(No Model.)

H. D. BABCOCK.

SPIKE TOOTH HARROW BAR.

No. 604,223. Patented May 17, 1898.

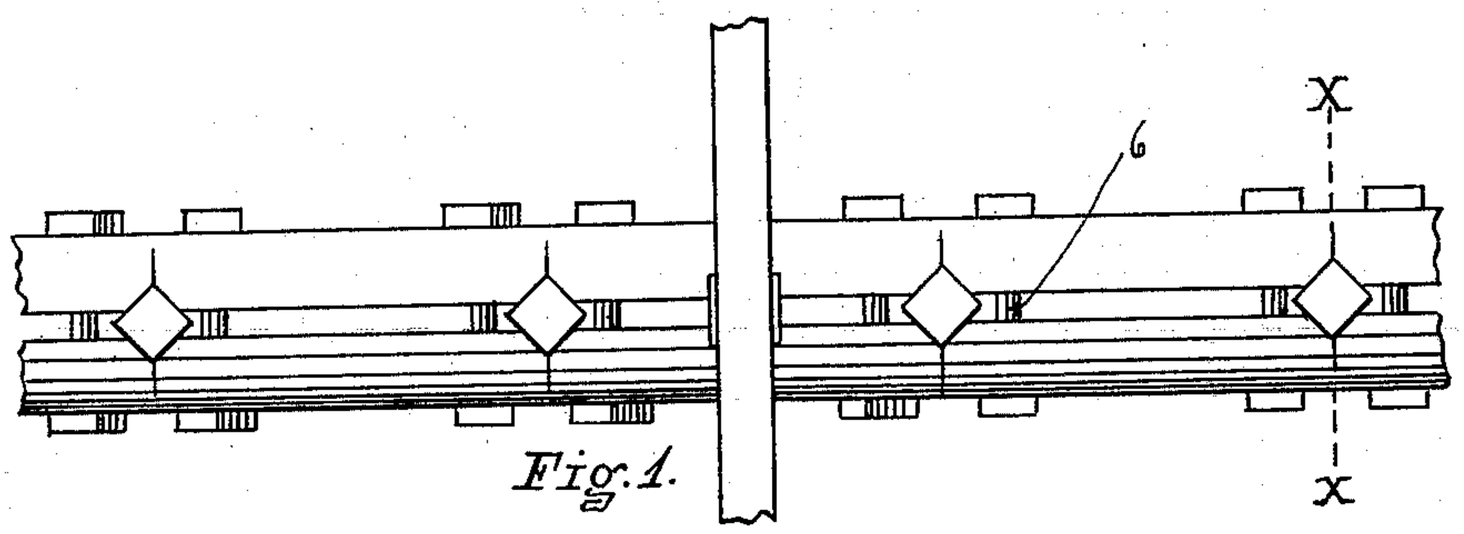

Fig. 1.

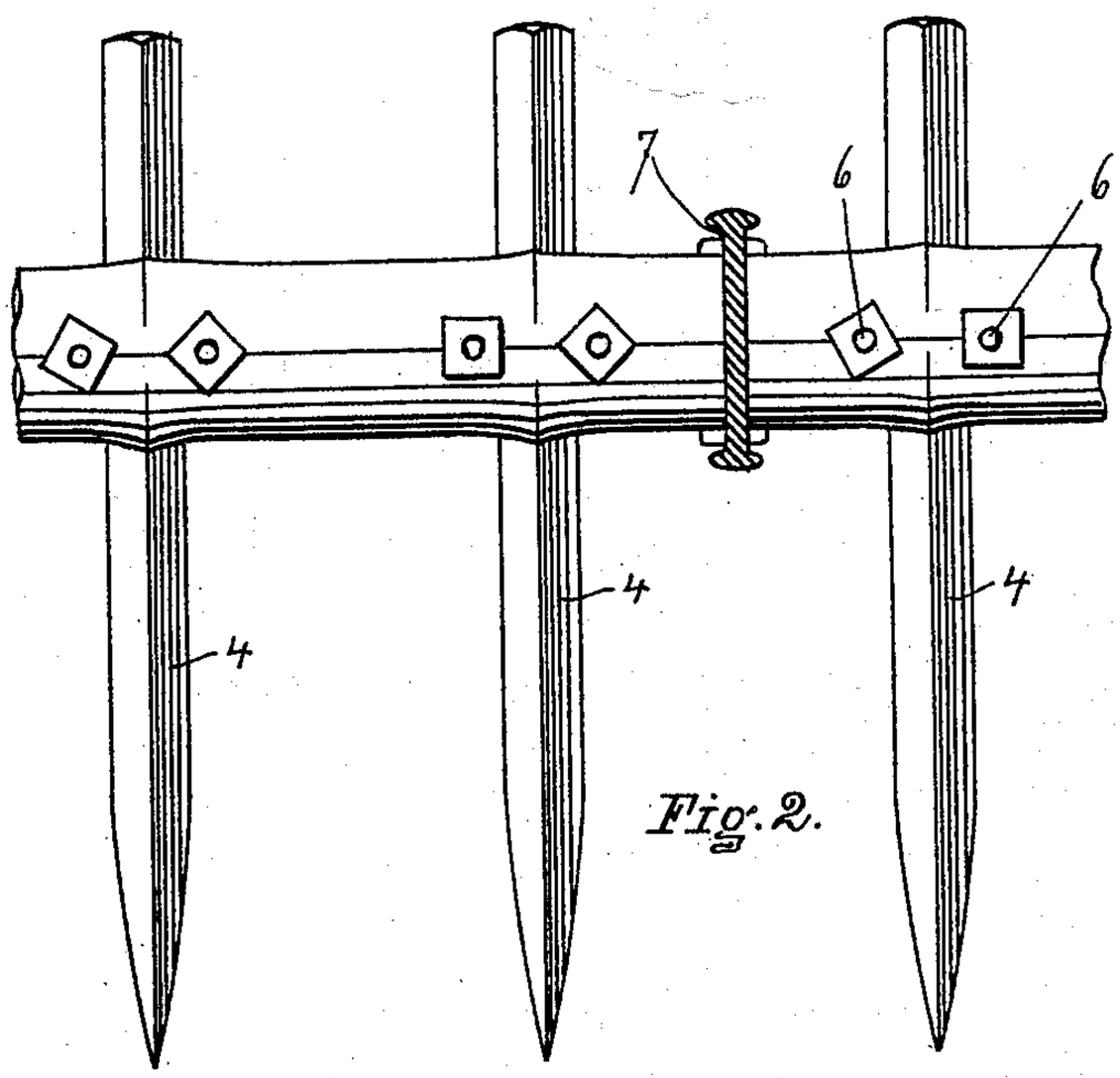

Fig. 2.

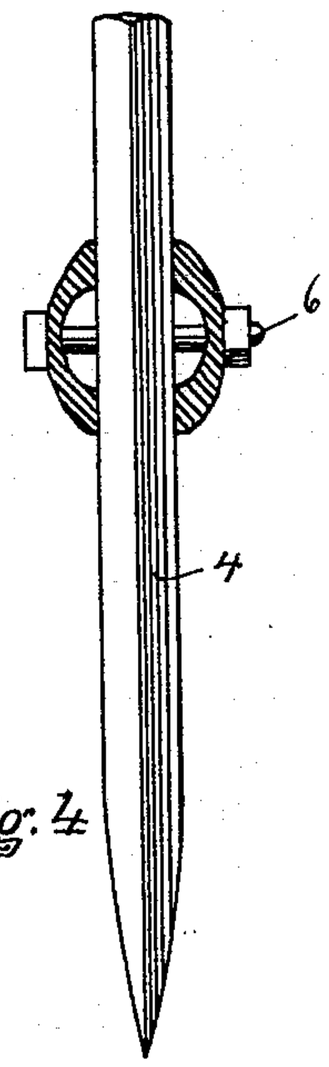

Fig. 4.

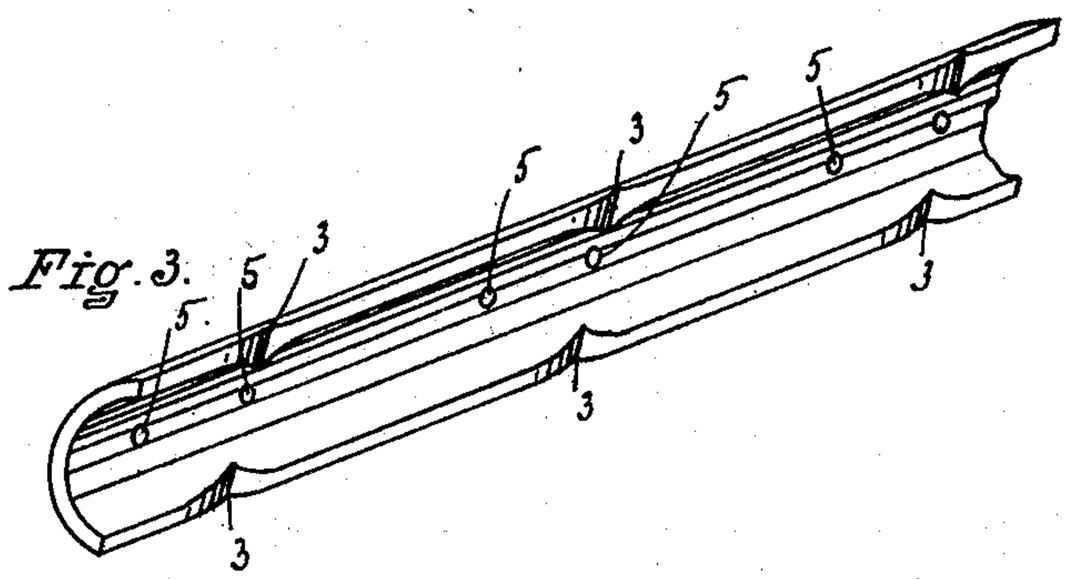

Fig. 3.

WITNESSES
Rich. A. George
Phebe A. Tanner.

INVENTOR
HENRY D. BABCOCK.
BY Richy & Lrae
ATTORNEY'S.

UNITED STATES PATENT OFFICE.

HENRY D. BABCOCK, OF LEONARDSVILLE, NEW YORK, ASSIGNOR TO THE STANDARD HARROW COMPANY.

SPIKE-TOOTH HARROW-BAR.

SPECIFICATION forming part of Letters Patent No. 604,223, dated May 17, 1898.

Application filed July 30, 1897. Serial No. 646,438. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. BABCOCK, of Leonardsville, in the county of Madison and State of New York, have invented certain new and useful Improvements in Spike-Tooth Harrow-Bars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 figures of reference marked thereon, which form part of this specification.

My invention relates to a spike-tooth harrow-bar; and it consists in the combination and arrangement of the parts, as hereinafter more fully pointed out and claimed, similar figures of reference referring to corresponding parts in the several views.

In the drawings, Figure 1 shows a top view of a portion of a complete tooth-bar with the teeth in place. Fig. 2 shows a side elevation of the same. Fig. 3 shows an inside view of one of the crescent sections forming a part of the tooth-bar. Fig. 4 represents a cross-section of the tooth-bar, taken on line *x x* of Fig. 1.

Heretofore the tooth-bars of this class of harrows, where the teeth have been clamped between the bars, have been provided with V-shape openings cut out of the metal, thereby weakening the bars.

In my improved construction I use two crescent bars in cross-section; and the invention consists in depressing the edges of each bar by pressure, which displaces the stock in the bars and presents a broad surface in the V-shape depressions for engaging the tooth, thus giving the full strength of each crescent bar at the point where the angles of the teeth are engaged between the bars. The crescent sections in cross-section are held together by bolts passing through openings on either side of the tooth. By this arrangement the teeth can be adjusted in the direction of their length and rigidly held between the bars in the broad face of the V-shape openings.

In my construction of the tooth-bar I provide two crescent-shape sections 1 1 in cross-section of the required strength. In the edges of each crescent section I compress in the metal a V-shape depression corresponding to the angle of the tooth, presenting a broad face in the V opening where it engages the angle of the tooth. The V-shape openings are indicated at 3 in Fig. 3. These openings engage the angle of tooth 4.

In the crescent bars I provide perforations 5 on either side of the tooth, through which bolts 6 pass, which bolts carry nuts. By loosening the nuts the teeth can be adjusted in the direction of their length, and when adjusted and the nuts tightened the tooth is rigidly held between the edges of the crescent bars, the opposing angles of the tooth resting in the duplicate V-shape openings between the two sections forming the tooth-bar, substantially as shown. For holding the tooth-bars in their position I provide a metal strip 7 of sufficient width to allow an opening sufficiently large to fit over the tooth-bar. These bars form what are commonly known as "draft-bars." By this arrangement the tooth-bars are free to rotate in the draft-bars by lever or any other well-known mechanism used in adjusting the pitch of harrow-teeth in a complete harrow.

What I claim as new, and desire to secure by Letters Patent, is—

In a harrow the combination of a pair of crescent-shape bars, in cross-section, each bar provided with angular depressions in the opposing flanges of each crescent bar, said depressions being produced by pressure, forming at the angle of the depression a broad surface, angular harrow-teeth and bolts and nuts for clamping the teeth between the crescent bars, substantially as set forth for the purposes stated.

In witness whereof I have affixed my signature in presence of two witnesses.

HENRY D. BABCOCK.

Witnesses:
S. R. BABCOCK,
I. ALLAN BABCOCK.