No. 841,082. PATENTED JAN. 8, 1907.

C. E. FREEMAN.

HARROW TOOTH FASTENER.

APPLICATION FILED JUNE 26, 1906.

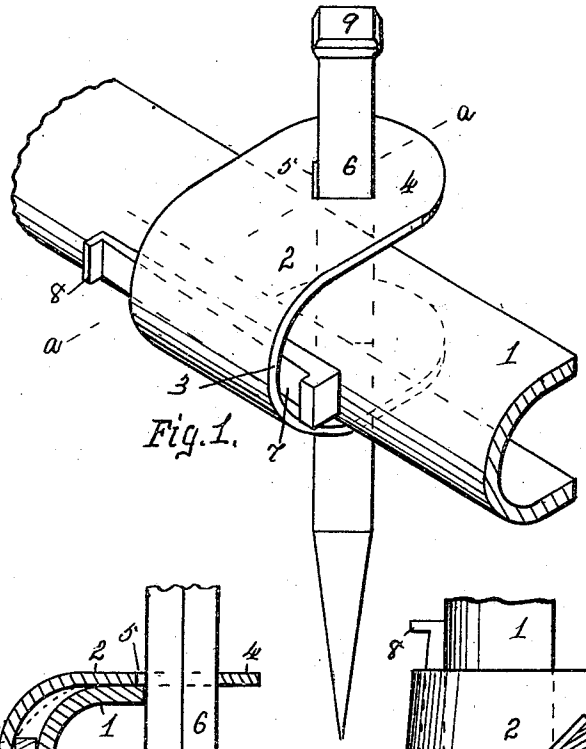


Fig. 1.

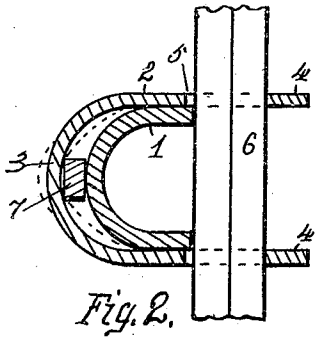


Fig. 2.

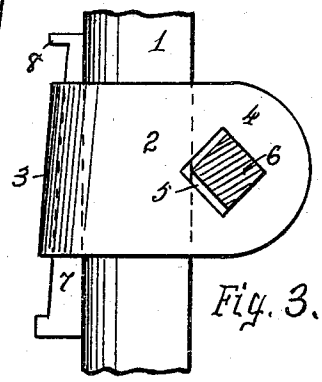


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

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HARROW-TOOTH FASTENER.

No. 841,082. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed June 26, 1906. Serial No. 323,467.

To all whom it may concern:

Be it known that I, CLAUDE E. FREEMAN, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented a new and useful Improvement in Harrow-Tooth Fasteners, of which the following is a specification.

My invention relates to harrow-tooth fasteners; and the objects of my improvement are to provide means for removably securing the teeth to the tooth-bars and in different transverse or horizontal positions of adjustment thereon and to dispense with the usual clamping-bolts and bolt-holes in the tooth-bars. These objects are attained in the following described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is an isometrical view of a harrow-tooth fastener embodying my improvement; Fig. 2, a vertical section on the line *a a* of Fig. 1, and Fig. 3 a plan.

In the drawings, 1 represents a tooth-bar, preferably U-shaped in cross-section, and 2 a tooth clamp or clip consisting of a single piece of preferably resilient metal. Said clip consists of a single piece of thin resilient metal formed with a central bend 3 and with its end portions terminating beyond the face of the bar in parallel wings 4. Said wings are each provided with a rectangular opening 5 in registration with the other and quartering to the direction of the tooth-bar. A rectangular tooth 6 is loosely movable through said openings, with one of its corners contiguous to the face of the bar. A narrow wedge or taper key 7, interposed between the rear curved portions of the clip and bar, serves to elongate the curvature of the clip, and thereby yieldingly maintain the tooth against the face of the bar in any desired longitudinal or transverse positions of adjustment thereon. Said key is preferably provided with a toe 8 to prevent it from getting lost or being removed without first removing either the tooth or the bar from the clip, and said tooth is provided with a head 9 to prevent it from passing through the openings in the clip and getting lost should the key become accidentally loosened during use.

In operation when the key is loosened the tooth may be adjusted through the openings in the clip as desired, and also the clip with the tooth may be adjusted longitudinally along the bar. The key serves to securely fasten the clip and the tooth with one of its corners immovably against the front edge of the bar, and the slight elongation of the curved portion of the clip thereby, as shown in dotted lines in Fig. 2, causes it to form a yielding resistance to the removal of the key or the movement of the tooth through the clip or along the bar. Said yielding resistance of the clip compensates for the expansion or contraction of the parts when exposed to different temperatures and prevents them from becoming loosened by exposure to extreme changes of weather.

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

1. The combination of a tooth-bar, a clip consisting of a single piece of thin resilient metal formed with a central bend adapted to partially encircle the bar and with parallel wings which terminate beyond the face of the bar, said wings being each provided with a rectangular opening in registration with the other and quartering to the direction of the bar, a headed rectangular tooth longitudinally adjustable through the openings, and a narrow wedge provided with a retaining-toe and interposed between the curved portion of the clip and the rear side of the bar, whereby the curvature of the clip may be elongated and the clip and tooth thereby yieldingly maintained in adjusted positions on the bar.

2. The combination of a U-bar, a clip formed of resilient metal and adapted to encircle three sides thereof, said clip terminating its ends in parallel wings beyond the face of the bar and said wings being provided with rectangular openings in registration with each other, and set quartering to the face of the bar, a tooth formed rectangular in cross-section and provided with a head, said tooth being adjustable through the openings, and a wedge interposed between the clip and rear face of the bar for yieldingly clamping the tooth with one of its corners in contact with the face of the bar.

CLAUDE E. FREEMAN.

Witnesses:
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R. S. CARR.