

E. M. RICH.
HARROW TOOTH FASTENER.
APPLICATION FILED JUNE 11, 1908.

942,412.

Patented Dec. 7, 1909.

Fig. 1.

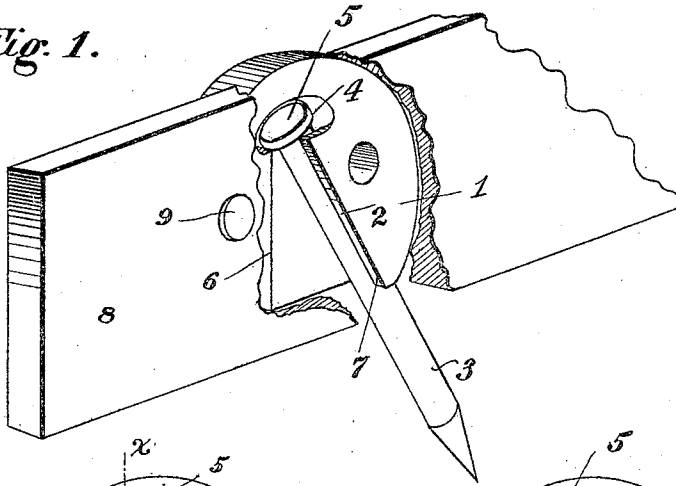


Fig. 2.

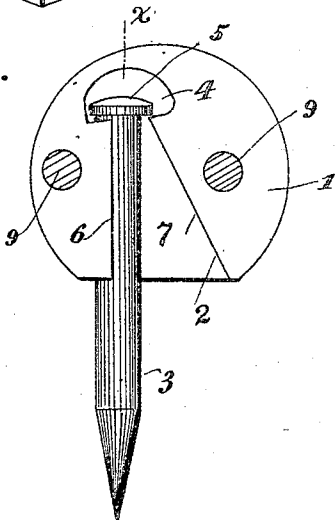


Fig. 3.

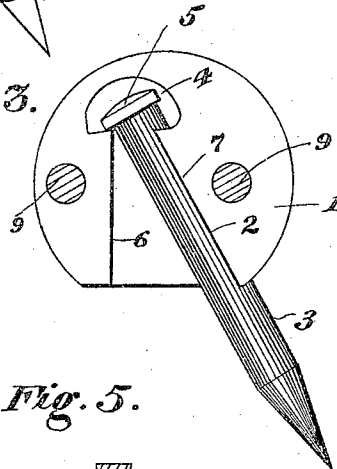


Fig. 5.

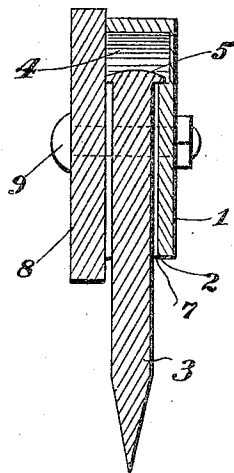
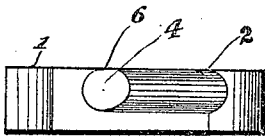


Fig. 4.



Inventor

E. M. Rich

Witnesses

W. P. Woodson.

By

Shanacey, Attorneys

UNITED STATES PATENT OFFICE.

EARL M. RICH, OF GLIDDEN, IOWA.

HARROW-TOOTH FASTENER.

942,412.

Specification of Letters Patent.

Patented Dec. 7, 1909.

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To all whom it may concern:

Be it known that I, EARL M. RICH, citizen of the United States, residing at Glidden, in the county of Carroll and State of Iowa, have invented certain new and useful Improvements in Harrow-Tooth Fasteners, of which the following is a specification.

The present invention provides a novel fastening for securing the teeth of harrows to the supporting beams or bars in such a manner as to admit of the teeth turning to clear themselves of trash and to move so as to stand either perpendicular or at an angle according as the harrow is to be used for smoothing or scratching.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which:

Figure 1 is a perspective view of a harrow tooth fastener embodying the invention, showing the same applied to a beam or bar. Fig. 2 is a view in elevation of a fastener detached from the beam or bar, showing the tooth in perpendicular position. Fig. 3 is a view similar to Fig. 2, showing the tooth inclined. Fig. 4 is a view of the fastener inverted, as seen from the lower edge, the tooth being removed. Fig. 5 is a vertical section on the line $x-x$ of Fig. 2.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The fastener consists of a body 1 preferably of circular outline and of flattened form, said body having a tapered recess 2 in one side in which the tooth 3 is fitted, said recess being enlarged at 4 to receive the head 5 of the tooth 3. One wall 6 of the recess 2 is vertical, whereas the opposite wall 7 is inclined. The walls 6 and 7 are transversely curved to conform to the circular outline of the tooth 3 so as to form sides to receive the tooth and thereby prevent lateral strain which would tend to force the body 1 away from the beam or bar 8 to which it is

attached. The enlarged portion 4 at the upper end of the recess 2 is of a size to receive the head 5, and yet admit of the tooth 3 both turning and oscillating to change its position automatically according to the result to be attained. A turning of the tooth about its axis permits of the same clearing itself of trash and accumulations, whereas the oscillatory movements permits the tooth either to occupy a vertical or an inclined position, as indicated in Figs. 2 and 3, depending upon the particular use of the harrow, whether designed for smoothing or scratching.

The tooth 3 is cylindrical in form and provided with a circular head. The width of the recess 2 corresponds approximately to the diameter of the tooth, thereby preventing any appreciable lateral play of the tooth, while permitting the same to turn freely and to oscillate.

The body 1, when in position, is placed with the open side of the recess 2 against the beam or bar 8, the latter closing said open side and serving to retain the tooth in place. Bolts, rivets or other fastenings pass through registering openings formed in the body 1 and part 8 and secure the same.

A harrow embodying the invention is self-clearing and is reversible. When drawn in one direction, the teeth stand vertical and when drawn in the opposite direction, the teeth incline. In the event of any trash catching upon the teeth, the latter turn and clear themselves without changing their relative position, thereby avoiding the necessity for suspending the operation and removing the accumulations by hand.

Having thus described the invention, what is claimed as new is:

The combination with a support, of a perforated substantially circular casting secured to the support and provided with communicating recesses opening through the bottom and one side thereof, the other side of the casting at said communicating recesses being closed, the side walls of the lower recess being curved transversely to produce seating grooves disposed at an angle to each other, and the upper recess being smaller than and disposed at substantially right angles to the lower recess to produce oppositely disposed shoulders, a tooth free to rotate and oscillate in said recesses and having a cylindrical body portion adapted to enter the seating grooves of the lower recess and provided

with an enlarged head seated in the upper
recess and adapted to bear against said
shoulders, and fastening devices extending
through the perforations in the casting and
5 engaging the support for securing the cast-
ing in position thereon, said support form-
ing a closure for the open side of the casting.

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

EARL M. RICH. [L. s.]

Witnesses:

S. E. SCHNEPP,
J. C. SCOTT.