

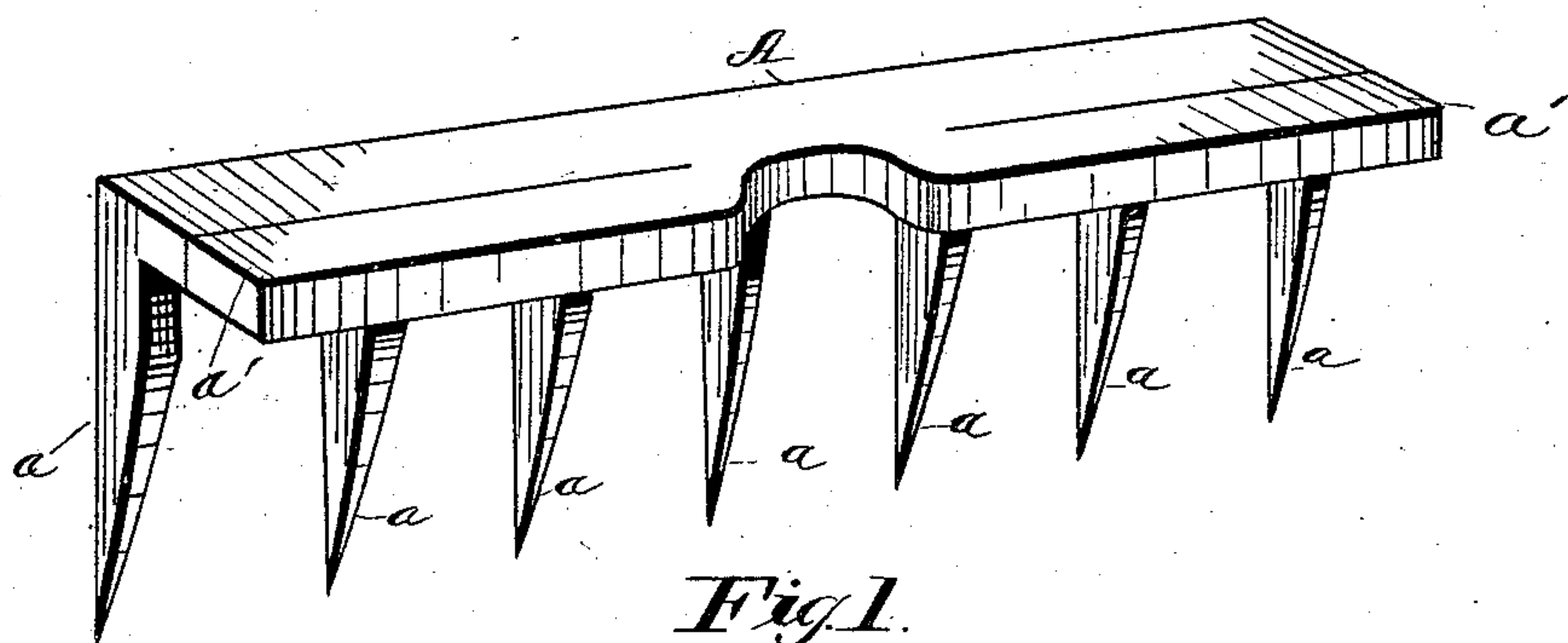
(No Model.)

W. W. KNOWLTON.

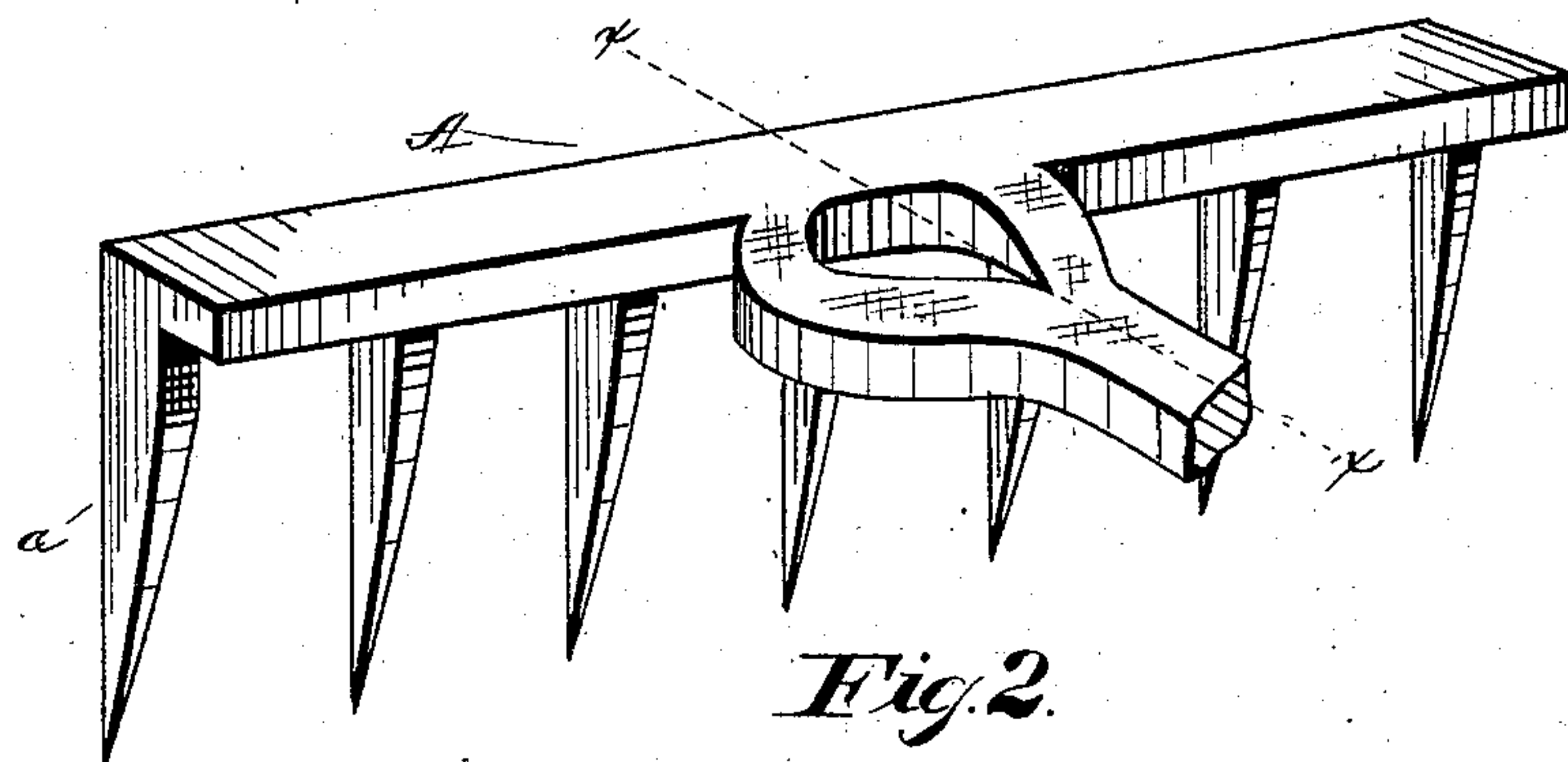
RAKE.

No. 281,524.

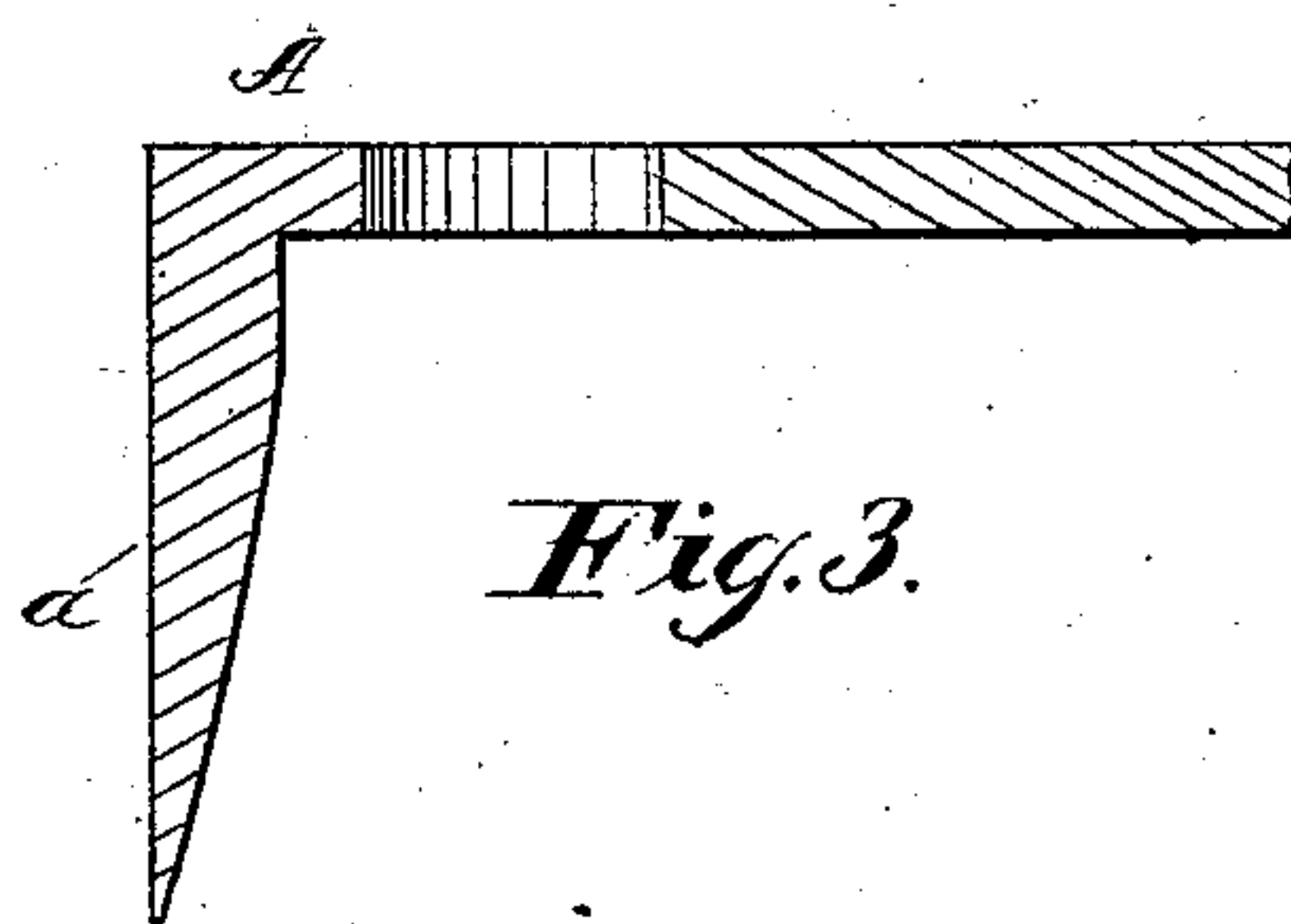
Patented July 17, 1883.



*Fig. 1.*



*Fig. 2.*



*Fig. 3.*

Witnesses

*Wm. Duwall*  
*D. Gerhardt.*

Inventor

*William W. Knowlton*  
*By Edson & Bro's,*  
*attys.*

# UNITED STATES PATENT OFFICE.

WILLIAM W. KNOWLTON, OF ASHTABULA, OHIO, ASSIGNOR OF SIX-EIGHTHS  
TO LUCIEN K. SHAYLOR AND SAMUEL R. HARRIS, OF SAME PLACE.

## RAKE.

SPECIFICATION forming part of Letters Patent No. 281,524, dated July 17, 1883.

Application filed November 7, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM W. KNOWLTON, a citizen of the United States, residing at Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Rakes and Forks; and I do 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 the letters and figures of reference marked thereon, which form a part of this specification.

Heretofore garden-rakes have been made from a bar of steel, the teeth being drawn out from one side thereof and the shanks from its opposite side, longitudinal cuts being made inwardly from the ends for that purpose, adapting the metal above the cuts to be drawn around and welded. This method leaves the top of the rake-head uneven, and therefore unsuited for leveling purposes or breaking clods, besides being difficult to manufacture. Indeed, rakes of said construction are so objectionable that they have been withdrawn from the market. Attempts have been made to hammer the metal between the inner ends of the longitudinal cuts, hereinbefore referred to, down to the level of the outer ends of the head, but without success, as in doing so a "cold sheet" was formed in the inner angle between the shanks and the rake-head, and thereby made a rake too weak and expensive to meet the demands of the trade.

The object of this invention is to overcome the objections above stated; and to these ends my invention consists of a rake having its head, teeth, shanks, and tang all in one piece of metal, the shanks being on a level with the top of the head, as hereinafter more fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of the rake, showing the head with a web or flange for forming the shanks and tang projecting horizontally therefrom, a portion being removed in the center; and Fig. 2 is a perspective view of the rake, showing the shanks bent around and the ends welded together, forming the tang. Fig. 3 is a section on the line *xx* of Fig. 2.

Like letters of reference denote like parts in the different figures of the drawings.

In the drawings, A is the head of a rake, having teeth *a*, and a horizontal web, rib, or flange, *a'*, projecting horizontally from the head A, the top of the same being flush with the top of the head.

The web or flange may be cut from its ends inwardly, or the cuts may be from an inner point outwardly, the object of the cutting being to effect the partial removal of the flange, in order to bring portions thereof around to form the shanks, and also by welding the tang. When the cuts are made inwardly from the ends of the web or flange, I remove a portion of metal from the center thereof, as clearly shown in Fig. 1 of the drawings.

My invention is not limited to rakes, as it is obvious that it can be used in making forks. Neither do I limit myself to the exact size and form shown, as I am aware the same can be changed without departing from the principle or sacrificing the advantages of my invention—as, for instance, the cuts in the flange can be made clear to the edges of the teeth *a*, or a little removed from the same; also, a piece need not be removed from the center, as clearly shown in Fig. 1 of the drawings, although that form is preferable to leaving the metal in the flange and hammering it out.

I do not claim, broadly, a rake-head having the upper surfaces of the rake-head and braces in the same horizontal plane, nor a rake-head having transverse longitudinal cuts in its head and the cut-away portions bent around to form the braces and tang.

I claim as my invention—

A rake-head having its flanged or angular head sheared longitudinally from its opposite ends, and the sheared portions bent around horizontally and welded together, forming the rake-head braces and tang of a single plate of metal and their upper surfaces in the same horizontal plane, as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM W. KNOWLTON.

Witnesses:

L. K. SHAYLOR,  
R. W. CULVIN.