

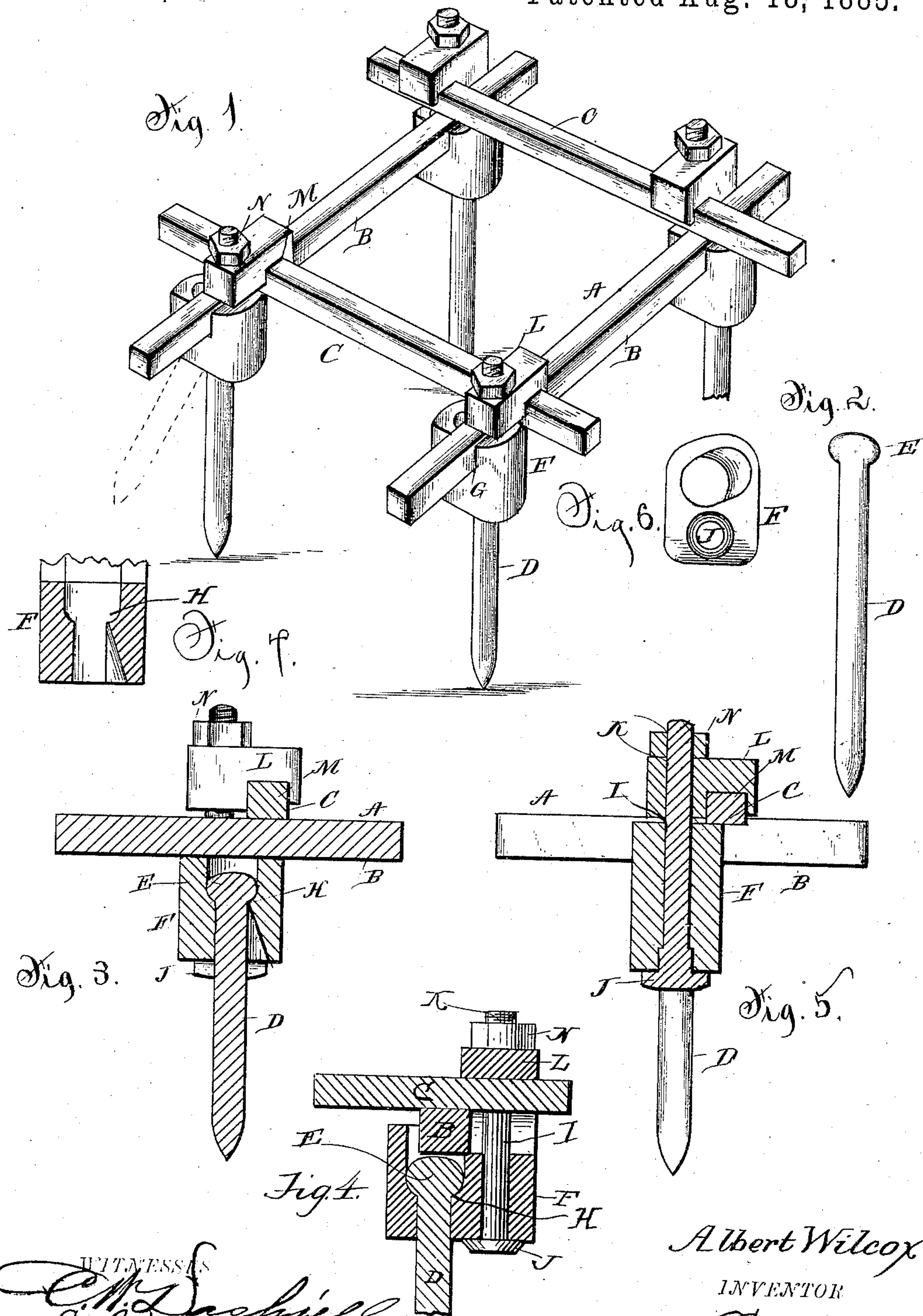
(No Model.)

A. WILCOX.

HARROW.

No. 324,626.

Patented Aug. 18, 1885.



WITNESSES
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UNITED STATES PATENT OFFICE.

ALBERT WILCOX, OF CLARENCE, IOWA.

HARROW.

SPECIFICATION forming part of Letters Patent No. 324,626, dated August 18, 1885.

Application filed June 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT WILCOX, a citizen of the United States, residing at Clarence, in the county of Cedar and State of Iowa, have invented a new and useful Harrow, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to harrows; and it has for its objects to provide a harrow that shall possess superior advantages over others of its class in point of utility, simplicity, durability, and general efficiency.

The invention consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of a section of a harrow-frame provided with my improvements. Fig. 2 is a side view of the tooth removed from its socket. Fig. 3 is a vertical section taken transversely through the ball-head and clamp, and Fig. 4 is a vertical transverse section taken at right angles to the section shown in Fig. 3. Fig. 5 is a sectional detail view. Fig. 6 is a bottom view of the socket-clamp. Fig. 7 is a sectional view through the socket-clamp with tooth removed.

Referring by letter to the accompanying drawings, A designates a portion of a harrow-frame, and B C are the frame-bars, made of wrought-iron or steel, and clamped together with malleable-iron clamps, in a manner similar to the harrow-frame in my Letters Patent No. 231,637, dated August 24, 1880; the clamps in this instance, however, being of a different construction from the clamps shown and described in said Letters Patent.

D designates the harrow-tooth, which is constructed in round form and pointed, as shown, and provided with a ball-head, E, which, when in position, is seated in the socket-clamp F. The socket-clamp F is provided with a transverse recess, G, in its upper face, which recess crosses the seat H for the ball-head E of the tooth D. The upper portion of the seat H is round, to fit the ball-head E, while the lower part of socket or seat H is enlarged or cut out diagonally at one side, as seen in Figs. 3 and 7, thus providing a straight and an inclined wall, so that the tooth may assume either a

vertical position with reference to the socket-clamp or a slanting position with reference thereto, as shown in Fig. 1 in full and dotted lines. The socket-clamp F is also provided with a vertical bolt-hole, I, which is rectangular in form at its lower end, and a bolt, J, is passed up through this bolt-hole I, the rectangular portion of the bolt J resting in the rectangular portion of the bolt-hole, thereby preventing the bolt J from turning in the bolt-hole. This bolt J also passes up through the bolt-hole K in the upper clamp, L, which is provided in its under face with a transverse recess, M, and the clamps F and L are secured upon the bolt J by a nut, N, on its upper end. The frame-bar B rests in the recess G in the socket-clamp F, and the frame-bar C rests in the recess M in the under face of the clamp L, and also upon the frame-bar B, and intersects the latter at any desired angle. By loosening the nut N the clamps may be shifted on the bars B and C to change the distances between the teeth D, and the frame-bars may be adjusted to any angle required and the nut tightened to hold the parts to their adjustments.

This class of teeth are termed "reversible" teeth, and in some cases where the teeth have had wedge-shaped heads they have been defective, in that they all have a tendency to work down in the socket of the casting in which they are seated, and bind therein to such an extent that they break the casting, so that they are virtually impracticable on this account. I have found by actual test that by providing the tooth with the ball-head I get a tooth that possesses greater strength than those heretofore used, and that it always works free, so as to wear on all sides alike, and never binds in the socket, and consequently never breaks the castings.

The tooth rotates in its socket and reverses without binding. It is therefore free and easy under all circumstances. Besides, the socket-clamp and clamp do not have to be detached to change the position or angle of the tooth, as it is self-adjusting by changing the draft of the team to the other end of the harrow.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a harrow, the combination, with the

tooth-holder having a recess or seat and a vertical and an inclined wall, of the swiveled tooth having an enlargement or head fitting in the said recess or seat, substantially as set forth.

2. The combination, with the frame-bars B C of a harrow, of the socket-clamp having a vertical and an inclined wall and recessed to receive the bar B, the harrow-tooth having an enlargement or head fitting in the socket-clamp, and the clamp L, substantially as described, catching over the bar C and holding it down upon and across the bar B, as set forth.

3. The frame-bars B C and the socket-clamp F, having the recess G to receive the bar B, in combination with the harrow-tooth fitting

in the socket-clamp, the clamp L, catching over the bar C and holding it down upon the bar B, the bolt J, passing through the clamps F L, and the nut N, securing the bolt in place, the bolt and nut connection between the clamps being independent of the tooth, so as to allow the adjustment of the clamps on the frame-bars without disturbing the tooth, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALBERT WILCOX.

Witnesses:

H. I. DECKER,
JAS. L. ESCHER.