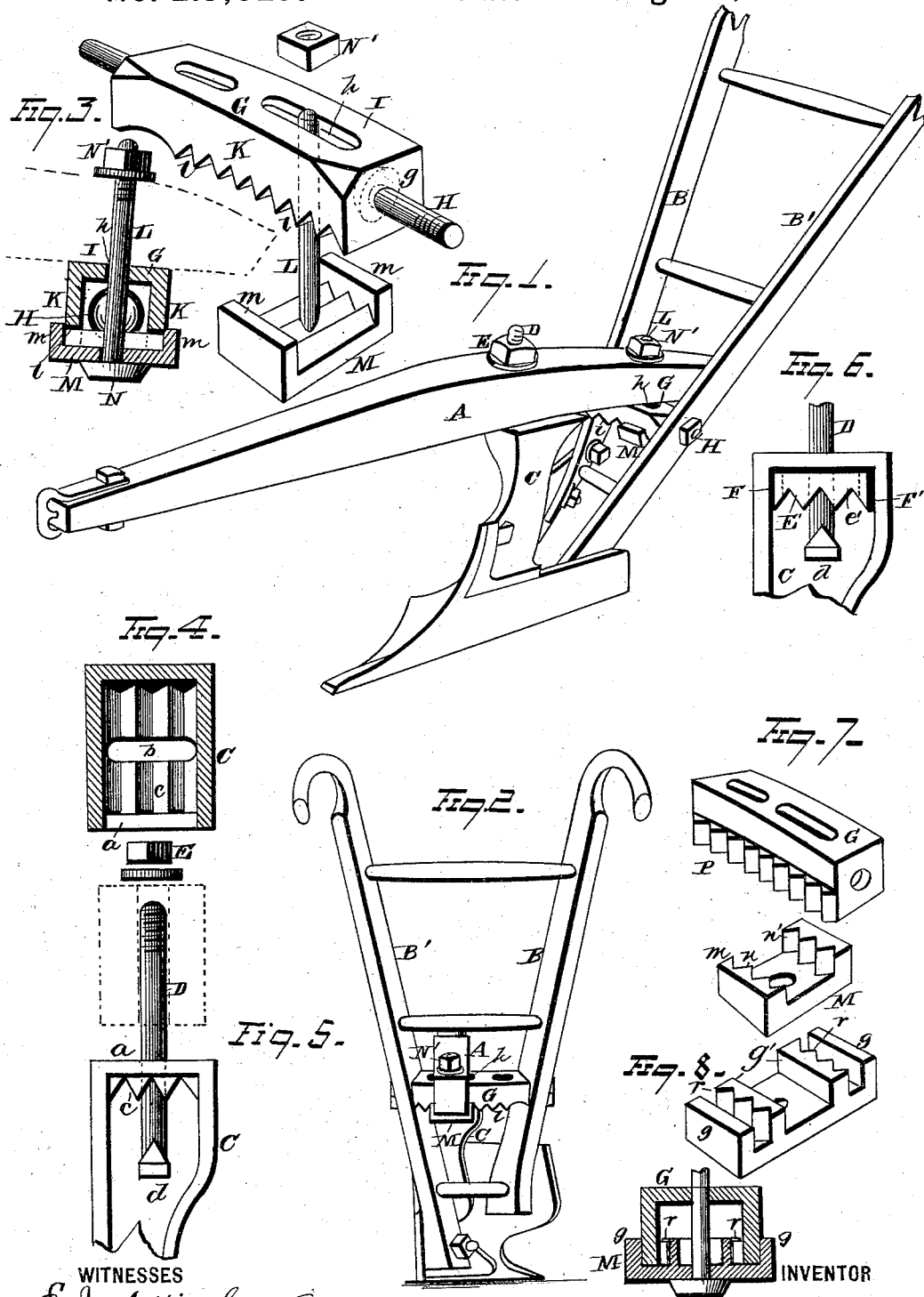


W. W. SPEER.
Plow.

No. 219,029.

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WITNESSES
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WILLIAM W. SPEER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **219,029**, dated August 26, 1879; application filed July 10, 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 for the lateral adjustment of the plow-beam both angularly and bodily, that the beam may be located to receive the draft in such a manner as to cause the plow to cut evenly and without a tendency to lead in either direction.

My invention consists in certain details of construction and combination of parts, as will hereinafter be explained, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a view, in perspective, of a plow provided with my improvement. Fig. 2 is a rear elevation of the same. Fig. 3 represents detached views of the index-brace for the rear end of the plow-beam, the fastening-bolt, and adjusting-bolt plate. Fig. 4 is a plan view of a section of the standard. Fig. 5 shows a detached view of the upper portion of the standard, the adjusting-bolt head and bolt. Fig. 6 is a modification showing a detachable notched or serrated plate or washer applied to the under surface of the head of the standard. Figs. 7 and 8 are views, in perspective, of modified forms of index-braces for the plow-handles.

A represents the plow-beam, and B B' the plow-handles. In order to secure the desired even draft on the plow, it is sometimes only necessary to adjust the plow-beam angularly with relation to the land-side, and again it becomes necessary to adjust the entire plow-beam laterally toward or from the land-side. To provide for such duplex adjustment the following construction and arrangement of parts are provided:

C is the plow-standard, the head or top plate, *a*, of which is formed with an elongated transverse slot, *b*, through which passes the bolt D,

which serves to secure the beam A to the standard.

In order that the head of the bolt shall be kept from any lateral movement when the beam has been moved laterally to the required point of adjustment, the lower surface of the standard-plate *a* has any desired number of grooves or notches, *c*, preferably V-shaped in form, formed therein in casting, and on opposite sides of the slot *b*.

The head *d* of the bolt D is constructed with a V-shaped upper surface, whereby it may be shifted either to the right or left to engage with any of the notches *c* in the standard-plate. Then, by screwing down the tightening-nut E, the parts are held firmly in place, and the beam prevented from any lateral displacement.

Instead of forming the grooves or notches *c* on the under surface of the standard-plate or head *a*, they may be formed in a separate and independent plate or washer, E', as shown in Fig. 6, which, as will be observed, is provided with an elongated transverse slot, *c'*, for the passage of the beam-bolt. Washer E' is made to fit snugly against the sides F F' of the standard, and thus the same result can be obtained as if the notches were formed in the head or top plate of the standard.

The construction and arrangement of parts above described are simple and effective, and will enable the plow-beam to be adjusted bodily toward or from the land-side, and thus secure the desired line of direction of draft.

Between the plow-handles B B' is secured an index-brace, G, by bolts H, extending through the end walls, *g*; or it may be secured in any other desired manner. Index-brace G is slightly curved or arc-shaped in form, and is formed of the top plate, I, and depending flanges or sides K. The top plate, I, is provided with an elongated arc-shaped slot, *h*, through which passes the bolt L, for securing the rear end of the plow-beam in place.

The lower edges of the flanges or sides K are provided with notches *l*, preferably V-shaped, though other forms of notches might be employed.

M is an adjustable bolt-plate or washer, constructed with upwardly-projecting flanges *m*, which fit against the sides of flanges K, and

thereby prevent any longitudinal displacement of the plate M.

To prevent any lateral displacement or movement of plate M when the rear end of the plow-beam has been secured in desired adjustment, the plate M is provided with two or more projections, corresponding in shape and size with the notches in the lower edge of the flanges K, said projections fitting within the notches, and thus holding the beam from moving laterally.

The bolt-head N rests against the lower surface of the plate M, and by loosening the nut N' the projections on the plate M may be disengaged from the notches in the lower edges of the flanges K, and thus allow the end of the plow-beam to be moved laterally to the desired angular adjustment. The nut N' is then tightened, which operates to draw the projections on plate M into the corresponding recesses in the flanges of the index-brace, and thus firmly bind such parts together.

Instead of constructing the index-brace with notches or grooves on its lower edges, it may be provided with projections P on the outer surfaces of said flanges, as illustrated in Fig. 7, and in such form of construction the inner surfaces of the upwardly-projecting flanges *m* will be correspondingly notched or grooved, as at *n n'*. This form of construction enables the plow-beam to be secured against accidental lateral displacement, the same as the construction hereinbefore described.

Again, the parts may be made as shown in Fig. 8. In the latter instance inner surfaces of the index-plate are furnished with projections, and

the bolt-plate provided at each end with two upwardly-projecting flanges, *g g'*, the outer flange, *g*, having a smooth inner surface, which engages with the outer surface of the flange of the index-plate, while the inner flange has projections *r* formed on its inner sides, which engage with corresponding grooves or notches formed between the lateral projections on the inner sides of the flanges of the index-brace.

I am aware that notched engaging-surfaces have been applied to the standard and index-braces of plows to allow of the lateral and axial adjustment of the plow-beam, and hence I make no broad claim to such feature, my invention consisting in the peculiar construction and combinations of parts described, and pointed out in the claim.

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

The combination, with the plow-handles, of an index-brace provided with an elongated slot in its top plate, and with depending flanges or sides provided with notches or grooves, an adjusting-bolt; and a bolt-plate or washer provided with flanges on its ends, and also with V-shaped projections adapted to engage in the grooves in the index-plate, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

WILLIAM W. SPEER.

Witnesses:

THOS. D. GRAHAM,
JOHN W. WILEY.