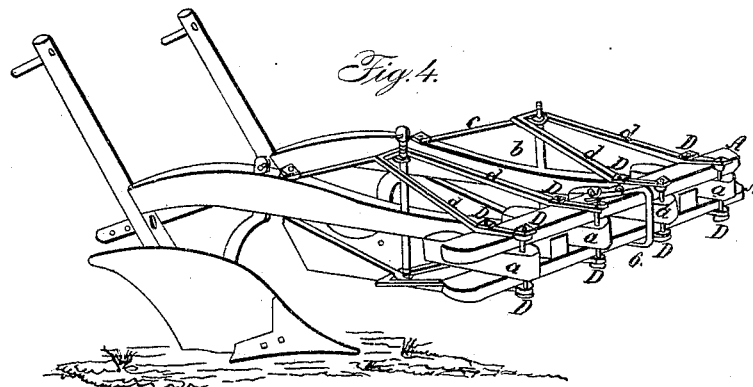
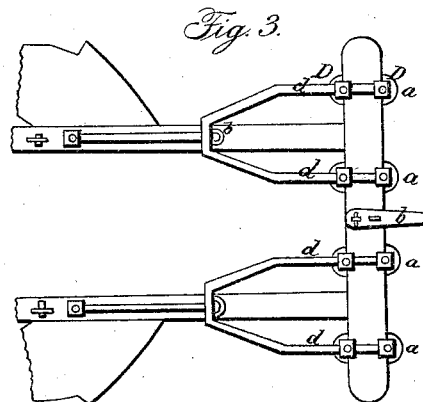
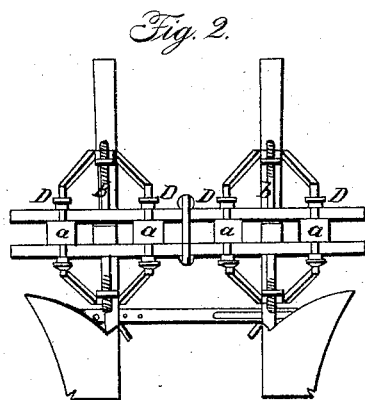
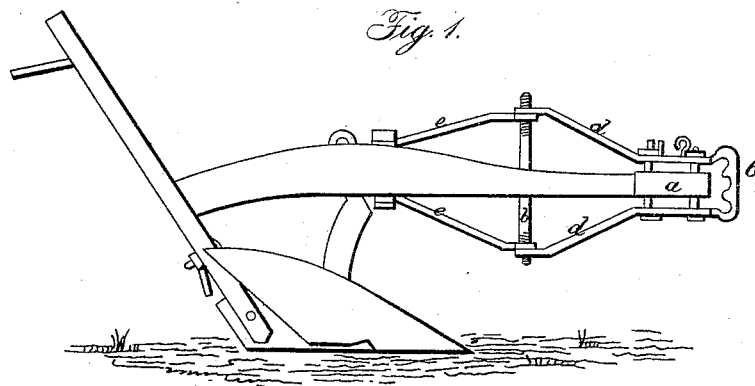


CARD & NEWELL.

Plow.

No. 1,401.

Patented Nov. 9, 1889.



UNITED STATES PATENT OFFICE.

JOSEPH CARD, OF PAINESVILLE, AND G. NEWELL, OF MENTOR, OHIO.

IMPROVEMENT IN THE DRAFT AND MODE OF COUPLING PLOWS.

Specification forming part of Letters Patent No. **1,401**, dated November 9, 1839.

To all whom it may concern:

Be it known that we, JOSEPH CARD, of Painesville, and GRANDISON NEWELL, of Mentor, in the county of Lake and State of Ohio, have invented a new and useful machine for coupling two or more plows together to be worked by one team and one plowman; and we do hereby declare that the following is a full and exact description.

The nature of our invention consists in attaching to the draft end of the plow-beam a coupling-case of such length as is desired, according to the number of plows to be worked at once, and so constructed that each plow shall run truly, steadily, and at any given distance from its fellow.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

We make our plow in any of the known forms, using, however, but one handle, as in the annexed drawings, Figure 1, when more than one plow is used.

For connecting two common plows together we make a coupling-case, A, of hard-wood inch-boards twenty inches in length and six inches in width, made true and of even thickness. These two pieces A A form the upper and lower side, or top and bottom, of the case, and are separated one from the other about one-half of an inch more than the depth of the draft ends of the plow-beams to be used by four or more blocks placed between them, as shown in Fig. 2, *a a a a*. These blocks extend a short distance beyond the case, through the ends of which are passed eight bolts, D, having a head on one end and the worm of a screw on the other, and so placed as that the blocks shall be separated about one inch more than the width of the ends of the plow-beams, and the bolts pass through the blocks and against the outer edges of the pieces of boards, as shown in Fig. 3. From the top and bottom of this case, respectively, are extended two stirrups of iron, E, which are attached to the case by said bolts and firmly fastened by screw-nuts, as shown in Fig. 3. These stirrups extend back from the case six or more inches, and have the back ends of the two upper ones so near together as to allow play for a half-inch bolt of from two to three inches, and the lower ones from one to two inches, as shown in Fig. 3, where

the two upper stirrups are represented by *d*. These stirrups are bent—the two upper ones up and the two lower ones down—at about an angle of forty-five degrees, as shown in Fig. 1, *d d*. We pass through the plow-beam about twelve inches from the draft end an iron bolt, *b*, perpendicularly, one-half inch or more in diameter, according to the size of the plow, and so long that the upper and lower end of the bolt shall pass through and beyond the upper and lower stirrup, as shown in Fig. 1, *b*. This bolt is made fast in the plow-beam in any manner desired, and strengthened by two straps of iron extending from the upper and lower end back to the plow-beam, to which they are bolted, as shown in Fig. 1, *c c*. To the center of the case is attached in the usual form a common clevis, Fig. 3, *b*.

In using plows for any purpose except plowing among corn, for which we use a light kind, we have the right-hand plow-beam shortened, so that the right-hand plow shall precede the left, and so on for as many plows as are worked, that the furrow turned by one plow shall not clog its fellow. In the corn plow or cultivator we have them made right and left and the beams of equal length, so the furrows can be turned first out and then in at pleasure.

The dimensions of the case, clevises, and bolt through the plow-beam can be varied according to the size of the plow to be used, so that in all cases the plows shall have their just distance one from the other, the draft ends of the plow-beams being placed in the case at a distance from each other of any convenient number of inches, as the length of the case will admit, more than the width of the furrow turned by the plow.

The advantages of this invention are—

First, when the draft is applied to the case, Fig. 1, *b*, the bolt, passing perpendicularly through the beam, Fig. 1, *b*, works in the stirrups extending back from the case, Fig. 1, *a a*, and the plows run with scarcely any other guidance and with great steadiness, keeping at a uniform depth in the ground, and immediately regaining their place when thrown out by any foreign substance.

Second, applied to one plow it will entirely dispense with the necessity of using wheels or other means to make it run true in the ground.

Third, in plowing stubble ground and cross-

plowing two or more plows can be used with one team and one plowman, and with less actual labor of the plowman.

Fourth, for plowing among corn, by using the right and left hand plows, so as to turn the furrows at once to or from the hill, will at once supersede all other cultivators.

Fifth, in planting corn, by attaching to the right-hand plow a dropping-machine one man and horse could do the labor of several men.

What we claim as our invention, and desire to secure by Letters Patent, is—

The mode of drawing one and of coupling two or more plows together by means of the case, stirrups, and bolts herein described.

JOSEPH CARD.

GRANDISON NEWELL.

Witnesses:

HARVEY SAWYER,
EDWARD FLINT.