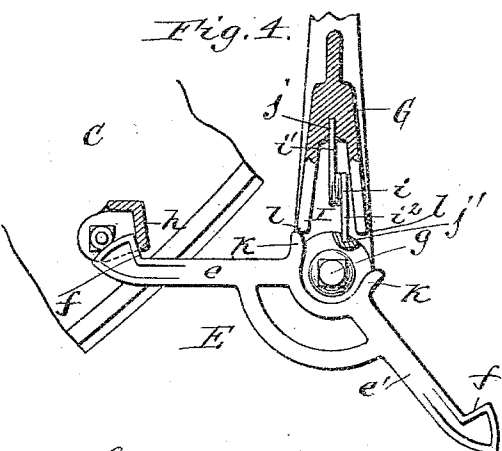
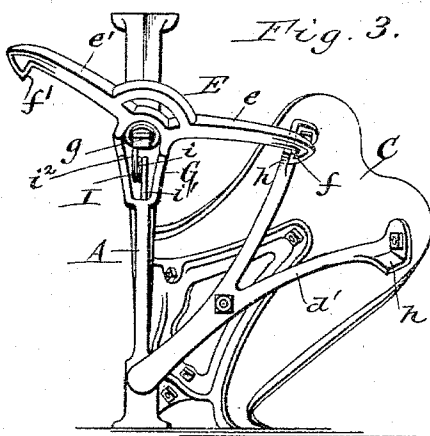
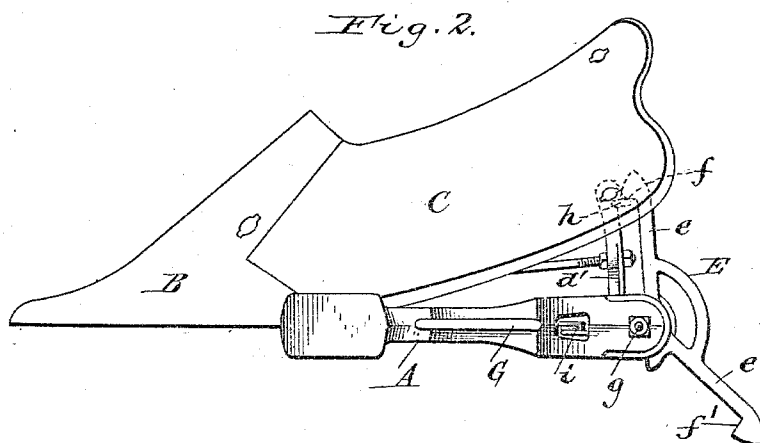
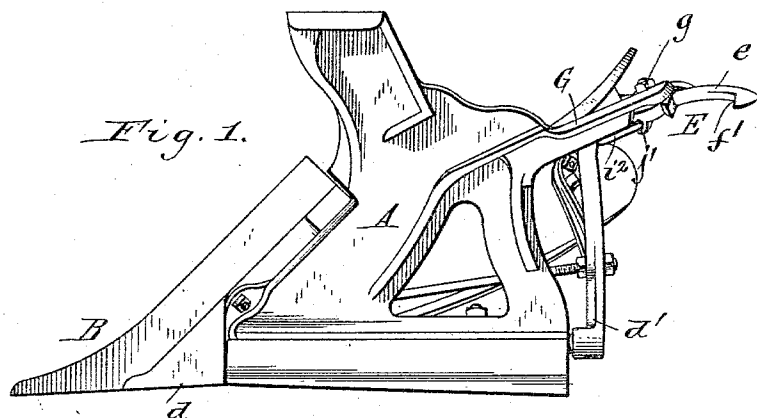


(No Model.)

G. WIARD.
PLOW.

No. 552,945.

Patented Jan. 14, 1896.



Witnesses:

Emil Neuhaert
Thos. L. Popp.

Geo. Wiard Inventor.
By Wilhelm Bonnet Attorneys.

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. 552,945, dated January 14, 1896.

Application filed July 23, 1892. Serial No. 441,036. (No model.)

To all whom it may concern:

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

This invention relates to that class of plows usually called "sidehill-plows," in which the point and moldboard are reversible and locked in position by a duplex hook provided with a spring fastening. A plow of this character is shown in Letters Patent No. 346,879, granted to me August 3, 1886.

The object of my invention is to improve and simplify the construction of the locking mechanism, whereby the moldboard and point are held in their adjusted position.

In the accompanying drawings, Figure 1 is a side elevation of the lower part of a plow provided with my improvements. Fig. 2 is a top plan view thereof. Fig. 3 is a rear elevation thereof. Fig. 4 is a bottom plan view, partly in section, of the catch mechanism on an enlarged scale.

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

A represents the standard to which the plow-beam and handles (not shown in the drawings) are secured in the usual manner.

B represents the point, and C the moldboard, both of which are formed symmetrically on both sides of their center line, so that they can be arranged on either side of the standard. The point and moldboard are provided with depending bearings or brackets *d d'*, which are pivoted to the front and rear portions of the standard in the usual manner.

E represents the duplex hook whereby the point and moldboard are secured in place, and which is provided with two arms *e e'* having catch-shoulders *f f'*.

G represents a rearwardly-projecting bracket formed on the upper portion of the standard. The hook E is arranged with its pivotal portion or hub underneath this bracket, and is secured thereto between its arms by a pivot-bolt *g*. The moldboard is provided with two lugs *h h* on its rear side, with which the catch-shoulders of the hook E engage. For the purpose of simplifying the construction

these lugs *h h* are preferably formed integrally with the bracket *d'* which supports the rear portion of the moldboard.

I represents a spring which holds the catch-shoulders of the hook yielding in engagement with the lugs *h*. This spring is arranged in front of the hook and consists of a spiral portion *i*, a front arm *i'* which engages in a socket *j* formed in the bracket G, and a rear arm *i''* which engages in a socket *j'* formed in the hub of the hook midway between its arms. The spring exerts a constant rearward pressure or thrust upon the hook, and this rearward thrust is applied on that side of the pivot of the hook on which the disengaged rearwardly-projecting arm of the hook projects, whereby the other engaged arm is pressed forwardly and held in engagement with the adjacent lug of the moldboard, as clearly shown in Fig. 4.

When it is desired to reverse the plow the free arm of the duplex hook is pressed forward, which movement causes the other arm to move rearwardly and disengage itself from the moldboard. During the forward movement of the free arm the strain upon the spring increases until the spring has passed the dead-center, when it expands and completes the movement of the hook. As the moldboard and point are swung underneath the standard to the opposite side of the plow, the forwardly-moving arm of the duplex hook engages with the corresponding lug on the moldboard and secures the latter in position. The rocking movement of the duplex hook is limited in both directions by ears *k* formed on the hook on opposite sides of its center and engaging with stops *l l* formed on the under side of the bracket G.

Heretofore the catch-shoulders of the hook and the faces of the lugs *h* were arranged at right angles to a radial line drawn through the pivot of the hook, which caused these faces to come squarely together. When these faces became worn the parts would fit loosely and rattle. In order to avoid any play between the hook and the lugs, the faces of the shoulders and the lugs are arranged at an obtuse angle to a radial line drawn through the pivot of the hook, as represented in Fig. 4. This causes each catch-shoulder to act like a

wedge against the lug and enables the spring, which exerts a constant tension upon the hook, to take up any wear between the hook and the lugs. It also permits the parts to be
5 more easily fitted and allows of greater variation in the moldboards from the warping of the metal in casting,

I claim as my invention—

1. The combination with the standard, the
10 reversible mold board and the duplex hook pivoted to the standard, of a thrust spring interposed between said standard and hook and having its rear end connected centrally to the said hook, whereby the movable rear end of
15 said spring is carried by said hook from one side of the pivot or dead center of the hook to the other in shifting the hook and a rear-

ward pressure is applied on that side of the hook on which its disengaged arm projects, substantially as set forth. 20

2. The combination with the standard, the reversible mold-board and the duplex hook pivoted to the standard, of a retaining spring arranged in front of the duplex hook and consisting of a front arm connected to the stand- 25 ard, a rear arm connected centrally to the hub of the duplex hook and a coil or spiral portion connecting said front and rear arms, substantially as set forth.

Witness my hand this 22d day of July, 1892.
GEORGE WIARD.

Witnesses:

JOHN W. PRATT,
JULIAN I. WASHBURN.