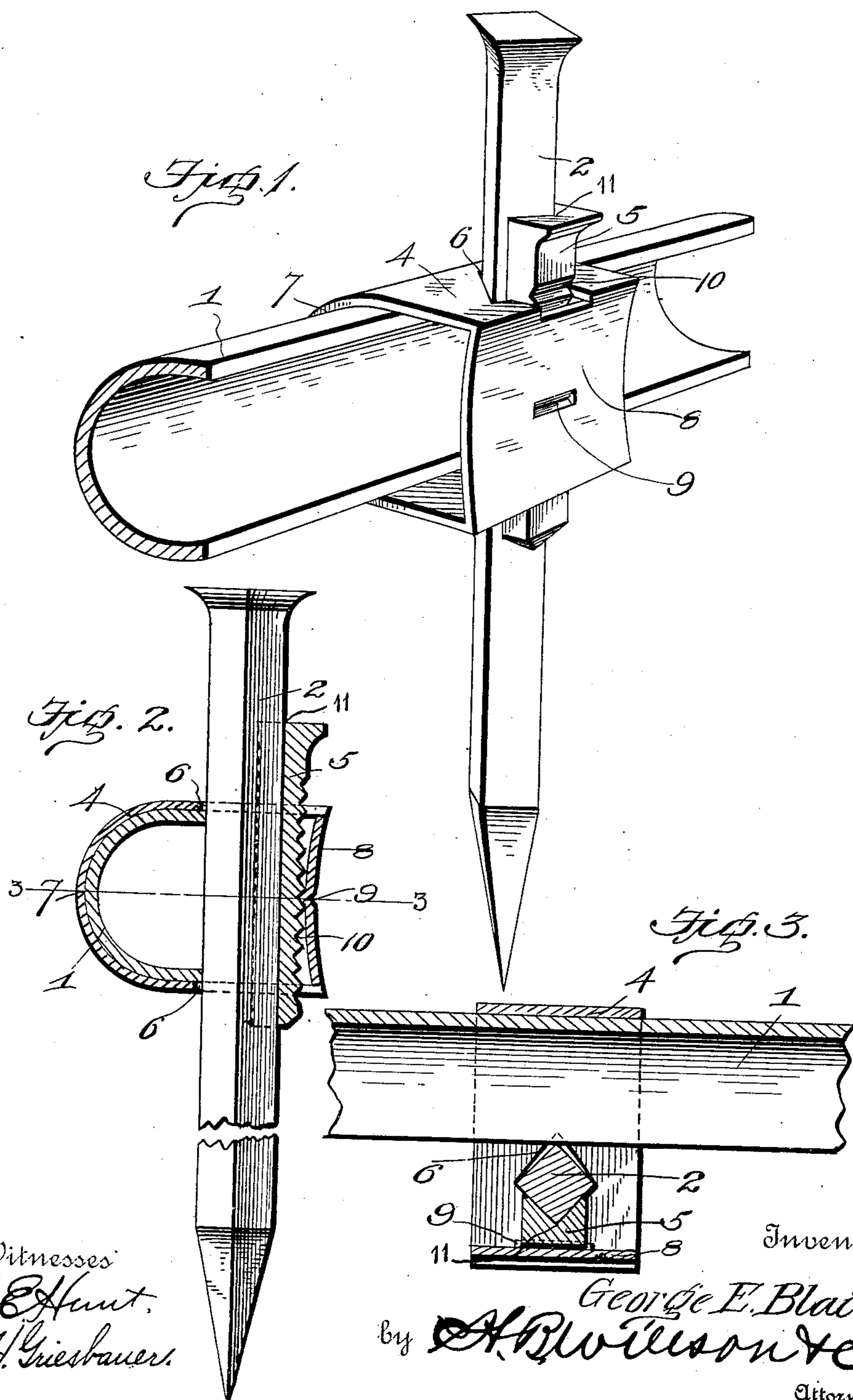


No. 829,906.

PATENTED AUG. 28, 1906.

G. E. BLAINE.
HARROW TOOTH FASTENING.
APPLICATION FILED MAY 21, 1906.



UNITED STATES PATENT OFFICE

GEORGE E. BLAINE, OF INDIANAPOLIS, INDIANA.

HARROW-TOOTH FASTENING.

No. 829,906.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed May 21, 1906. Serial No. 317,979.

To all whom it may concern:

Be it known that I, GEORGE E. BLAINE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Harrow-Tooth Fastenings; 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.

My invention relates to improvements in harrow-tooth fasteners; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

The object of the invention is to improve and simplify the construction of devices of this character, and thereby render the same more durable and efficient and less expensive.

The above and other objects, which will appear as the nature of the invention is better understood, are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of the tooth-bar of a harrow, showing a spike-tooth secured thereto in accordance with my invention. Fig. 2 is a vertical transverse sectional view through the same, and Fig. 3 is a horizontal sectional view taken on the plane indicated by the line 3 3 in Fig. 2.

Referring to the drawings by numeral, 1 denotes a portion of one of the usual tooth-bars of a harrow, which bar, as here shown, is made of metal and is of U form. The numeral 2 denotes one of the usual spike-teeth, which is secured upon the bar 1 by means of a clip or band 4 and a wedge-key 5. The spike-tooth 2 is rectangular in form and extends through alining openings 6, formed in the top and bottom of the band 4, which latter is of D shape, its curved portion 7 fitting around the curved outer face of the U-bar 1 and its vertical side 8 being curved inwardly to a slight extent, as clearly shown in Fig. 2 of the drawings. The band is made of resilient metal, and in its side 8 is stamped a depression, which forms upon the inner face of said side a projection or detent 9, which is adapted to engage one of the transversely-extending notches or grooves 10, formed in the flat outer face of the wedge-key 5. The latter is inserted through the openings 6 in the top and bottom of the band 4 and has in its inner face a longitudinally-

extending V-shaped groove 11 to fit or receive one of the angular edges of the spike-tooth 2. The opposite angular edge of the tooth engages the upper and lower longitudinal edges of the U-bar 1, the openings 6 being of sufficient size to permit this, as will be seen upon reference to Fig. 3 of the drawings.

The construction, operation, and advantages of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings. It will be seen that in mounting the tooth upon the bar 1 the clip or band 4 is first slipped thereon to the desired position, and the tooth is then inserted through the opening 6 in said band. The tapered or wedge key 5 is then forced downwardly through the opening 6 in the band, with its groove 11 engaged with the tooth 2 and its flat outer face engaged with the inner face of the curved portion 8 of the band. As the key 5 is driven downwardly by blows upon its top or head the teeth formed by the notches or grooves 10 will successively pass the detent or projection 9, the resiliency of the curved portion 8 of the band permitting this, until the tooth is firmly wedged between the edges of the U-bar and said key, so that it will be effectively clamped in its proper position with respect to said bar. The device is of simple, durable, and inexpensive construction, so that it may be manufactured at a comparatively small cost, and it will permit the teeth to be quickly and easily applied, removed, or adjusted.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined by the appended claims.

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

1. In combination with a harrow-bar, a holder embracing the bar, projecting from one side thereof and having openings in and a detent on said projecting side, a harrow-tooth and a retaining-key therefor, in said openings, said key being engaged and secured in place by said detent, substantially as described.

2. The combination with a bar, of a harrow-tooth, a holder therefor upon said bar, a wedge-key for securing said tooth in said holder and formed with a series of seats, and

a spring-detent upon said holder to engage the seats in said key.

3. The combination with a bar, of a harrow-tooth, a holder upon said bar apertured to receive said tooth and formed with a spring-detent, and a keeper inserted in said holder between said tooth and said detent.

4. The combination with a bar, of a band upon said bar having alining apertures and a spring-detent, a harrow-tooth passed through said apertures and engaged with said bar, and a wedge-key inserted in said apertures between said tooth and said spring-detent.

5. The combination with a bar, of a band upon said bar having alining apertures and a spring-detent, a harrow-tooth passed through said apertures and engaged with said bar, and a wedge-key inserted in said apertures between said tooth and said spring-detent, said tooth being angular in cross-section and said key having a longitudinally-extending groove to receive one angular edge of said tooth.

6. The combination with a bar, of a band surrounding the same and having alining apertures in its top and bottom and an in-

wardly-curved, resilient side formed with an inwardly-extending detent or projection, a harrow-tooth passed through said alining apertures, and a wedge-key passed through said apertures between said tooth and said detent, said key having notches to receive said detent.

7. The combination with a channel-bar, of a band surrounding the same and formed with alining apertures in its top and bottom and with an inwardly-curved, resilient side having an inwardly-extending detent or projection, an angular harrow-tooth passed through said apertures and engaged with said bar, and a wedge-key passed through said apertures and having a longitudinal groove to engage said tooth, and transverse notches to receive said detent or projection, substantially as shown and described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE E. BLAINE.

Witnesses:

GRACE YOUNG,
C. M. HUMES.