

W. S. LAWRENCE.

PLOW.

No. 188,019.

Patented March 6, 1877.

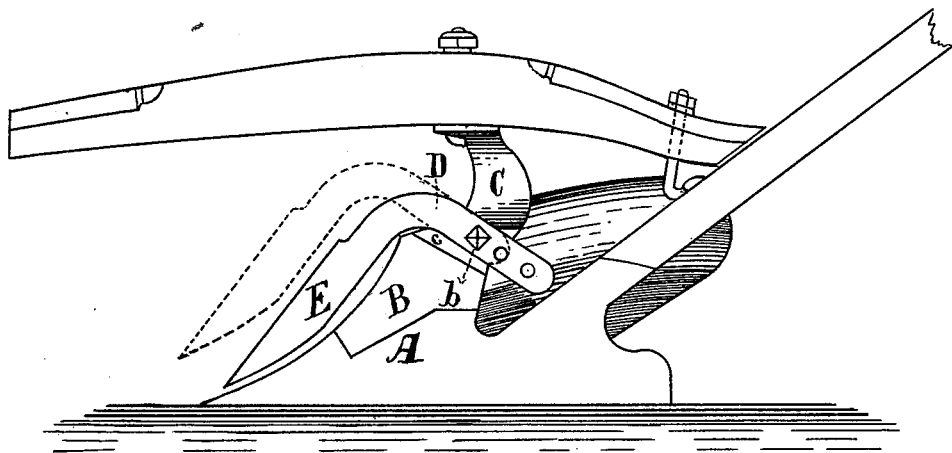


Fig 1

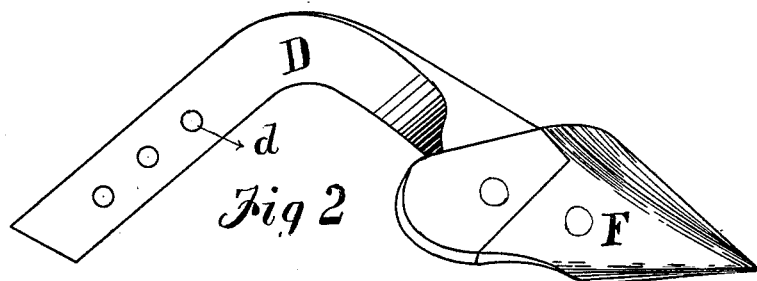


Fig 2

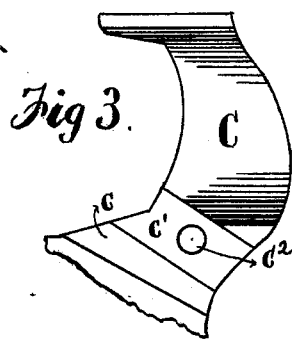


Fig 3.

Attest

*W. C. Corlies.*

*E. S. Lloyd.*

Inventor,

William S. Lawrence.

By *Robert Thacker*

Attys.

# UNITED STATES PATENT OFFICE.

WILLIAM S. LAWRENCE, OF KALAMAZOO, MICHIGAN.

## IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **188,019**, dated March 6, 1877; application filed January 29, 1877.

### *To all whom it may concern:*

Be it known that I, WILLIAM S. LAWRENCE, of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Plows, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of a plow on the land-side of the implement with my improvement attached; Fig. 2, a side elevation of a jointer, and Fig. 3 a detailed view of the upper portion of the standard on an enlarged scale.

The object of my invention is to provide a convenient device for attaching a colter or jointer to the plow in such a manner that it may be easily adjusted without disturbing its alignment.

The invention consists in constructing the standard of the plow with an inclined recess on the land-side thereof, in which is fitted a bent arm, carrying upon its outer end a colter or jointer, and adjustable back and forth in the inclined recess in the standard.

In the drawings, A represents the land-side of a plow, and B the colter, which is fitted to the land-side, as shown in Fig. 1 of the drawings. The standard C is provided with a shoulder, *c*, which fits over the under edge of the colter on the land-side of the plow. Just above the shoulder *c* a recess or groove, *c'*, is made in the standard on the same side of the implement. This recess or groove is cut inclining upward from rear to front, as shown in Fig. 3 of the drawings, and is made deep enough to receive and hold the rear end of a bar, D. This bar or arm D is straight for some distance at its rear end, and is then bent downward, the bend being preferably on a curve, as shown in the drawings, although, if desired, it may be angular. On the forward end of the bar is a colter, E, or a jointer, F, as may be desired, and the bend of the bar is such that the line of cut in either case is very nearly parallel with the true incline of the front or cutting edge of the plow, as shown in Fig. 1 of the drawings.

The rear end of the bent arm D is provided with a series of holes, *d*, through which a bolt, *b*, passes and extends through a hole in the standard *c'*, and thus secures the bent arm rigidly to the standard.

To adjust the position of the colter or jointer, it is only necessary to remove the bolt *b* and push the arm D forward or backward within the inclined recess, and insert the bolt again in another of the holes *d*.

It is evident that whenever the the arm is adjusted forward in this way the colter or jointer will be raised, as shown in dotted lines in Fig. 1 of the drawings, while at the same time the angle at which it is presented to the ground will not be changed, or its relative alignment with the front edge of the plow.

The adjustment of the arm in the opposite directions will, of course, lower the colter or jointer, to make it cut deeper, and the adjustment may be made by a slot in the arm instead of holes.

By this invention I am enabled to attach the jointer or colter to the plow-standard below the beam, thereby obviating the difficulty of clogging, which is serious when the colter or jointer is attached to the beam; and I am also enabled to readily adjust the height of the colter or jointer, so as to regulate its depth of cut, and at the same time maintain its angle of presentation to the ground or cutting-angle.

It is obvious that the bent arm will be the same, whether it carries at its forward end a colter or a jointer, the only difference being that, in the latter case, the extreme lower end must be adapted for the attachment of the jointer.

When constructed as described, and shown in the drawings, either the colter or jointer may be easily removed with the arm, and the other substituted at pleasure.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The standard C, provided with a recess or groove, *c'*, upon the land-side thereof, inclined downward from front to rear of the

standard, and adapted to receive a colter or jointer, substantially as and for the purpose set forth.

2. The standard C, having an inclined recess or groove, *c*<sup>1</sup>, upon the land-side thereof, in combination with the adjustable bent arm D, carrying upon its outer end a colter or

jointer, substantially as and for the purpose set forth.

WILLIAM S. LAWRENCE.

Witnesses:

GEO. W. THOMPSON,  
LESLIE S. DODGE.