

J. C. PEARL.
Wheel-Plows.

No. 141,073.

Patented July 22, 1873.

Fig 1

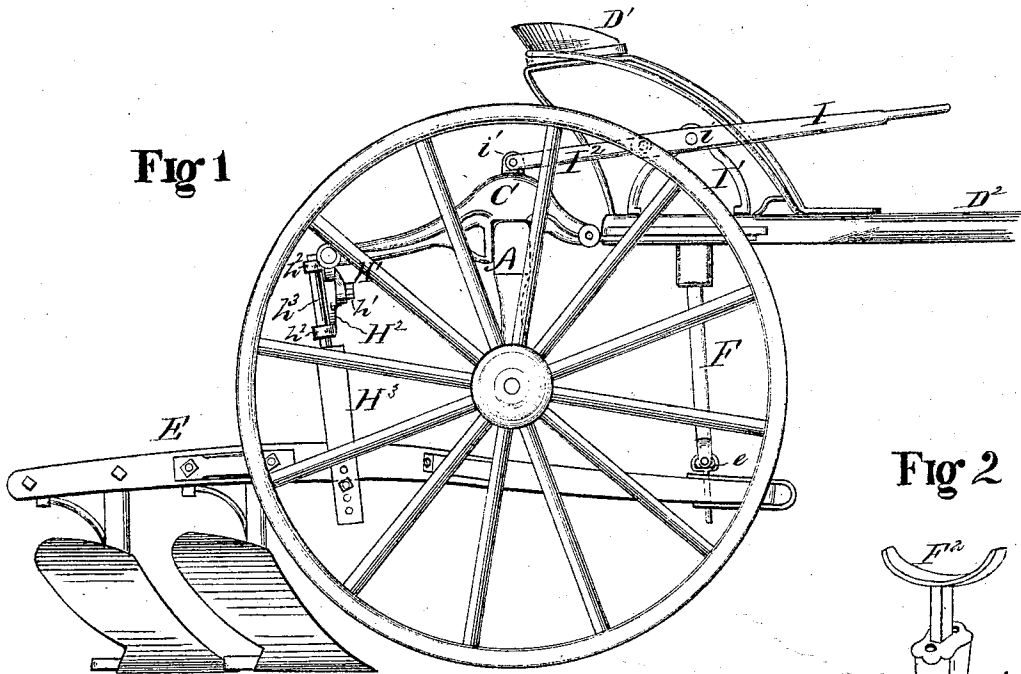


Fig 2

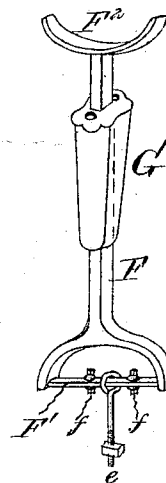


Fig 3

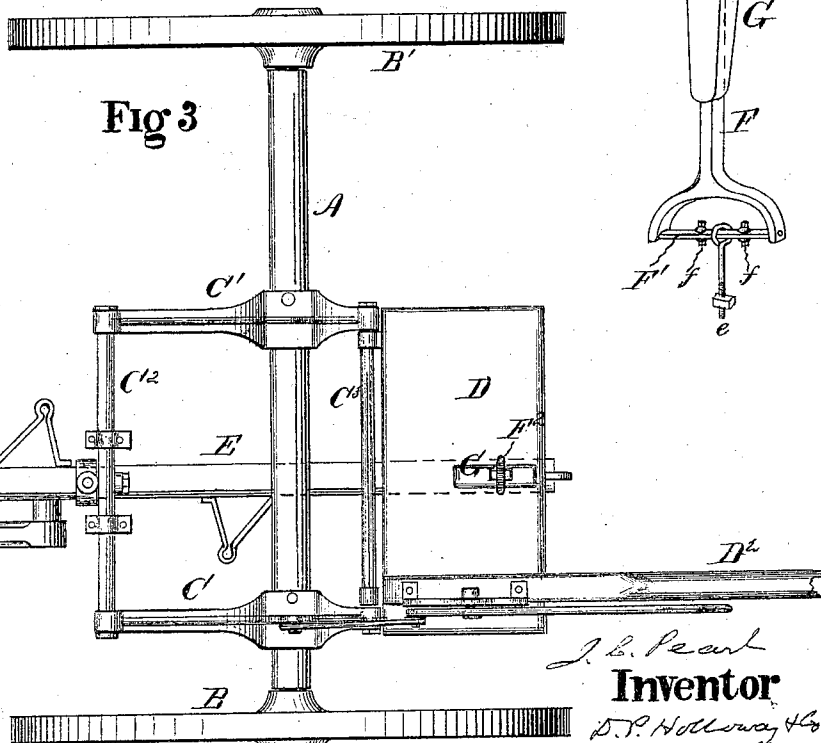
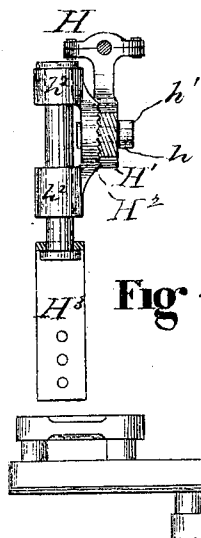


Fig 4



Witnesses

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JOHN C. PEARL, OF MENDOTA, ILLINOIS.

IMPROVEMENT IN WHEEL-PLOWS.

Specification forming part of Letters Patent No. **141,073**, dated July 22, 1873; application filed February 21, 1873.

To all whom it may concern :

Be it known that I, JOHN C. PEARL, of Mendota, in the county of La Salle and State of Illinois, have invented certain Improvements in Wheel-Plows, of which the following is a specification:

My improvement consists, first, in a coupling of peculiar construction for suspending the plows from the rear end of the frame. The coupling is capable of lateral movement on the frame, and carries a swiveling forked bar, to which the plow is attached in such a manner that, besides the lateral motion permitted by the sliding coupling and its swiveling-bar, the latter will allow the plow-beam to have a limited vertical movement independent of the frame from which it is suspended. The forked suspension-rod swivels in ears on the back of a vertically-arranged disk, the face of which is serrated and fits against or upon a similarly-serrated disk on the part of the coupling immediately connected with the frame. The serrated disk, carrying the suspension-rod of the coupling, may be adjusted to hold the suspension-rod at such an inclination that the plow must cut parallel to the surface of the ground. Second, in the use of a vertically-adjustable angular bar, moving in a correspondingly-formed long socket fixed to the platform of the carriage, as a suspension device for the front end of the plow-beam, and a draft-rod for drawing the carriage, the lower end of said bar terminating in a stirrup, from the base-bar of which the plow-beam is suspended in such a manner that it may be adjusted laterally. When the point of suspension of the plow-beam is located upon either side of the center of the stirrup, the plow-beam, on being drawn forward, tends to turn the suspension and draft rod in its sockets, to prevent which axial movement I make said rod angular in cross-section, and fit it in an elongated bearing, as stated.

Figure 1 is a side elevation of my improved wheel-plow. Fig. 2 is a perspective view of the bar, which carries the front end of the plow-beam, and its socket or bearing. Fig. 3 is a plan view of the wheel-plow complete. Fig. 4 illustrates, in detail, the construction of the coupling which sustains the rear end of the plow-beam.

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

The axle A, being straight nearly its entire length between the wheels, is bent down at each end of the straight portion to form cranks, the wrists of which constitute the journals, supported in the hubs of the wheels B B'. The rigid frame is composed of the side bars C and C' and end bars C² and C³, which are connected together in any suitable manner. The side bars of the frame are seated upon the axle, to which they are rigidly secured. The platform D, which is hinged to the front end bar C³ of the frame, carries the usual driver's seat D' and the guiding-tongue D², both being rigidly fixed to the platform. The tongue, being fastened to one end of the platform, serves merely to guide the machine, and the animals exert the draft directly upon the plow-beam E, the front end of which is suspended by an eyebolt, e, from the horizontal cross-bar F¹, which is pivoted in the fork of the bar F, and the latter, having its bearings in a socket, G, secured to the platform, draws the carriage, the tongue being merely used to guide the latter. The bar F is angular in cross-section, as clearly shown in Fig. 2, and fits snugly in a corresponding aperture in the socket, which is of considerable length to afford a long bearing for the bar. The upper end of this bar, protruding through the platform, terminates in a foot-piece, F², by means of which the driver can conveniently depress it so as to force down the front end of the plow-beam and cause the shares to cut deeper into the soil. The front end of the plow-beam may also be adjusted laterally, to cause the shares to take more or less land, by shifting the eyebolt e from between the pins f f on the cross-bar F¹ to one side or the other thereof, the said pins being detachable. The coupling, by means of which the rear end of the plow-beam is suspended from the rear-end bar C² of the frame, is composed of several pieces. The part H has bearings in its upwardly-projecting branches, which embrace the cylindrical bar C², and are held thereon by caps, so that it can both turn and slide on the bar. Its central downwardly-projecting portion has the form of a disk, H¹, which is serrated upon

one side, and is adapted to the serrated face of the disk H^2 , which is held engaged with the former by a bolt, h , passing centrally through both disks, and provided with a nut, h^1 , to clamp them together. Upon the back of the disk H^2 ears h^2 h^2 are formed to serve as bearings for the cylindrical shank h^3 of the suspension-rod H^3 , which is bifurcated at the lower end to embrace the plow-beam. The legs of the fork are made of flat iron, fitting snugly over the beam, and are made somewhat longer than the depth of the beam, so as to project below it. In the projecting portion of the legs several holes, h^4 , are formed to receive a bolt passing underneath and sustaining the plow-beam, which is thus permitted to have a limited vertical movement independent of the frame from which it is suspended.

By shifting the serrated disk H^2 , the suspension-rod H^3 may be thrown into any inclination necessary to cause the shares to run parallel to the surface of the ground, an adjustment like this being very necessary in using the plow on hill-sides.

The rear end of the plow-beam, or plow-beams, if more than one are used, is raised and lowered by oscillating the cranked axle, which is operated and controlled by a lever, I , which turns on a fulcrum, i , on the stand I^1 , secured to the platform D . The short arm of the lever is connected by a link, I^2 , with a lug or arm, i' , on the side bar C of the frame directly over the axle.

The arrangement of these parts is such that, on bearing the lever down until it is in line with the link, the cranks of the axle will stand about vertically, and the plows will be low-

ered so that the shares may enter the soil. The lever and link, when in this position, become locked, and automatically hold the several parts connected together by them in the position shown in Fig. 1. The plows are elevated by drawing the lever rearward, so as to throw the cranked axle forward. This action is assisted by the weight of the driver bearing down upon the front-end bar C^3 of the frame. The lever moves between guides, and may be locked in any desired position to a rack in the usual manner.

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

1. The combination of the suspension-rod H^3 , which swivels in a sliding coupling attached to the frame of the carriage, and the plow-beam E , which is loosely sustained in the fork of the suspension-rod by a bolt passing underneath it, substantially as and for the purpose specified.

2. The herein-described coupling for suspending a plow-beam, composed of the parts H , H^1 , H^2 , and H^3 , constructed and connected substantially as set forth.

3. The combination of the platform D , elongated socket G fixed thereto, angular draft and suspension rod $F F^1$, and laterally-adjustable plow-beam E , all constructed and connected substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN C. PEARL.

Witnesses:

CHARLES H. CRAWFORD,
FULTON GIFFORD.