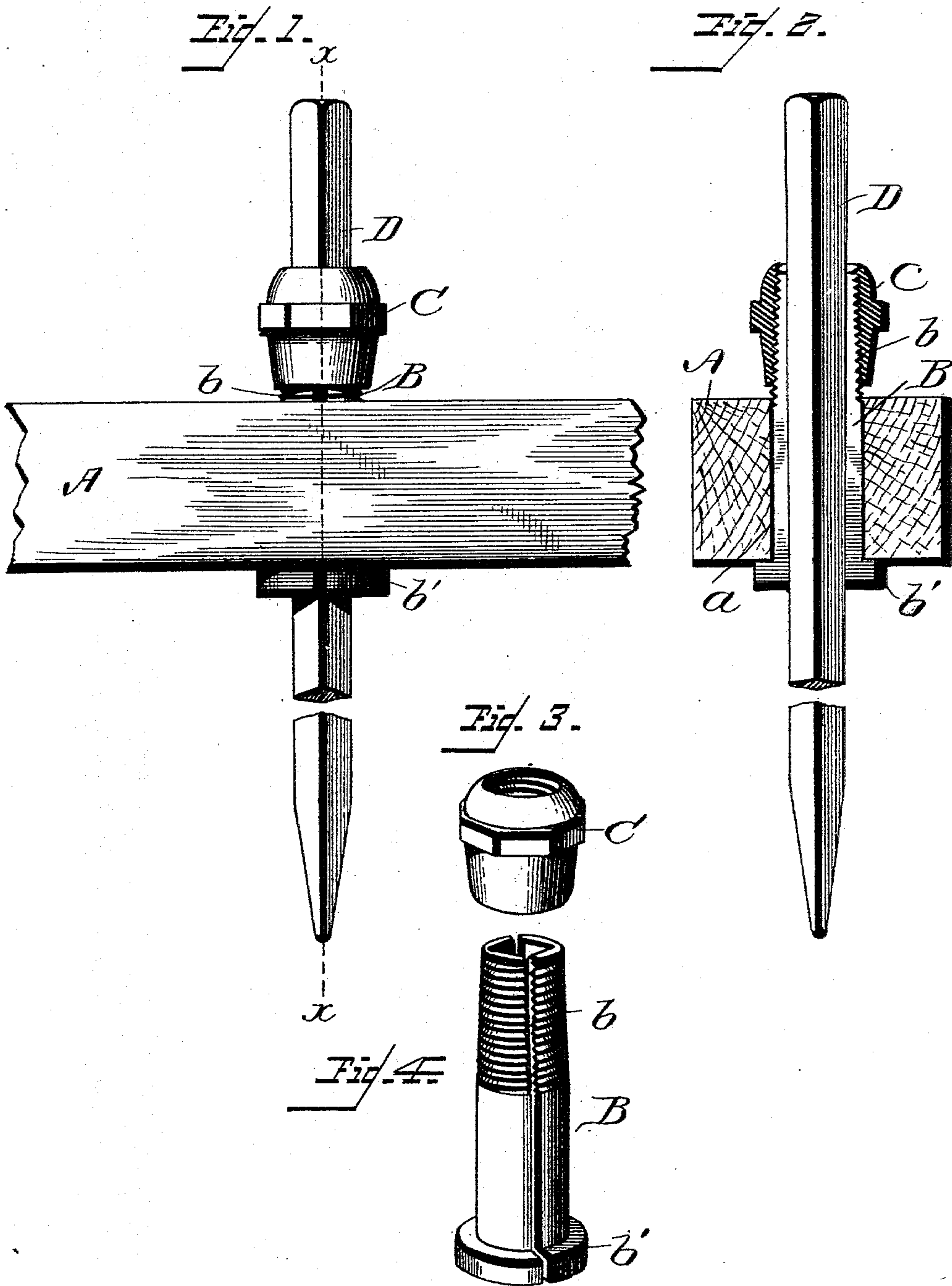


(No Model.)

G. M. BOWEN.  
HARROW TOOTH SOCKET.

No. 511,039.

Patented Dec. 19, 1893.



Witnesses  
*Wm. H. Scheiden.*  
*Sam. Buren Hillyard.*

Inventor  
*George M. Bowen.*  
By Attorneys *R. S. & A. P. Lacey*



# UNITED STATES PATENT OFFICE.

GEORGE MOODY BOWEN, OF TALBOTT, TENNESSEE.

## HARROW-TOOTH SOCKET.

SPECIFICATION forming part of Letters Patent No. 511,039, dated December 19, 1893.

Application filed October 27, 1892. Serial No. 450,107. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE MOODY BOWEN, a citizen of the United States, residing at Talbott, in the county of Jefferson and State of Tennessee, have invented certain new and useful Improvements in Harrow-Teeth; and I do hereby 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.

The object of the present invention is to provide a harrow tooth that can be readily applied to the frame of a harrow without requiring the services of an expert workman, and which can be readily detached for purposes of sharpening, straightening or replacing broken teeth by new ones at a moment's notice, and which can be readily adjusted in the frame or beam to project the required distance therefrom.

The invention consists of a socket suitably seated in the harrow frame or beam, and having a projecting portion which is exteriorly threaded, an internally threaded nut adapted to screw upon the projecting portion of the socket to effect a clamping of the harrow tooth which is thrust through said socket.

The invention also consists in having said socket constructed in separate and independent sections each section provided with a stop or shoulder to engage with the harrow frame or beam to limit the movement of the socket therein in one direction and insure a registering of the threads on the projecting portions of the socket sections.

The invention also further consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which—

Figure 1 is a side view of a portion of a harrow frame or beam showing the application of my invention thereto. Fig. 2 is a cross section on the line X—X of Fig. 1. Fig. 3 is a detail view of the nut. Fig. 4 is a detail view of the socket.

The frame or beam A is provided with an opening *a* of suitable size and construction to receive the socket B, which latter is inserted in said opening *a* from the under side of the frame or beam and has its upper portion pro-

jected above the top side of said frame or beam and exteriorly threaded, as shown at *b*, to receive an interiorly threaded nut C which is adapted to screw upon the threaded portion *b* of the said socket. This socket is preferably composed of separate and independent sections which may be cheaply formed by casting, and which may be compressed by turning the nut C upon the threaded portion *b* so as to bring said sections into closer relation and cause them to bind upon the sides of the harrow tooth D. There may be as many of these sections as may be found expedient and convenient in the cost of construction and the assembling of the parts. Practical demonstration has shown that to provide and form the socket of two similarly constructed sections, each being a half of the socket, give the best results. The form of the opening through the socket will depend upon the nature and formation of the harrow tooth D. Should the latter be round in cross section the opening to the socket will be of a corresponding shape. Inasmuch as harrow teeth as generally provided are square in cross section, this form has been deemed best for sake of illustration. Hence the opening through the socket in the present instance is square to conform to the outline of the harrow tooth in cross section. Each half section of the socket is provided with a V-shape groove or channel to receive and engage with two contiguous sides of the harrow tooth. The socket is provided with a shoulder or stop *b'* which engages with the under side of the frame or beam and limits the upward movement of the socket and at the same time causes the thread on the upper portion of the sections thereof to register.

The nut C may be of any desired construction and is adapted to screw upon the threaded portion *b* of the socket to cause the same to bind against the sides of the harrow tooth and clamp the latter in a desired position. This nut will be of suitable formation to receive an instrument or tool by means of which it can be forcibly turned in either direction to effect the desired result. The projecting portion *b* of the socket is tapering and the opening through the nut will be of corresponding taper to effect a clamping of the sections against the sides of the harrow tooth when screwing home said nut.



In assembling the parts the harrow frame or beam will be provided at the proper point with suitable openings to receive the socket, which latter will be thrust into the opening 5 from the under side of said frame or beam, being limited in its movement by the shoulders or stops  $b'$  of the sections engaging with the under side of said frame or beam. The nut C is screwed lightly upon the threaded 10 portion  $b$  and the harrow tooth D is thrust through the socket to the required position after which the nut C is screwed tightly to clamp the tooth in place. Should it be required at any time to remove the tooth for 15 any purpose or to adjust the same, the nut C is loosened which releases the tooth and the latter can be removed or readily adjusted to a new position and will be securely held in place by again tightening the said nut. The 20 harrow tooth may be of uniform thickness throughout its length or slightly tapering and the opening through the socket may or may not be of corresponding form, but the best results are obtained by having the harrow tooth 25 and opening through the socket of corresponding shape. Thus if the tooth is of uniform thickness throughout its length the opening through the socket should be of uniform size,

and should said tooth be slightly tapering the opening through the socket ought to be of a 30 corresponding taper. By this arrangement the entire surface of the socket opposite the tooth will be in frictional engagement therewith and prevent accidental slipping of the tooth provided nut C is screwed up tightly. 35

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is —

The combination with a beam having opening  $a$ , of a socket composed of separate and 40 independent sections thrust through said opening, each section having a stop  $b'$  to limit the upward movement of said sections, and having the upper portion threaded and projected beyond the top side of said beam, a 45 tooth thrust through the socket, and a nut to screw upon the threaded end of said sections to hold them together and clamp the tooth, substantially as set forth.

In testimony whereof I affix my signature in 50 presence of two witnesses.

GEORGE MOODY BOWEN.

Witnesses:

I. P. DANIEL,

W. W. SUNDERLAND.