

J. NOURSE & J. A. HOWE.

FURROW-GAGES FOR PLOWS.

No. 180,726.

Patented Aug. 8, 1876.

Fig. 1.

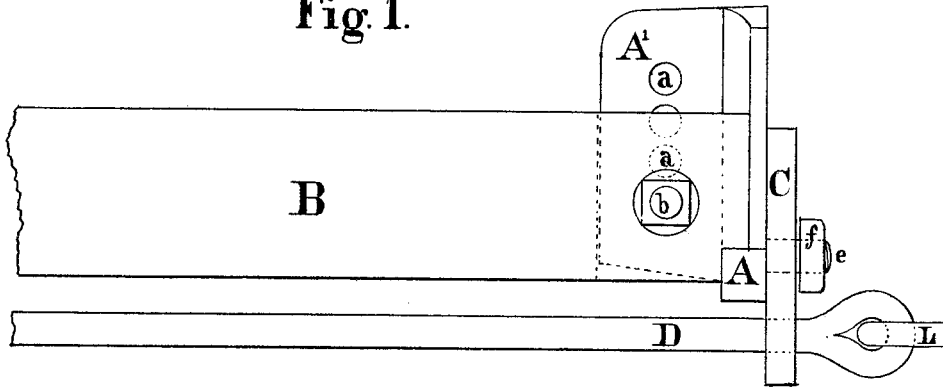


Fig. 2.

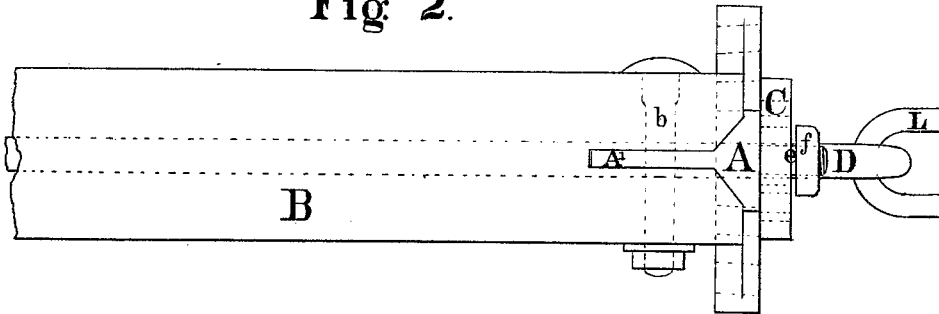


Fig. 3.

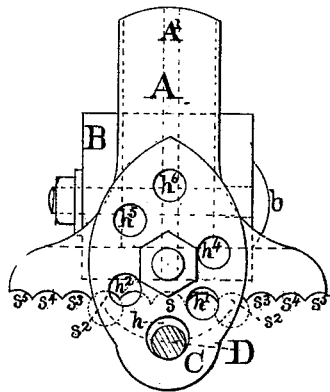
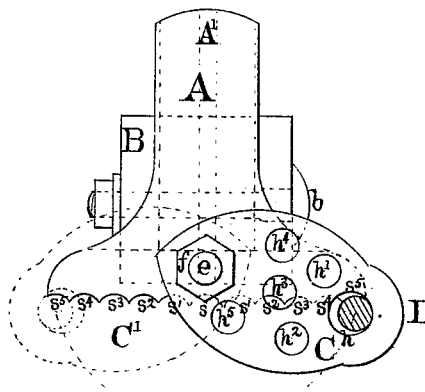


Fig. 4.



Witnesses.

E. A. Hildreth
Geo. E. Burt.

Inventors.

Joel Nourse
James A. Howe

UNITED STATES PATENT OFFICE.

JOEL NOURSE, OF BOSTON, AND JAMES A. HOWE, OF AYER, MASS.

IMPROVEMENT IN FURROW-GAGES FOR PLOWS.

Specification forming part of Letters Patent No. 180,726, dated August 8, 1876; application filed November 2, 1875.

To all whom it may concern :

Be it known that we, JOEL NOURSE, of Boston, county of Suffolk and State of Massachusetts, and JAMES A. HOWE, of Ayer, in the county of Middlesex and State of Massachusetts, have invented new and useful improvements in Furrow-Gages for Plows, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The nature and object of our invention are to provide a durable, simple, and effective furrow-gage, so arranged that the draft-rod may be held in the center-line of the plow-beam, or so adjusted that the operator of the plow at the handles can quickly and easily change the position of the draft-rod from one side of the center-line to the other, either more or less, as the gage may be set. This gage is especially intended for use in swivel-plows where the furrow is cut first on one side of the plow and then on the other, it being necessary in such plows to provide some means for making the plow work to land.

In the accompanying drawings, Figure 1 represents a side view of the end of the beam of a common plow with our improved furrow-gage attached. Fig. 2 represents a top view of the same. Fig. 3 represents a front view of the same with draft-rod confined in the center-line. Fig. 4 represents a front view of same, with draft-rod and gage so arranged as to allow the draft-rod to be thrown from side to side.

Like letters represent like parts in all the figures.

B represents the beam of any plow, the forward end only being shown here. On the front end of the beam is placed a cap-piece, A, provided with a tongue or flange, A', extending into a vertical recess formed in the end of the plow-beam. The cap A can be raised or lowered to gage the position of the draft-rod and the depth of the furrow. The bolt *b* passes through the end of the plow-beam B, and through holes in the tongue A' to hold the cap A in position. Into the head or cap piece A is firmly cast or fixed a bolt, *e*, which passes through the plate C, allowing the plate C to rock freely on this pivot *e*. The plate C is provided with several holes, through the

lower one of which, *h*, the draft-rod D is passed. The head-piece A is provided with recesses *s s¹ s² s³*, &c. (See Figs. 3 and 4.) When it is desired to hold the draft-rod D in the center-line, the plate C is put onto the bolt *e*, using the hole *h¹* and securing the plate onto the bolt *e* by the nut *f*. In this position the plate C will hold the draft-rod into the central recess S, and therefore in the central line. When the bolt *e* is passed through any of the holes *h²* to *h⁵*, the plate C can swing freely on the bolt *e*. When it is desired to give a small amount of play from side to side to the draft-rod, the hole *h²* is used upon the bolt *e*, and in this position the draft-rod D can swing from one side to the other from the recess *s¹* to *s¹*. When the draft-rod is thrown to either side, and the draft of the team is applied, the action of the plow will press down the end of the beam until it rests upon the draft-rod, thereby securely holding it into the recess in the cap-piece A. Thus the draft-rod, when thrown to either side, will always remain in position so long as the draft continues. If more side motion of the draft-rod is required, the bolt *e* is passed through a hole in the plate C, farther from the draft-rod, these holes varying from *h¹* to *h⁵*, according to the amount of side play required, and the draft-rod will be thrown into the corresponding recesses from *s¹* to *s⁵*.

In swivel-plows it is a desirable feature to be able to throw the draft-rod readily and quickly from side to side as the mold-board is reversed. It is also desirable to be able to gage this amount of side play to any required degree. Both these advantages are fully secured in our improved gage. The depth of the furrow can readily be gaged by removing the bolt *b*, then raising or lowering the cap-piece A to the desired position, and passing the bolt *b* again through any of the holes *a* in the tongue A'. (See Fig. 1.)

To throw the draft-rod from side to side, it is only necessary to slacken the draft-chain and throw the handles from side to side.

We are aware that plows having a reversible draft-rod swinging from side to side, have been used where a swinging latch was employed to hold the draft-rod in position on either side; but in such plows it was neces-

sary to lower the front end of the beam very considerably before the draft-rod could be released from this latch. When the end of the beam is thus lowered, the draft of the team, or even the weight of the traces, tends to hold the draft-rod up against the plow-beam, and to prevent it from swinging freely in this position from side to side.

In our invention, whenever the end of the plow-beam is raised, the draft of the team, or even the weight of the traces, tends to cause the draft-rod to drop toward the center-line, leaving the draft-rod perfectly free to be reversed from side to side. Whenever the plow is in operation the end of the plow-beam rests down upon the draft-rod, always holding the draft-rod securely on either side to which it may have been thrown, but leaving it free to be reversed whenever the draft is removed, by simply swinging the plow-beam from one side to the other, and by slightly raising the end of the beam should the draft of the team or the weight of the traces hold the draft-rod up against the beam.

Having thus described the nature and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the draft-rod D, swinging automatically from side to side, the swing-

ing or oscillating connection from the draft-rod to the plow-beam, and the stop-rest on the plow-beam, whereby the draft-rod shall be held in position on either side by the downward strain alone of the beam upon the draft-rod, resulting from the draft of the plow, but being left free to reverse whenever the draft is removed, substantially as described.

2. The combination of the swinging draft-rod D, with the vertically-swinging plate C, through which the draft-rod passes, and the laterally-extended plate on the plow-beam, against which the draft-rod rests while the plow is in operation, substantially as described.

3. The combination of the head-piece A, pivot-bolt *e*, rocking-plate C, provided with two or more holes, *h*, and the draft-rod D, substantially as described, and for the purpose set forth.

4. The rocking-plate C, provided with various recesses *h*, for adjusting the amount of side motion given to the draft-rod D, substantially as described.

JOEL NOURSE.
JAMES A. HOWE.

Witnesses:

E. A. HILDRETH,
GEO. E. BURT.