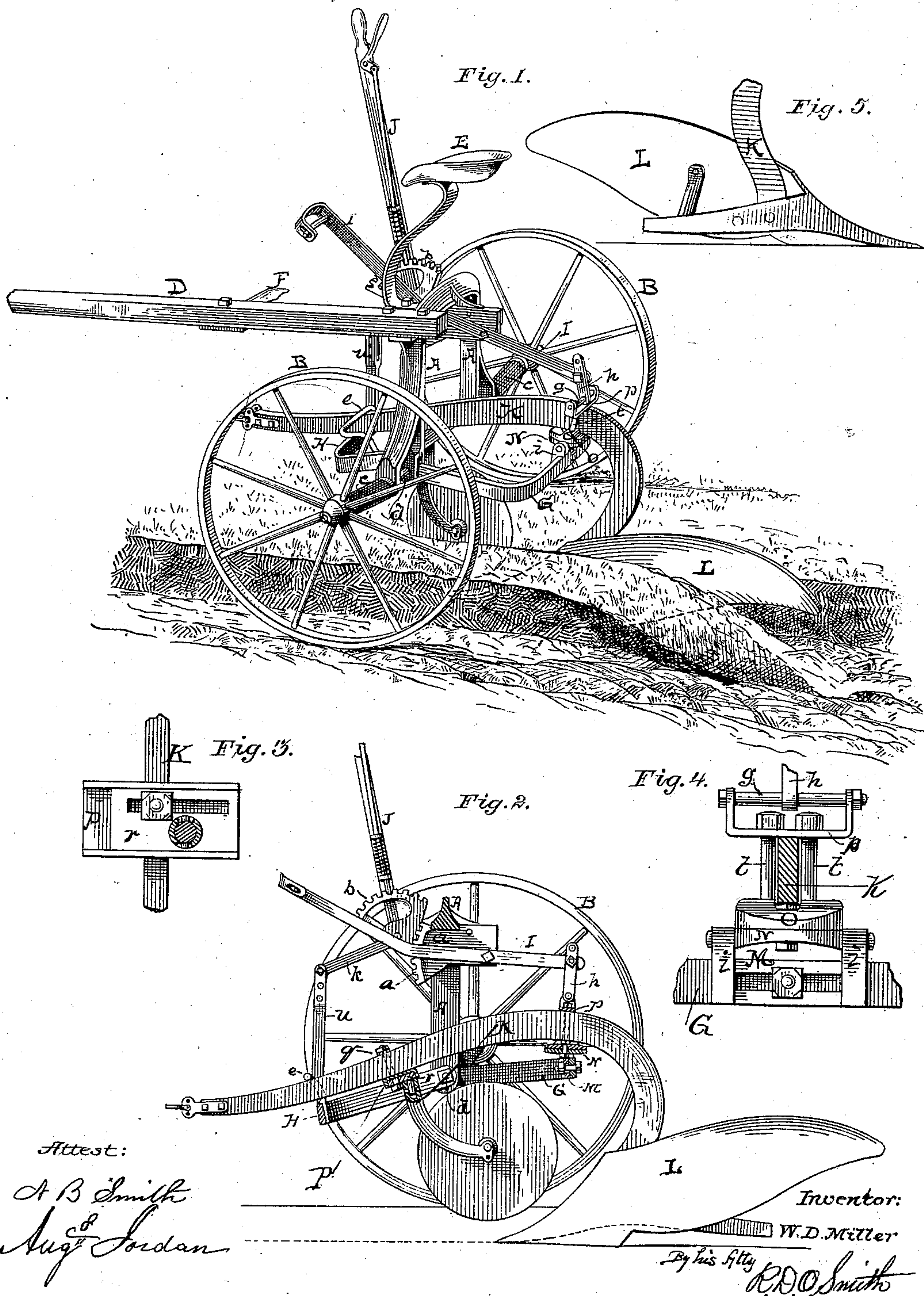


W. D. MILLER.
Wheel-Plow.

No. 225,156.

Patented Mar. 2, 1880.



UNITED STATES PATENT OFFICE.

WILLIAM D. MILLER, OF SPRINGFIELD, OHIO.

WHEEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 225,156, dated March 2, 1880.

Application filed October 7, 1879.

To all whom it may concern:

Be it known that I, WILLIAM D. MILLER, of Springfield, in Clarke county, in the State of Ohio, have invented new and useful Improvements in Wheel-Plows; and I do hereby declare that the following is a full and accurate description of the same.

The objects of my improvement are, first, to facilitate the handling and management of the plow and to relieve the plow of the weight of the sulky and driver; and, second, to facilitate the self-management of the plow, rendering it almost wholly independent of the sulky, and making said sulky a subsidiary or assisting rather than a controlling power.

My plow is attached to the sulky by means of two swinging frames or bails, which have their axes at or near the crank-axle centers. These frames or bails extend forward and backward, respectively, and are attached to the plow-beam at or near its front and rear end, respectively. The bails have separate controlling-levers, so that either may, at will, be elevated or depressed.

The plow-beam is laterally adjustable as to its attachment to the rear bail, and its attachment thereto has a free swivel motion. The front of the plow-beam moves freely in lateral direction over the forward bail, but as to its vertical positions it is governed by said bail.

The supporting-wheels are mounted on crank-axes, so as to be set high or low, as may be required.

The colter is adjustable both longitudinally and laterally.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of my plow. Fig. 2 is a longitudinal sectional elevation. Figs. 3 and 4 are details. Fig. 5 is a land-side elevation of the plow.

A is the sulky-frame, supported upon the wheels B B, which are mounted on crank-axes *c*, so that they may be set high or low, as desired, and for the usual purpose. The tongue D serves for the attachment of the team and guidance of the plow. The driver's seat E is mounted upon the frame A, and a foot-plate, F, secured either to the frame or to the tongue, is provided for him. These parts do not differ

essentially from others in common use for similar purposes.

The swinging frames or bails G H are pivoted to the frame A, and project backward and forward therefrom respectively. For convenience they are pivoted upon the axle-bolt *d*, as shown in the drawings.

The bails G H are provided with levers I J, respectively, so that either or both may be turned upon its pivot and raised up, and said levers are provided also with racks *a b* and locking-latches, so that they may be locked and retained in any desired position. For convenience the lever which controls the rear bail I arrange to be operated by the foot, as shown.

The plow-beam K and plow L do not differ essentially from other plows and beams.

The beam K is attached to the rear bail by means of a swivel-coupling, which is capable of permitting a motion of the plow-beam in every direction, and at the front bail the beam K is confined by a strap, *e*, which is secured at its ends to the bail and passes over the beam K, forming a long loop or slot, in which said beam may move laterally. The double-trees are attached to the plow-clevis, so that the draft is directly upon the plow-beam. The plow-beam is therefore free to sway from side to side at its front end without straining or racking the sulky-frame, and by raising the front bail the point of the plow may be cast up or down, and by raising the rear bail the plow may be raised from the ground for transportation.

The swivel-connection between the rear bail and the plow-beam consists of a plate, M, which is provided at each end with a lug, *i*, which overhangs and rests against the top and side of the bail. The plate M rests against the face of the bail, and is provided with a longitudinal slot, through which the clamping-bolt passes to permit a lateral adjustment of the swivel and the plow which it carries.

A plate, N, is hung upon horizontal pivots between the lugs *i i*, and a saddle-plate, O, is mounted upon the plate N with a vertical axis-bolt, and the plow-beam is clamped upon said saddle by the tie-bolts *t t* and tie-plate *p*. The plow-beam is thereby firmly secured to the bail, but is adjustable laterally, and is capable of oscillation upon its coupling either later-

ally or vertically, and the sulky is therefore free to yield to temporary deflections, of course without disturbing the progress of the plow, and without undue strain upon any of the parts. The rear end of the foot-lever is connected to the swivel-connection by a link, *h*, which is free to slide upon a coupling-bolt, *g*, which extends between lugs at the end of the tie-plate *p*, so that the plow may change its position upon the rear bail without disturbing its connection with said foot-lever.

A coupling-plate, *P*, is secured to the beam *K* in advance of a line vertical as to the plow-point by tie-bolts. The plate *P* has upon its upper side braces *q*, which embrace the sides of the plow-beam, and a transverse depression to receive the lower edge of the plow-beam and hold said plate firmly in place when the tie-bolts are tightened up. Along the margins of the plate *P*, on its under surface, there are ribs or flanges to receive between them a colter-plate, *r*, which is provided with a longitudinal slot and clamping-bolt, so that it may be adjusted laterally, if desired. The colter may be circular, rotary, or a straight blade, as may be preferred.

The land-side *Q* is not straight along its lower edge, as heretofore, but is arched upward, so that at the highest point it may be two inches, or thereabout, higher than the plow-point, and at the heel end it is nearly or quite the same distance above the furrow-bottom. This is to permit the point of the plow to dip when the land-wheel goes into a furrow or other depression without bringing the weight of the sulky and driver upon the plow.

When the plow is to be raised for transportation it is also requisite to raise one wheel or lower the other, so as to level the axle. This has heretofore been accomplished by independent means; but by fitting the bail *H* upon a square at the end of the axle-rod *d*, and by arranging the axle-cranks *c c* the one

forward and the other backward, as shown in Fig. 1, a movement of the lever *J* will cause the wheel-axles to approach or depart from the same horizontal plane at the same time that the front of the plow-beam is raised or lowered. The crank end *k* of the lever *J* is jointed to the link *u*, and is provided with a series of pin-holes for adjustment.

Having described my invention, what I claim as new is—

1. In a wheel-plow, the bail *H*, supporting the front end of the plow-beam *K*, fitted rigidly to the square journal of the crank-axes, and having an independent lifting-lever, *J*, whereby the axles are turned to level the frame and the front end of the plow-beam lifted by the same stroke of the lever.

2. The bail *G*, provided with a swivel-coupling for attachment of the plow-beam *K*, combined with the bail *H*, provided with the rod *e*, to form a long loop or slot, in which the plow-beam may move laterally.

3. An adjustable swivel-coupling for the bail and plow-beam, composed of the slotted plate *M*, with its lugs *i i*, and the plate *N*, mounted upon horizontal pivots, combined with the saddle-plate *O*, mounted upon said plate *N*, with a vertical axis, and provided with tie-bolts *t t*, tie-plate *p*, with upturned lugs at its ends, and the coupling-bolt *g*, substantially as set forth.

4. In combination, in a sulky-plow, a frame mounted upon wheels, two bails whereby the plow is connected to the sulky-frame, and a plow the land-side whereof is arched from the front along its lower edge, so that it does not bear upon the bottom of the furrow except at its point, for the purpose set forth.

WM. D. MILLER.

Witnesses:-

AMOS WOLF,
F. W. WILLISS.