

H. M. WILLIAMS.  
Harrow-Teeth.

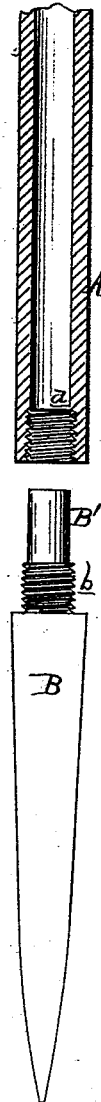
No. 169,324.

Patented Oct. 26, 1875.

Fig. 1.



Fig. 2.



Attest:  
Edward Parkef.  
Wm. P. Shadwin

Inventor:  
H. M. Williams  
By Atty  
Phil. S. Sprague

# UNITED STATES PATENT OFFICE.

HENRY M. WILLIAMS, OF COLDWATER, MICHIGAN, ASSIGNOR TO HIMSELF  
AND C. A. LAYTON, OF WAPAKONETTA, OHIO.

## IMPROVEMENT IN HARROW-TEETH.

Specification forming part of Letters Patent No. **169,324**, dated October 26, 1875; application filed  
June 3, 1875.

*To all whom it may concern:*

Be it known that I, HENRY M. WILLIAMS, of Coldwater, in the county of Branch and State of Michigan, have invented an Improvement in Harrow-Teeth, of which the following is a specification:

My invention has for its object to lessen the first cost of harrow-teeth, and to lessen the cost of their renewal, by providing them with detachable steel points; and it consists in making the body of the tooth of a section of iron pipe, into the lower end of which is inserted the screw-threaded shank of rectangular tooth-point, as more fully hereinafter set forth.

Figure 1 is a perspective view of my improved harrow-tooth. Fig. 2 is a longitudinal sectional elevation of the same, but with the parts separated.

In the drawing, A represents the shank of the tooth, which is simply a piece of iron tubing cut to the proper length, with a female

screw, *a*, cut in the lower end, to receive a male thread, *b*, chased on the lower part of a cylindrical shank, B', of a square steel tooth-point, B. The shank above the thread *b* is turned down, so as to enter the caliber of the tube A, and act as a tenon to stiffen the joint.

The point B is intended to sustain the friction of the ground through which it is dragged; hence it is the part which wears away the soonest, and, when worn out, can be cheaply replaced, whereas a solid steel harrow-tooth is very expensive in first cost, and an iron one soon wears out.

What I claim as my invention is—

A harrow-tooth composed of a tubular threaded shank, A *a*, and the solid point B, having the threaded shank B' *b*, substantially as described and shown.

HENRY M. WILLIAMS.

Witnesses:

WESLEY CALBICK,  
SAMUEL M. WILLIAMS.