(No Model.)

W. HARTY.

HARROW TOOTH.

No. 337,951. Patented Mar. 16, 1886.

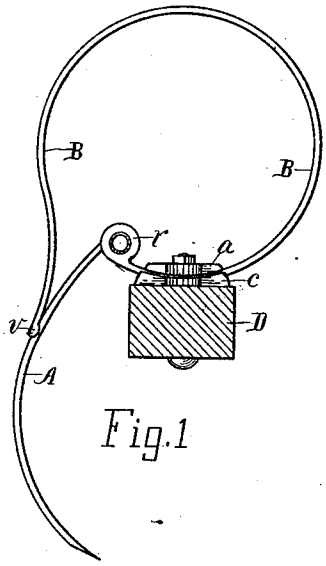

Fig. 1

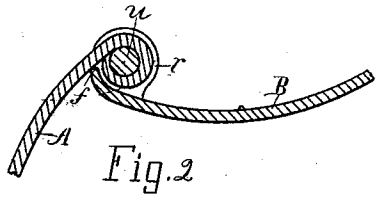

Fig. 2

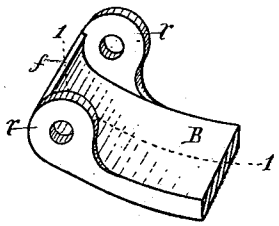

Fig. 3

Witnesses.
John C. Perkins
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UNITED STATES PATENT OFFICE.

WILLIAM HARTY, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO NEHEMIAH CHASE, FREDERICK A. TAYLOR, MARSHALL B. SHAW, AND FRANK J. HENRY, OF SAME PLACE.

HARROW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 337,951, dated March 16, 1886.

Application filed October 13, 1885. Serial No. 179,773. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HARTY, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Harrow-Tooth, of which the following is a specification.

This invention relates to that well-known class of harrows in which a bowed spring acts upon or in conjunction with a hinged tooth.

The invention has for its object certain improvements below described and claimed.

In the drawings forming a part of this specification, Figure 1 is a side elevation with harrow-beam in cross-section. Fig. 2 is an enlarged section of the hinging portions of the tooth and spring in Fig. 1, and Fig. 3 is an enlarged perspective view of the hinging eye at the end of the spring.

Referring to the letters of reference marked on the drawings, D is the harrow-beam; A, the hinged tooth; and B, the bowed spring, the free end of which rests and bears against the rear side of the share in the ordinary manner of this class of harrows.

In Fig. 1, *a c* show the ordinary seat and clip for adjustably securing the bow of the spring B on the harrow-beam D. It will be observed that the spring extends rearward and upward from its contact with the harrow-beam, where it terminates in a peculiarly-formed hinging-eye. This eye is made by turning the end *f* abruptly in a shorter curve than the curve of the spring, and by walling up the sides of said abrupt curve with the eyed lugs *r r*, thus forming a hollow socket adapted to receive the eye of the tooth A, which eye is turned in an under curve from the top of tooth and conforms in exterior shape to the hollow of the socket. Thus the lugs *r r* hold the eye end of the tooth from lateral displacement, a large portion of the draft-strain comes on the abruptly-curved wall of the socket, and the upper end, *f*, between the lugs *r r*, constitutes a stop to limit the forward swing or movement of the tooth, Fig. 2. An ordinary hinging-bolt, *u*, is passed through the lugs *r r* of the spring and the eye of the tooth.

Such a construction is simple, the operation greatly facilitated, and it secures economy in the saving of surplus steel and brackets and castings heretofore employed as means of connecting the tooth with the spring or harrow-beam, and of preventing the forward tilt or swing of the tooth.

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

The bowed spring having its end extending rearwardly from its contact with the harrow-frame and curved abruptly upward, forming a concavity, and provided with eyed lugs walling up the sides of said concavity, in combination with a non-elastic tooth having its hinging-eye formed by turning the end of the tooth under, whereby the tooth contacts with the end of the spring between the eyed lugs, preventing said tooth from tilting unduly forward, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

WILLIAM HARTY.

Witnesses:
JOHN C. PERKINS,
LACELLE J. STRAIT.