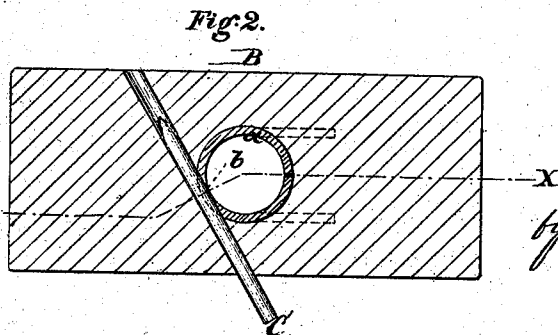
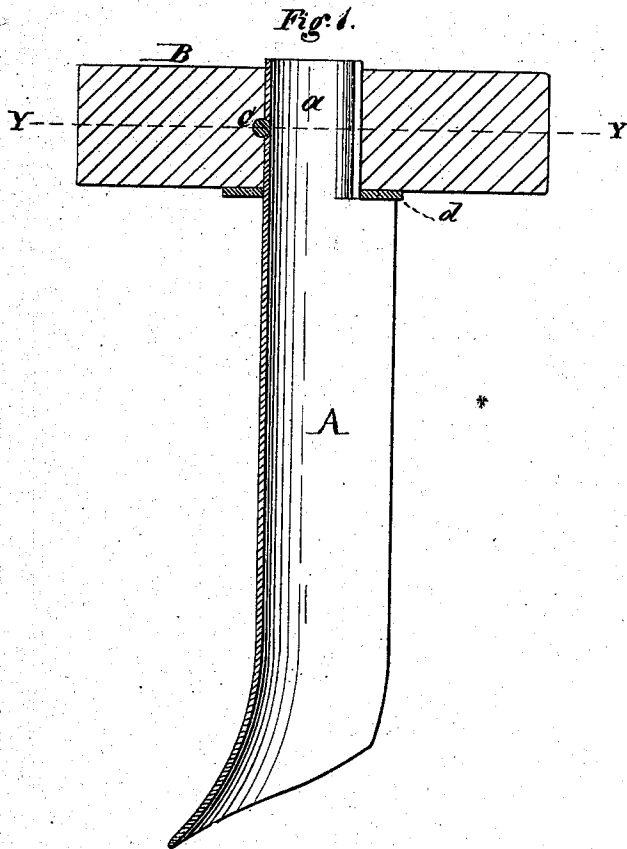


THOMAS & MAST.  
Seed-Drill Tooth.

No. 105,387.

Patented July 12, 1870.



Witnesses:

Phil. T. Dodge  
E. J. Sommers

Inventors:

J. H. Thomas  
P. P. Mast  
by Dodge & Munin  
their attys.

# United States Patent Office.

JOHN H. THOMAS AND PHINEAS P. MAST, OF SPRINGFIELD, OHIO.

Letters Patent No. 105,387, dated July 12, 1870.

## IMPROVEMENT IN SECURING DRILL AND CULTIVATOR-TEETH.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JOHN H. THOMAS and PHINEAS P. MAST, of Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Fastening Drill-Teeth; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use our invention, we will proceed to describe it.

Our invention consists in a novel manner of securing drill-teeth to their frame, as hereinafter described.

In the drawing—

Figure 1 is a vertical section through a tooth secured by our method, the section being taken on the line *z z* of fig. 2; and

Figure 2 is a horizontal section of the same taken on the line *y y* of fig. 1.

A is the drill-tooth, made of sheet metal, and provided at its upper end with a tubular neck, *a*, which neck has a groove or slot, *b*, made across its front side, as shown in figs. 1 and 2.

B is the bar or frame to which the tooth is secured, this bar having a vertical hole made through it, into which the neck *a* of the tooth is inserted.

Through the frame A, I make a horizontal hole, which, when the neck *a* is inserted, comes in line with

its slot, *b*, and, after inserting the neck, drive a pin, C, into the hole, as shown in figs. 1 and 2.

The pin, thus inserted, passes through the slot in the neck, and thus fastens the tooth securely to the frame, so that it cannot tip, turn, or pull out. Strain brought upon the point of the tooth wedges the slot more tightly over the pin, and, consequently, locks the tooth more rigidly in place.

When desired, a plate or washer, *d*, may be placed on the neck *a*, so as to rest against the under side of the frame, and prevent chafing or wearing of the wood.

It is obvious that this plan may be used with any and all styles of teeth which have their shank inserted into a hole in the frame.

It is also obvious that, instead of a round groove and pin, as shown, any other shape may be used, if desired, such as square or triangular, or a wedge may be used.

Having thus described our invention,

What we claim is—

The drill or cultivator-tooth A, having the groove *b* formed in its shank, for the reception of a pin, C, to secure it in place, substantially as described.

JOHN H. THOMAS.  
PHINEAS P. MAST.

Witnesses:

GEO. ARTHUR,  
W. B. LEBINE.