(No Model.)

2 Sheets—Sheet 1.

G. WIARD.

PLOW.

No. 346,879. Patented Aug. 3, 1886.

Fig. 1.

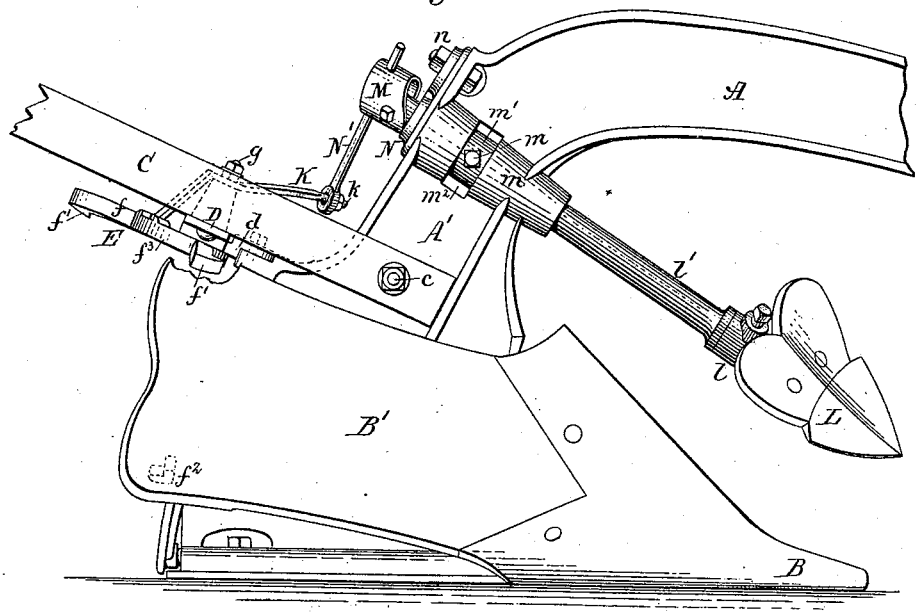
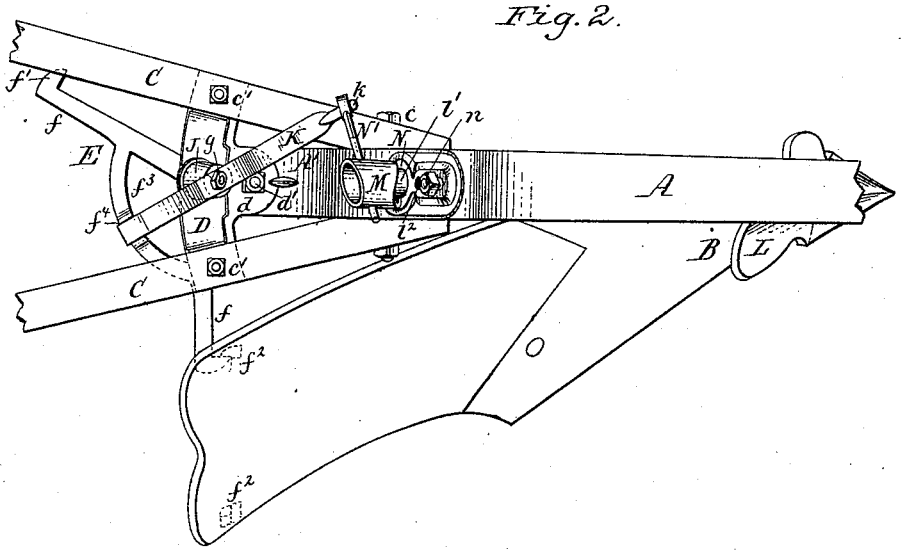


Fig. 2.



Witnesses.
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N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

G. WIARD.

PLOW.

No. 346,879. Patented Aug. 3, 1886.

Fig. 3.

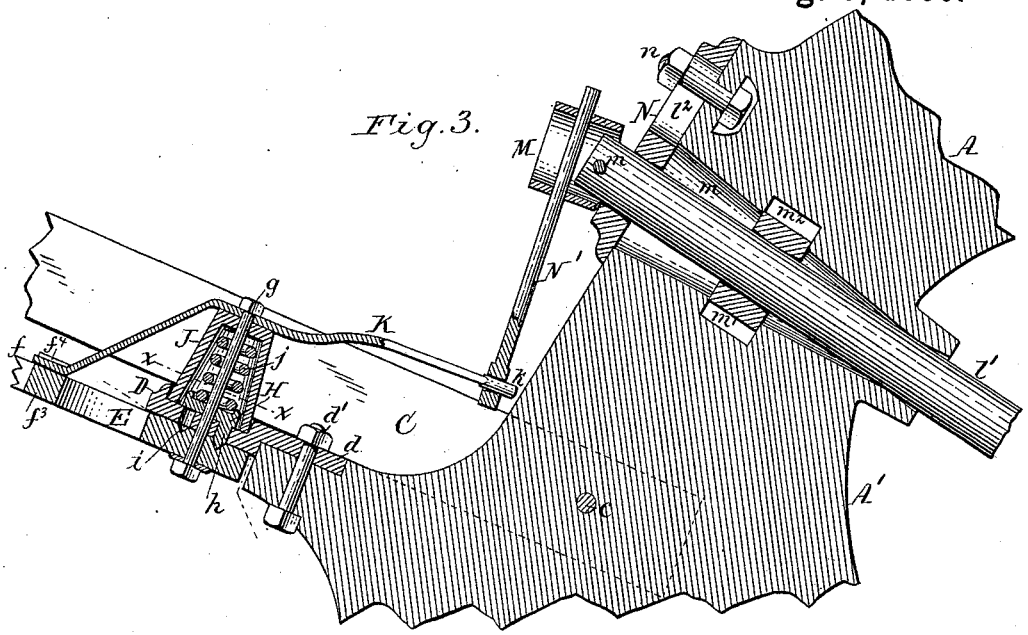


Fig. 4.

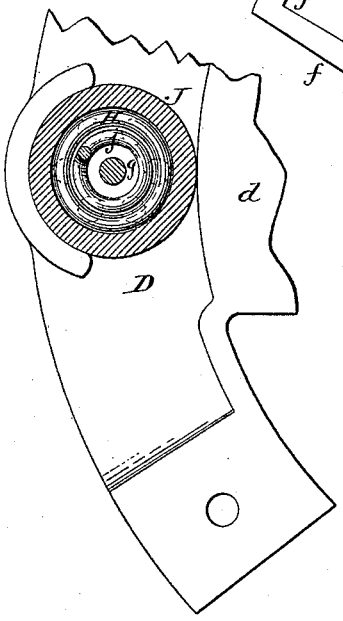


Fig. 5.

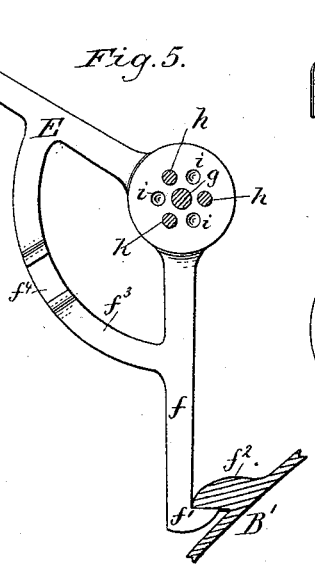


Fig. 6.

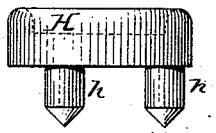
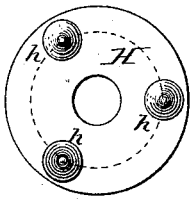


Fig. 7.



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UNITED STATES PATENT OFFICE.

GEORGE WIARD, OF BATAVIA, NEW YORK, ASSIGNOR TO THE WIARD PLOW COMPANY, OF SAME PLACE.

PLOW.

SPECIFICATION forming part of Letters Patent No. 346,879, dated August 3, 1886.

Application filed January 19, 1886. Serial No. 189,097. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WIARD, of Batavia, in the county of Genesee and State of New York, have invented a new and useful Improvement in Plows, of which the following is a specification.

This invention relates to an improvement in that class of plows commonly called "side-hill" plows, in which the point and mold-board are made reversible, so that these parts can be placed on either side of the standard, and in which the jointer is so connected with the mold-board that the jointer is reversed simultaneously with the mold-board and point.

The object of this invention is to provide simple means for effecting these adjustments of the mold-board, point, and jointer; and my invention consists, to that end, of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, consisting of two sheets, Figure 1 is a side elevation of a plow provided with my improvements. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical longitudinal section of the adjusting devices on an enlarged scale. Fig. 4 is a horizontal section in line $x\,x$, Fig. 3. Fig. 5 is a top plan view of the two-armed hook whereby the mold-board is held in position. Fig. 6 is a side elevation, and Fig. 7 is a bottom plan view of the locking-disk.

Like letters of reference refer to like parts in the several figures.

A represents the plow-beam, and A′ the standard, which may be constructed in one piece with the beam.

B represents the point, and B′ the mold-board, both formed symmetrically on both sides of their central line in a well-known manner, so that they can be arranged on either side of the standard. The mold-board and point are pivoted to the lower end of the standard in a well-known manner, so that they can be swung underneath the standard from one side of the latter to the other when it is desired to reverse the mold-board and point.

C represents the handles, which are rigidly secured with their front ends to the standard or the beam by a transverse bolt, *c*, and which rest upon a cross-piece, D, to which they are secured by bolts *c′*. The cross-piece D is provided on its front side with a central ear, *d*, which is secured to the standard or beam by a bolt, *d′*.

E represents the duplex hook whereby the mold-board is secured in place. The hook E is provided with two arms, *f*, having claws *f′* at their ends, which engage with one of the lugs f^2, formed on the rear side of the mold-board, in a well-known manner. The hook E is pivoted to the under side of the cross-piece D by a bolt, *g*. The cross-piece D is inclined forwardly, like the handles, and the bolt *g* stands at right angles to the cross-piece D. The two arms *f* are connected on the rear side of the pivot by a segment, f^3, provided in its middle with a recess, f^4, which is formed between two raised ribs formed on the upper side of the segment.

H represents the locking-disk arranged on the cross-piece D, and provided with a central aperture through which the pivot-bolt *g* passes.

h represents locking-bolts formed on the under side of the locking-disk, and projecting through openings in the cross-piece D. The lower ends of the bolts *h*, which project beyond the cross-piece D, are made conical or tapering, and enter similar recesses, *i*, formed in the upper side of the hook E, concentric with the pivot-bolt *g*, so that upon applying sufficient force to the hook the locking-bolts are lifted out of engagement with the hook, and the latter can be turned on the pivot-bolt, while the locking-bolts hold the hook in position against accidental displacement.

j represents a spring which surrounds the bolt *g* and bears upon the disk H, in order to supply the necessary resistance against any force which tends to lift the disk. The spring *j* is arranged in a casing, J, having the form of an inverted cup, and resting upon the cross-piece D, to which the casing is secured by the pivot-bolt *g*.

K represents a lever, which is pivoted to the top of the casing J by the pivot-bolt *g*, and which engages with its rear arm in the recess f^4 of the segment f^3, while its front arm terminates in a pin, *k*.

L represents the jointer, which is made symmetrically on both sides of its central line, so that it can be reversed, and which is provided with a socket, *l*, by which it is attached

to a stem or shaft, l'. The latter passes through an opening or socket, m, formed in the beam A, in which the stem is held against longitudinal displacement by a collar, m'. The latter is seated in a recess, m^2, formed in the beam A, and intersecting the socket m. The collar m' is secured to the stem by a set-screw, and bears against the front and rear sides of the recess m^2, so that the collar and the stem are held against longitudinal movement when the collar is secured to the stem. Upon loosening the stem on the collar the stem and the jointer attached thereto can be adjusted longitudinally on the plow. The socket m is made flaring rearwardly, so that the stem can assume various inclinations in the socket, thereby raising or lowering the jointer, the recess m^2 being made sufficiently high to permit the collar m' to move with the stem in adjusting the inclination of the latter. The angular position of the stem l' is controlled by a bearing, N, secured to the rear side of the beam. The bearing N is provided with an opening, through which the rear end of the stem passes, so that the stem is compelled to move up and down with the bearing N, while it is free to move lengthwise through the opening in the bearing. The latter is secured to the beam by a bolt, n, which passes through an elongated opening, l^2, in the bearing, and permits the latter to be raised and lowered on the beam, thereby raising and lowering the rear end of the stem l', and lowering or raising the jointer correspondingly.

M represents a coupling-sleeve pivoted to the rear end of the stem l' by a transverse bolt, m, and N′ is a rod which connects the front end of the lever K with the sleeve M. The lower end of the rod N′ is provided with an eye, in which the pin k of the lever K engages, and the upper end of the rod N′ slides in openings formed in the sleeve M.

For the purpose of reversing the plow, the operator presses against that arm of the duplex hook E which is not engaged with the mold-board in such manner as to disengage the opposite arm from the mold-board. The latter and the point are now free to be swung underneath the standard to the opposite side of the plow. This being done, the first-mentioned arm of the duplex hook is now engaged with the mold-board and secures the same in position. This turning movement of the hook E on its pivot causes the lever K to be turned also, and the movement of the latter is transmitted by the rod N′ and coupling M to the stem of the jointer, so as to reverse the latter. By this simple turning of the hook E the mold-board is secured in position and the jointer properly adjusted at the same time. The locking-recesses i in the upper side of the hook E are arranged in two groups or sets, one for each locking position of the hook, so that upon releasing the disk H the hook can be turned until it reaches the opposite locking position, when the disk H drops and the pins h engage in the other set of locking-recesses, thereby locking the hook in this position against accidental displacement.

I am aware that the jointer and mold-board have been simultaneously reversed by means of movable handles connected with the jointer and locked to the mold-board by a double hook, and I do not claim such construction.

I claim as my invention—

1. The combination, with the plow-beam and standard provided with handles C C, rigidly secured thereto, of a reversible jointer secured to a shaft journaled in the plow-beam, a reversible mold-board, a duplex hook, E, mounted on a stationary pivot, and mechanism, substantially as described, whereby the jointer-shaft is connected with the duplex hook, and the jointer is reversed by swinging the hook on its pivot, substantially as set forth.

2. The combination, with the plow-beam and standard provided with handles C C, rigidly secured thereto, of a reversible jointer secured to a shaft, a reversible mold-board, a duplex hook, E, mounted on a stationary pivot, and a pivoted lever, K, rod N′, and coupling M, whereby the motion of the hook is transmitted to the shaft of the jointer, substantially as set forth.

3. The combination, with the pivoted hook E, provided with locking-recesses i, of the movable locking-disk H, provided with tapering locking-pins h, a perforated fixed support, D, through which the pins h move, and a spring, j, bearing upon the disk H, substantially as set forth.

4. The combination, with the pivoted hook E, provided with locking-recesses i, of the movable locking-disk H, provided with tapering locking-pins h, a perforated fixed support, D, spring j, casing J, and pivot-bolt g, substantially as set forth.

5. The combination, with the beam or standard provided with a socket, m, and recess m^2, of the jointer L, secured to a stem, l', and a collar, m', seated in the recess m^2, and secured adjustably to the stem l', substantially as set forth.

6. The combination, with the beam or standard provided with a socket, m, enlarged rearwardly, of a jointer, L, secured to a stem, l', passing through the socket m, and a bearing, N, supporting the rear end of the stem l', and made vertically adjustable on the beam or standard, substantially as set forth.

Witness my hand this 14th day of January, 1886.

GEO. WIARD.

Witnesses:
J. J. WASHBURN,
JOHN W. PRATT,