

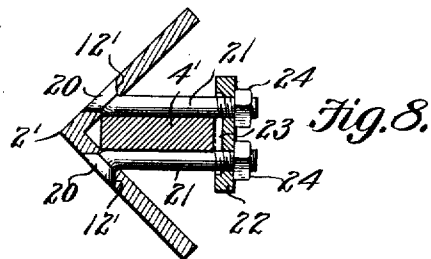
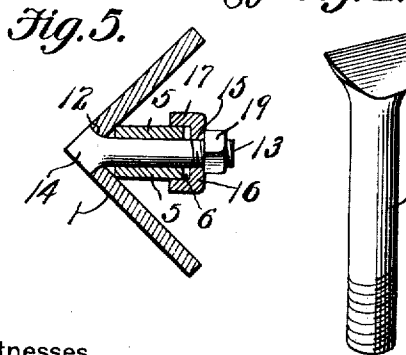
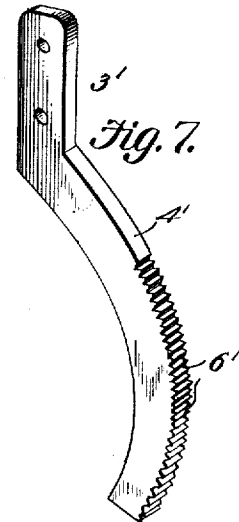
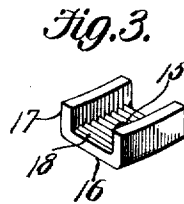
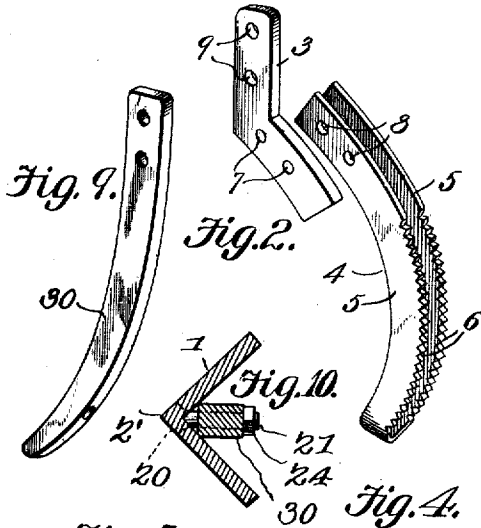
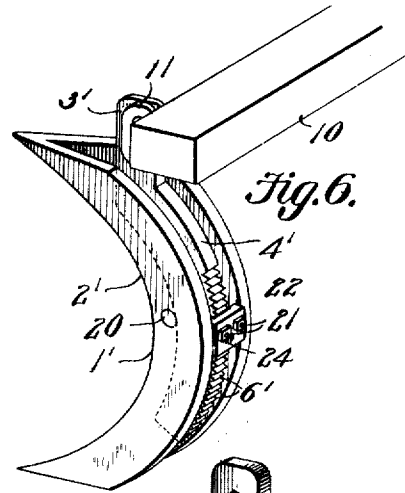
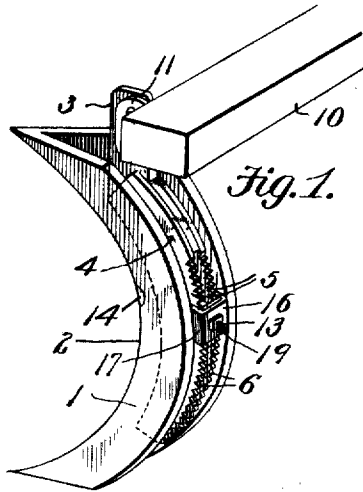
No. 829,562.

PATENTED AUG. 28, 1906.

H. WERTH & F. W. FRENCH.

CULTIVATOR TOOTH.

APPLICATION FILED DEC. 11, 1905.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY WERTH AND FREDRICK WILLIAM FRENCH, OF OAKLAND,
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CULTIVATOR-TOOTH.

No. 829,562.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed December 11, 1905. Serial No. 291,319.

To all whom it may concern:

Be it known that we, HENRY WERTH and FREDRICK WILLIAM FRENCH, citizens of the United States, residing at Oakland, in the county of Alameda and State of California, have invented a new and useful Cultivator-Tooth, of which the following is a specification.

This invention relates to that class of teeth or earth-engaging members for cultivators and kindred agricultural implements which are angular or V-shaped in cross-section and curved in the direction of their length, so as to be capable of reversal and of use in various positions.

The object of the present invention is to provide improved means for attaching teeth or blades of this character to the carrying beams or members, the special objects being to simplify and improve the construction and operation of such means and to facilitate the adjustment of the tooth or blade in connection with which said adjusting means is employed.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

The accompanying drawings illustrate simple and preferred forms of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be resorted to when desired.

In the drawings, Figure 1 is a perspective view showing a blade and the attaching and adjusting means assembled. Fig. 2 is a perspective view showing the two shank members of the attaching and adjustment means detached and disassembled. Fig. 3 is a perspective view of the clip used in connection therewith. Fig. 4 is a perspective view of the bolt used for assembling the parts. Fig. 5 is a horizontal sectional view showing the blade and the attaching and adjusting device assembled. Fig. 6 is a perspective view showing the blade in connection with a modified attaching and adjusting device. Fig. 7 is a perspective view showing the shank of

the modified device detached. Fig. 8 is a horizontal sectional view showing the blade and the modified attaching and adjustable device assembled. Fig. 9 is a detail perspective view showing a standard of ordinary construction. Fig. 10 is a horizontal sectional view showing the blade mounted upon the standard shown in Fig. 9.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The cultivator tooth or blade, which is designated 1, is angular or V-shaped in cross-section and is bent or curved so as to present a curved front cutting edge 2.

The attaching and adjusting device (illustrated in Figs. 1 to 5, inclusive) includes a shank 3 and a standard 4, the latter being composed of a strip of flat iron bent or doubled upon itself at the lower end or point and curved in the direction of its length, the convex rear edges of the side members 5 being serrated, as shown at 6. The shank 3 is angular, as shown, and the lower portion of said shank is inserted between the side members 5 of the standard and there secured by means of bolts or rivets, for the passage of which apertures 7 and 8 are provided. The upper portion of the shank has perforations 9 for the passage of securing members, whereby it may be fastened securely in operative position upon a beam 10, which is provided with lugs 11 for engagement with the shank.

The blade 1 is provided about midway of its length with an aperture 12 for the reception of a bolt 13, having a wedge-shaped head 14, which completely fits the outer end of the aperture and presents a perfectly-flush surface with relation to the surface of the blade, in which, owing to the shape of the head, the bolt 13 is incapable of turning. This bolt extends rearwardly between the side members 5 of the standard 4 and also through an aperture 15 in a clip-plate 16, having side flanges 17, disposed adjacent to the outer sides of the side members 5, which latter are thus positively prevented from spreading. The clip-plate 16 is also provided with transverse ribs or serrations 18 upon its inner side, engaging the serrated portions of the rear edges of the side members 5, so that when the nut 19 is tightened upon the bolt the several parts will be connected immovably together in the position to which they have been ad-

justed. It is thus obvious that the blade or tooth may be raised or lowered with relation to the supporting standard and shank and be retained securely at any of its adjustments.

5 Under the modification illustrated in Figs. 6 to 8, inclusive, the cultivator tooth or blade, here designated 1', is of the same shape as the tooth 1. (Illustrated in Figs. 1 to 5, inclusive.)
 10 In this case, however, a shank 3' is employed which is extended so as to form a single standard 4', the rear edge of which is serrated, as shown at 6'. The upper portion of the shank 3' is adapted to be connected with a carrying-beam in precisely the same manner
 15 as the shank 3. The tooth or blade, however, is provided with apertures 12', extending through the sides thereof adjacent to the cutting edge 2' and countersunk for the reception of the heads 20 of bolts 21, which later
 20 lie adjacent to opposite sides of the standard 4', the heads being bent with relation to the shanks of the bolts, as will be clearly seen in Fig. 8, so that the faces of the heads will lie flush with relation to the sides of the
 25 tooth. The threaded ends of the bolts extend through a clip-plate 22, which is serrated upon its inner sides, as indicated at 23, to engage the serrated portion of the standard 4'. By tightening the nuts 24 upon the bolts 21
 30 the parts of the device will be very securely assembled.

In Fig. 10 of the drawings it has been shown how by the use of the special bolt 13 the blade 1 may be applied to or secured
 35 upon a standard of ordinary construction, here designated 30. The range of utility of the invention is thus obviously increased.

Having thus described the invention, what is claimed is—

40 1. A longitudinally-curved earth-engaging member, V-shaped in cross-section, in combi-

nation with a correspondingly-curved standard having serrations upon the rear edge thereof, and connecting means including
 45 headed members extending through the earth-engaging member, a clip-plate having serrations, and a tightening-nut.

2. A longitudinally-curved earth-engaging member V-shaped in cross-section and having a central countersunk aperture, in combination with a bifurcated standard having serrations upon the rear edge thereof, a bolt having a V-shaped head engaging the aperture in the earth-engaging member said bolt extending
 50 between the side members of the standard, a serrated clip-plate, and a tightening-nut. 55

3. A longitudinally-curved earth-engaging member V-shaped in cross-section, a shank having a bifurcated standard connected
 60 therewith said standard being curved to correspond with the curvature of the earth-engaging member and provided with serrations upon the rear edges of its side members, and connecting and adjusting means including a
 65 bolt and a clip-plate, the latter being flanged for exterior engagement with the outer sides of the shank members and transversely ribbed for engagement with the serrations upon the rear edges of the shank members. 70

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HENRY WERTH.

FREDRICK WILLIAM FRENCH.

Witnesses as to Henry Werth:

JNO. J. HOWLEY,

H. E. RIGGINS.

Witnesses as to Fredrick William French

JOHN P. COOK,

P. W. WESTHE.