2 Sheets—Sheet 1.

B. B. HAWES.

FURROW GAGE FOR PLOWS.

No. 170,256. Patented Nov. 23, 1875.

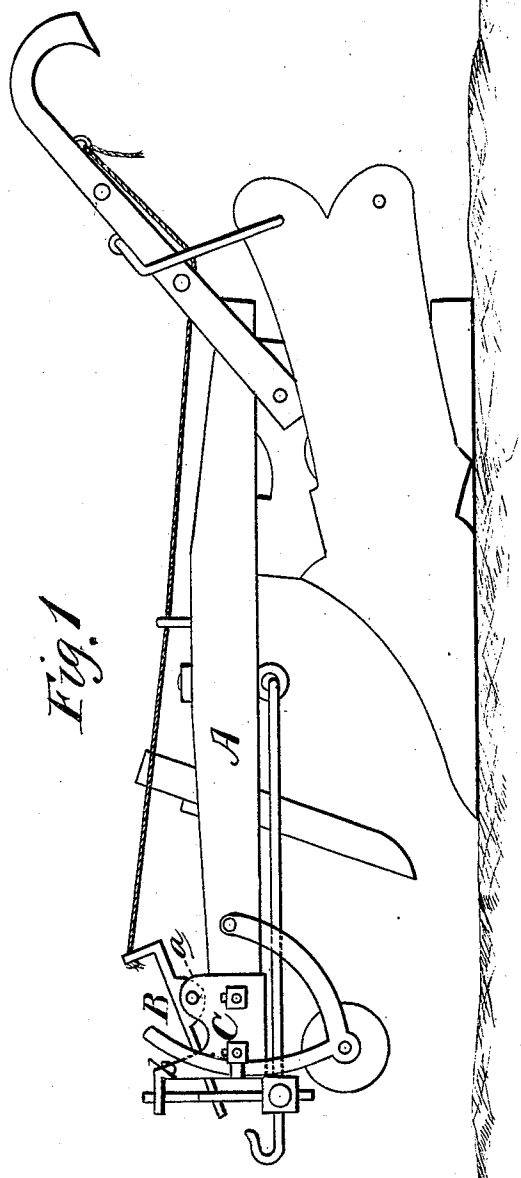

Fig. 1

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2 Sheets—Sheet 2.

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Fig 4

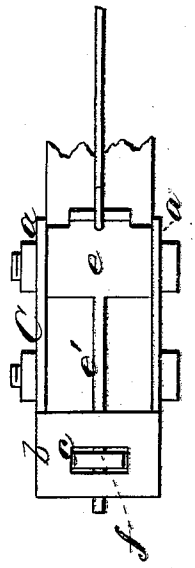


Fig 5

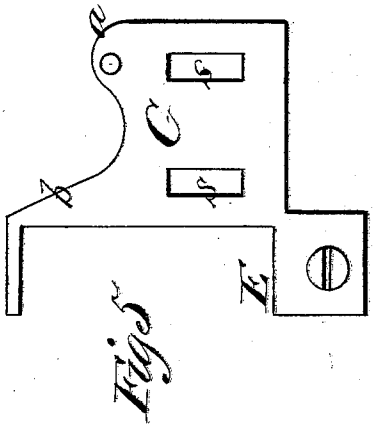


Fig 3

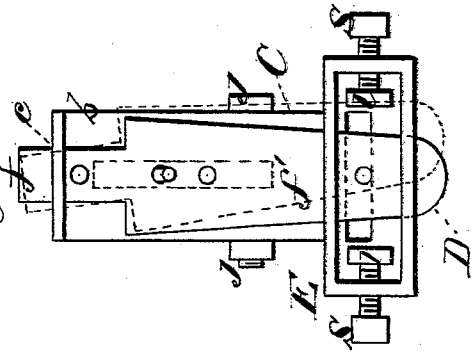
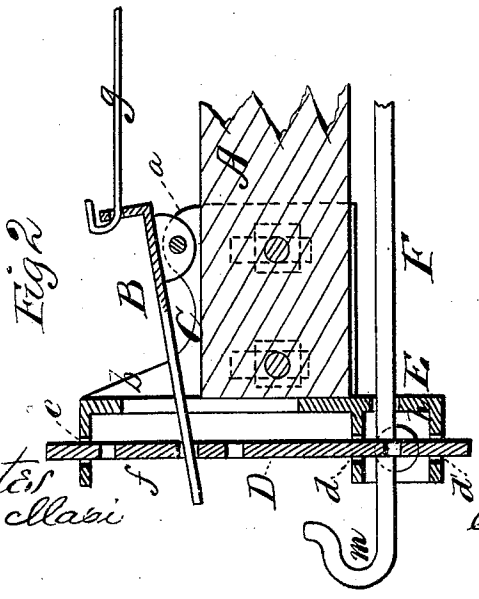


Fig 2



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IMPROVEMENT IN FURROW-GAGES FOR PLOWS.

Specification forming part of Letters Patent No. **170,256**, dated November 23, 1875; application filed September 30, 1875.

To all whom it may concern:

Be it known that I, BENJAMIN B. HAWES, of Morrisville, in the county of Lamoille and State of Vermont, have invented a new and valuable Improvement in Furrow-Gages for Plows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side view of a plow having my furrow-gage attached. Fig. 2 is a sectional view of my furrow-gage; and Fig. 3 is a plan view thereof. Figs. 4 and 5 are detail views.

This invention has relation to improvements in furrow-gages for either flat-land or hill-side plows; and the nature of the invention consists in a vertically-movable plate operated by a lever, and situated at the front end of a plow-beam, which plate, when raised, will allow a horizontally-vibrating draft-hook to be put in position for landing the plow when it is tilted, and, when allowed to fall, will lock the draft-rod into the desired position, all as will be hereinafter explained.

In the annexed drawings, the letter A designates the beam of a reversible hill-side plow, in connection with which I propose to illustrate my invention. C represents a V-shaped metallic plate, which is bolted securely upon the front end of beam A, as shown in Fig. 1. This plate is provided with a lug, *a*, above the level of the beam and at each side thereof, which lugs afford bearings for the journals of a vertically-vibrating angular lever, B. It is also provided with a raised arm, *b*, upon its front end, the upper extremity of which is bent over to the front in a horizontal position, and is transversely slotted, as shown at *c*, for a purpose hereinafter explained. The lower front end of plate C is provided with a preferably rectangular metallic box, E, the sides of which are open, and the top and bottom provided with longitudinal slots *d d'*, for a purpose hereinafter explained. This box, as shown in front view, Fig. 3, is of such a length as to admit of any degree of landing which might be required, and its long axis is at right angles to the length of the beam. Lever B, as shown in Fig. 4, consists of a flat plate, *e*, fitting snugly between lugs *a*, and of a narrow arm, *e'*; of a cylindrical form, which extends through suitable perforations in a wedge-plate, D, the upper rabbeted end *f* of which extends upward through slot *c* in arm *b*, its lower enlarged preferably tapering end *f'* extending through slots *d d'* in box E. This plate is thus accurately guided in its vertical movements, when it is raised through the medium of a cord or rod, *g*, attached to the short arm of lever B, and when it gravitates into engagement with slots *d d'* of box E. F represents a draft-rod of suitable length, which is pivoted to vibrate horizontally to the under side of beam A, which rod extends through box E, and rests upon a ledge, *h*, being thereby held in a constant position. Rod F is provided with a hook, *m*, by means of which an evener or double-tree is attached thereto.

My furrow-gage is operated in the following manner, to wit: The plow having reached the end of the furrow in plowing on a hill-side, it is turned, and the mold-board reversed. The wedge-plate D is then raised, through the medium of lever B and cord or rod *g*, and the draft-rod caused to fall into the desired end of the box E by tilting the plow. By then releasing cord or rod *g* the wedge-plate will gravitate to an engagement with slots *d d'* of the said box E. In practice I may sometimes dispense with the lower slot *d'*, the upper one being sufficient to resist the strain occasioned in holding the draft-rod in position.

In order to obtain a finer adjustment for landing the plow I use set-screws S, working in the ends of box E, and provided with heads *l*. These screws, when set up, will hold the draft-rod in a position more or less to one side of the central line of the beam, and will thus land more or less, as the necessities of the case may require. Plate C, before explained, is endowed with vertical adjustment by cutting vertical slots *s* through the legs of the V in the same relative positions, and securing it in position by means of clamp screws or bolts and nuts *j*.

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

1. The combination, with the V-shaped

plate C, having lugs *a*, slotted arm *b*, and box E, of the vertically-movable plate D and operating-lever B, substantially as specified.

2. In combination with a horizontally-vibrating draft-rod, F, the vertically-movable plate D, and slotted box E, substantially as specified.

3. The V-shaped plate C, having slots *s*, lugs *a*, slotted arm *b*, and the rectangular box E, open in front and rear, and slotted at top and bottom, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

B. B. HAWES.

Witnesses:
WALTER C. MASI,
BRYAN H. MORSE.