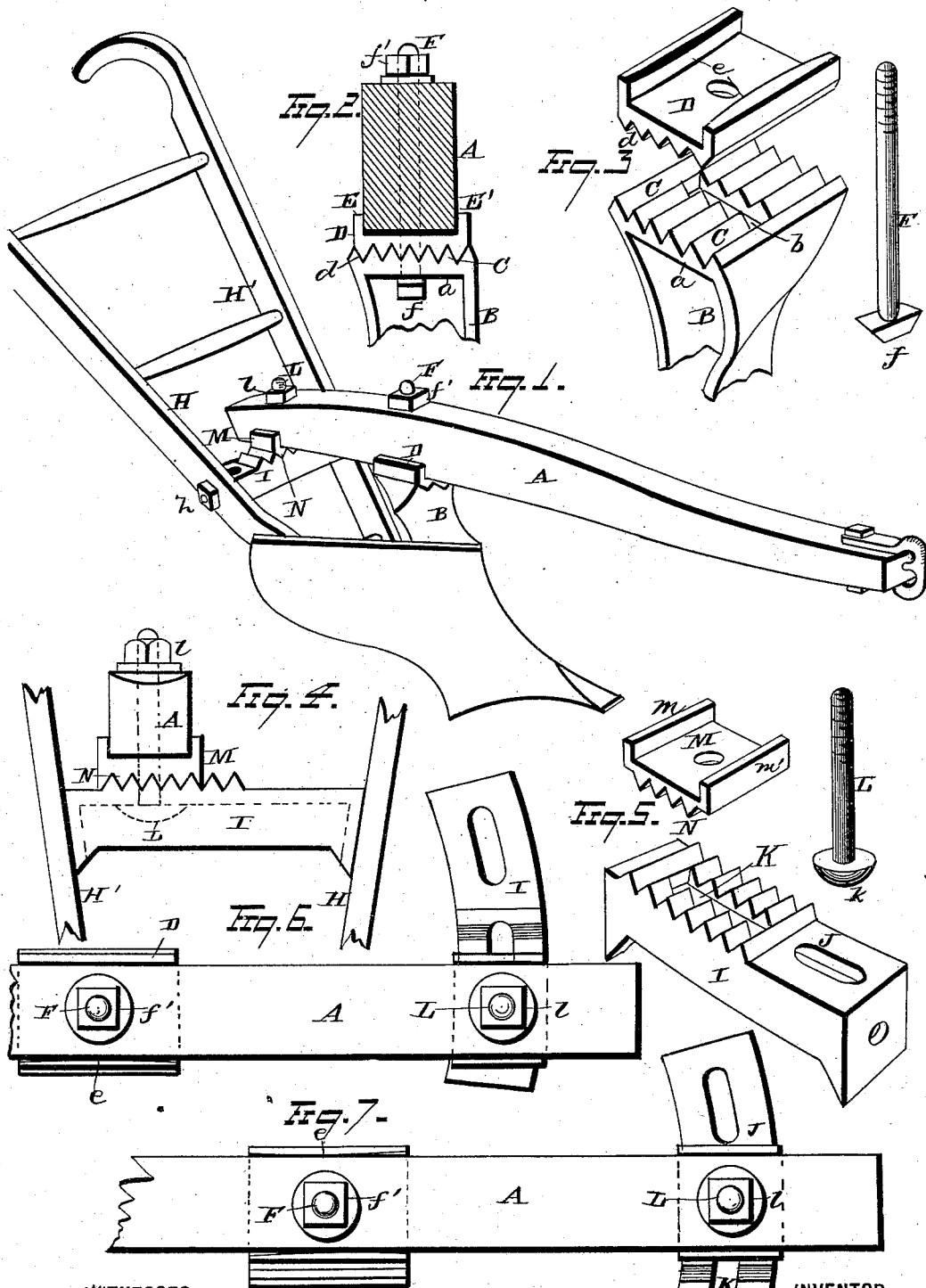


W W. SPEER.
Plow.

No. 219,317.

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WILLIAM W. SPEER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **219,317**, dated September 2, 1879; application filed July 11, 1879.

To all whom it may concern:

Be it known that I, WILLIAM W. SPEER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in plows, the object being to provide simple and efficient means for adjusting the plow-beam either axially about its standard-bolt or to adjust the plow-beam bodily toward or away from the land-side of the plow, whereby any desired adjustment may be secured for regularity, and insuring the perfect draft and operation of the plow.

My invention consists in certain details of construction and combination of parts, as will be hereinafter described, and specified in the claims.

In the accompanying drawings, Figure 1 is view, in perspective, of a plow provided with my improvement. Fig. 2 is a side elevation of the upper portion of the plow-standard and transverse section of the plow-beam. Fig. 3 represents detached views, in perspective, of the different parts employed for adjusting the beam relative to the plow-standard. Fig. 4 is a rear view of the plow, illustrating the construction of parts for adjusting the rear end of the plow-beam. Fig. 5 are detached views, in perspective, of the different parts used for regulating the adjustment of the tail end of the plow-beam. Figs. 6 and 7 are plan views of the plow-beam in different adjustments.

A represents the plow-beam. B is the plow-standard, the upper end, *a*, of which is provided with an elongated transverse slot, *b*.

The upper surface of the end or top plate, *a*, is cast with notches C formed thereon, said notches being preferably V-shaped, as illustrated in the drawings, as I do not limit myself to this particular form.

D is a standard-plate, the lower face of which is formed with notches *d*, corresponding in size

and form to the notches in the upper face of the standard.

The sides of standard-plate D are provided with flanges E E', which embrace the sides of the plow-beam. The flanges E E' are formed on a slight curve, whereby the narrowest point between the flanges is at the transverse center *e* of the plate, while from such center the flanges diverge and flare outwardly from each other, for a purpose hereinafter described.

F is the beam-fastening bolt, the head *f* of which bears against the under face or surface of the top plate of the standard, and the bolt extends upwardly through the elongated slot and plow-beam, and is secured by a nut, *f'*.

The purpose of the standard-plate is two-fold: first, to co-operate with the notched surface of the top plate of the standard and hold the plow-beam against any displacement after the beam has been secured in the desired adjustment; and, second, to prevent the turning of the beam and bending or breaking the fastening-bolt, or moving it to such an extent as to prevent its firm and rigid adjustment.

As the projections on the standard-plate fit snugly within corresponding recesses or notches in the top of the standard, by loosening the nut attached to the fastening-bolt and disconnecting the projections, grooves, or notches in the standard-plate and top of the standard the beam may be then moved laterally the desired distance, and the nut, being turned down on the fastening-bolt, operates to secure the beam and standard, so that there can be no possibility of lateral displacement of the plow-beam. The side flanges are employed to prevent the beam from turning and to relieve the fastening-bolt from lateral strain. But provision must be made for allowing the plow-beam to have a pivotal movement upon the top of the standard-plate to admit of the angular adjustment of the plow-beam. This is effected by making the inner walls of the flanges slightly curved, so that the outer ends of the flanges will be slightly outwardly flaring.

When the beam is adjusted parallel with the land-side, as shown in Fig. 6, the flanges engage with the beam only at their center portions; but the tendency of the beam to turn being slight in this adjustment, the flanges

have sufficient extent of bearing to preserve the beam in proper position, and to relieve all strain upon the fastening-bolt.

When the plow-beam is adjusted at an angle to the land-side, as represented in Fig. 7, the beam has a bearing on the entire half of one flange and the entire half of the opposite end of the other flange, and thus the greater angle of adjustment, and consequently the greater the liability of the plow-beam to turn or twist out of position, the greater will be the bearing-surface of the flange presented against the sides of the beam to counteract such tendency to displacement.

Between the handles H H' of the plow is secured an index-brace, I, by means of bolts *h*, inserted through the handles and ends of said brace; or it may be secured in any other practicable manner.

The top plate, J, of brace I is provided with an elongated arc-shaped slot, K, through which passes the adjusting-bolt L, the head *k* of which bears against the lower surface of plate J. The bolt extends upwardly through the end of the plow-beam, and is secured at its upper end by a nut, *l*.

M represents a bearing-plate, which is attached to the under side of the plow-beam, said plate having side flanges *m m'*, which fit snugly against the sides of the plow-beam and prevent the latter from turning or twisting out of place when subjected to side or twisting strains.

The lower face of plate M is provided with V-shaped projections N, which fit in correspondingly-shaped grooves or notches formed in the upper surface of the top plate, J, of the index-brace.

When the end of the plow-beam is secured in proper adjustment the engaging projections or notches operate to prevent any accidental displacement, and the plow-beam is held from turning or twisting.

Instead of securing the index-plate at opposite ends, it may be firmly secured to one of the plow-handles only; or, instead of employing the index-brace, a similarly-shaped support may be cast solid with the plow.

It is evident that many slight changes in the construction and arrangement of parts may be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction shown and described; but

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

1. The combination, with a standard having longitudinal grooves or notches formed in its upper end or plate and furnished with an elongated transverse slot, of a standard-plate having projections on its lower face, and provided with side flanges having curved inner bearing-surfaces, substantially as set forth.

2. In a plow, the combination, with the plow-beam, of a flanged plate having curved inner bearing-surfaces, against which rests the plow-beam, and notched under face, fitting corresponding notches in the upper end or plate of the standard, and a flanged plate having parallel inner surfaces for holding the rear end of the plow-beam, the under face of said flanged plate being notched and adapted to fit in corresponding notches formed on the upper surface of the index-plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of July, 1879.

WILLIAM W. SPEER.

Witnesses:

JOHN W. WILEY,
THOMAS D. GRAHAM.