

(No Model.)

J. H. HIGGINS.

ADJUSTABLE SPRING HARROW TOOTH AND FALSE POINT.

No. 362,626.

Patented May 10, 1887.

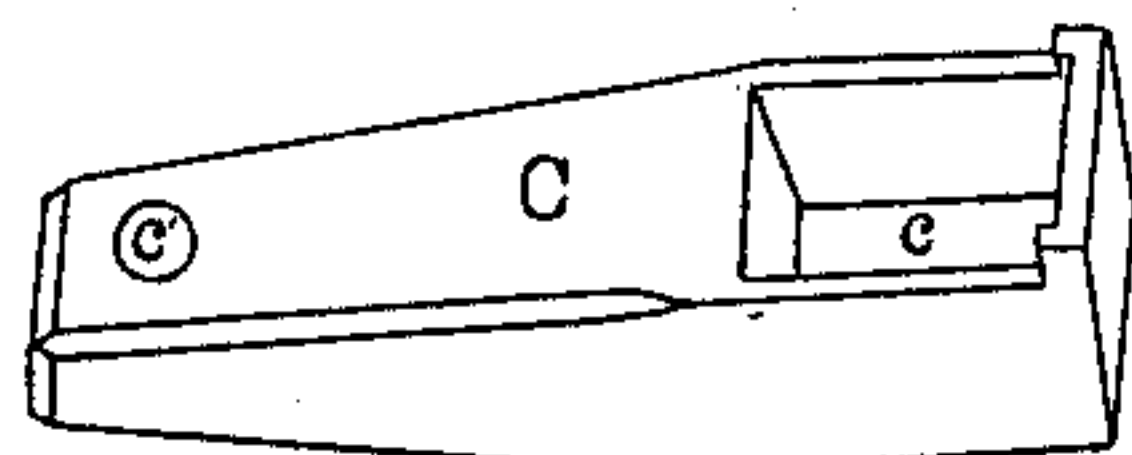
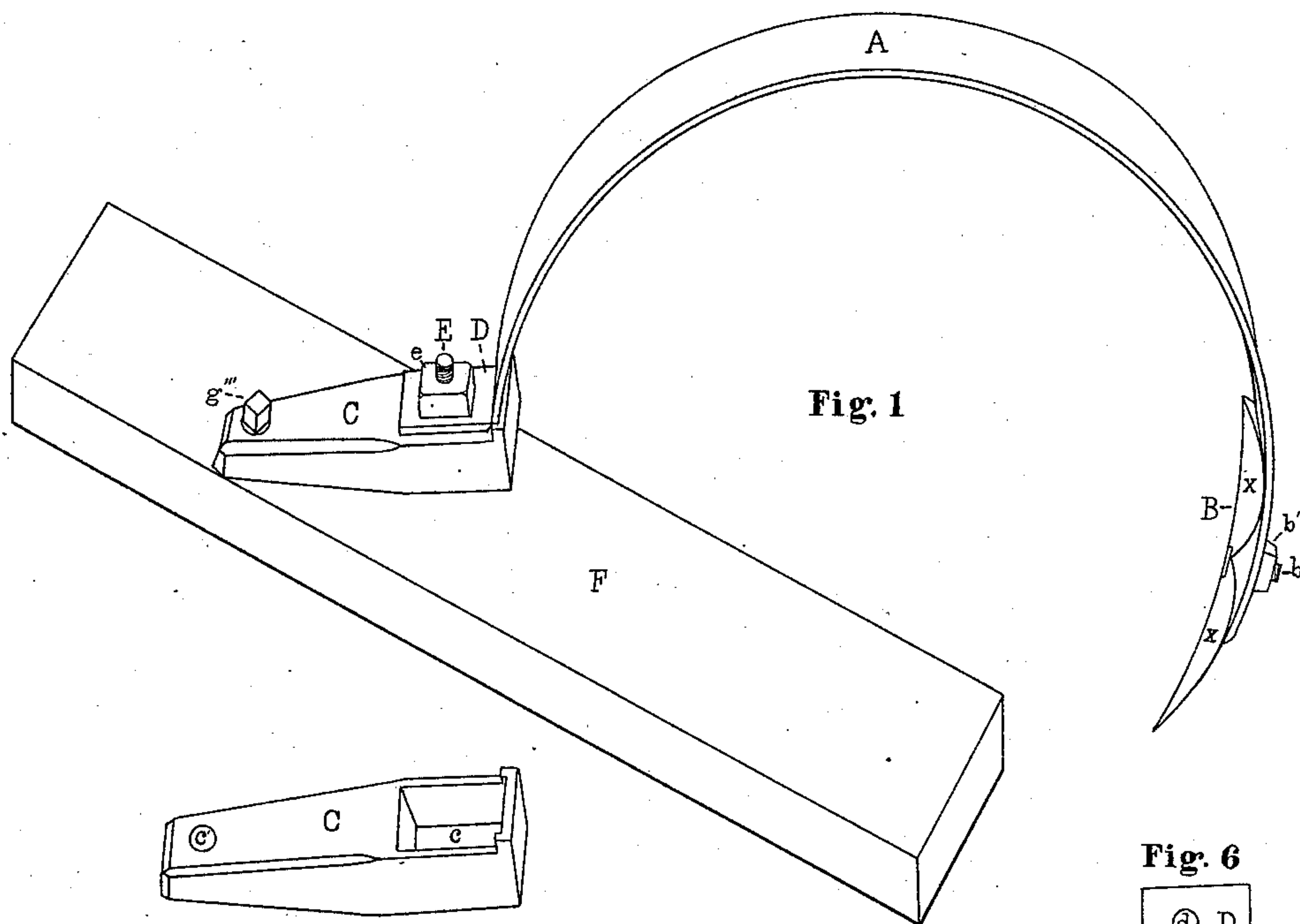


Fig. 4

Fig. 6

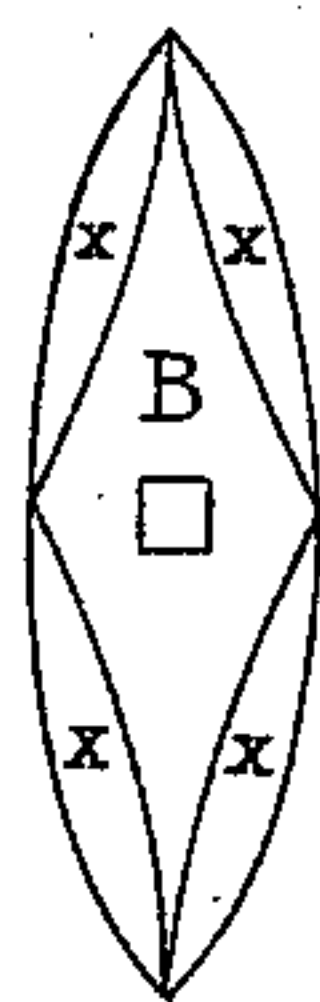
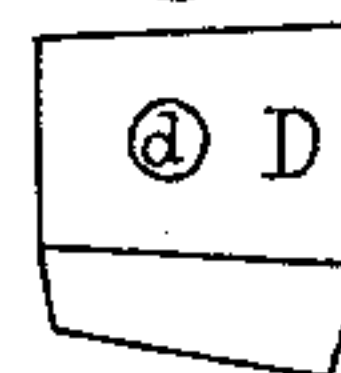


Fig. 2

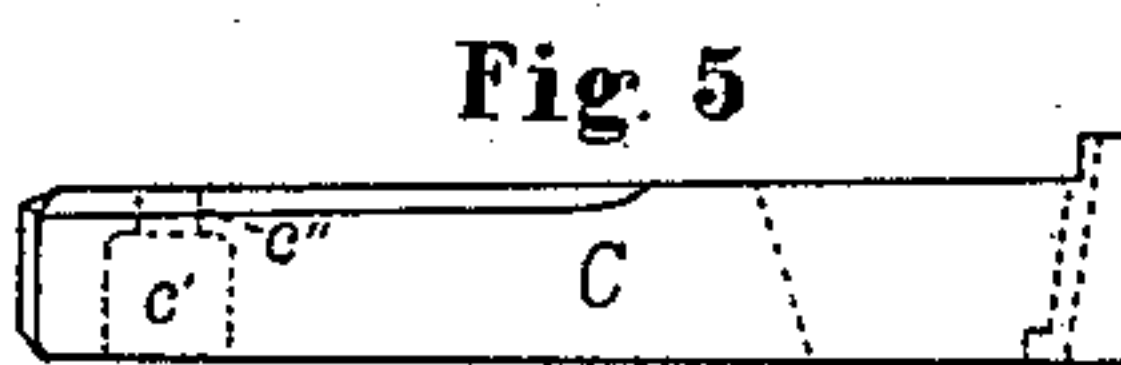


Fig. 5

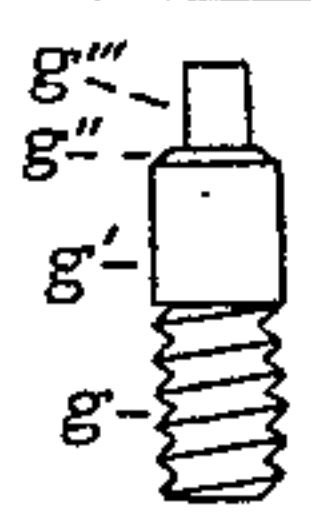


Fig. 7

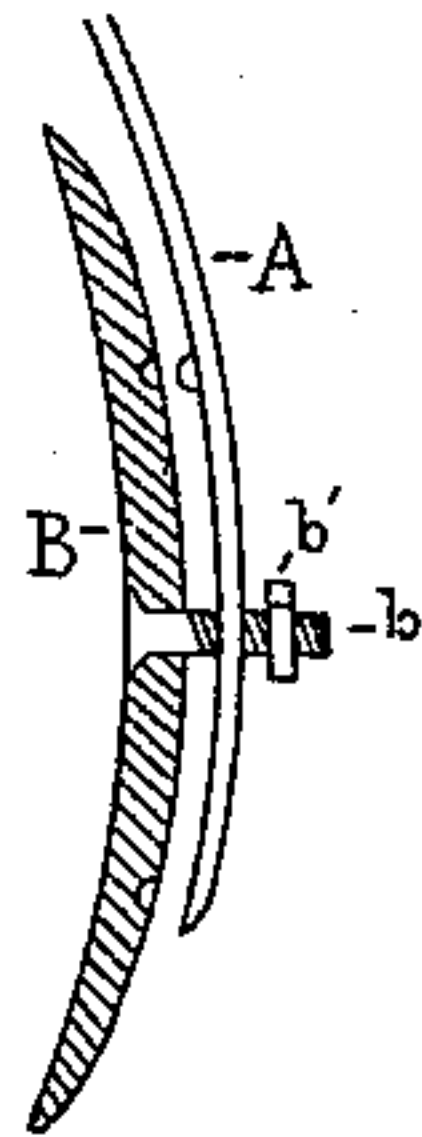


Fig. 3

Witnesses:
G. D. Stewart
M. H. Wardwell.

Inventor:
John H. Higgins
By J. R. Marm
Attorney.

UNITED STATES PATENT OFFICE.

JOHN H. HIGGINS, OF CHARLESTON, MAINE.

ADJUSTABLE SPRING HARROW-TOOTH AND FALSE POINT.

SPECIFICATION forming part of Letters Patent No. 362,626, dated May 10, 1887.

Application filed October 1, 1886. Serial No. 215,091. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HIGGINS, a citizen of the United States, residing at Charleston, in the county of Penobscot and State of Maine, have invented a new and useful Adjustable Spring Harrow-Tooth and False Point; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved adjustable spring-harrow-tooth and an improved adjustable reversible self-sharpening point for the spring-teeth of harrows, and is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a harrow-frame with spring-tooth attached by my device and having my point. Fig. 2 is a front elevation of my point. Fig. 3 is a section of the point of a spring-tooth and my point partially screwed together. Fig. 4 is a perspective view of foot-piece for holding spring. Fig. 5 is a side elevation of foot-piece. Fig. 6 is a perspective view of wedge-block. Fig. 7 is a side elevation of lag-screw.

Similar letters refer to corresponding parts throughout the several figures.

The objects of my invention are to provide a means of adjustably and removably securing spring-teeth to any common harrow-frame, attaching the butt-end of the spring-tooth to the frame in such a manner that the strength of the tooth may be unimpaired by bolt holes or slots, and to preserve the spring-tooth proper from the wear occasioned by friction as the point drags through the soil. The former object is accomplished by providing a foot-piece or step shaped and adapted to be bolted to the frame of any common harrow, and slotted to receive both the butt-end of the tooth and a wedge-block, by which the butt-end of the tooth is held in the slot. The former object is attained by providing a false point or shoe covering the point of the spring-tooth and bolted thereto in such a manner as to be quickly detached therefrom, and, if desired, reversed end for end, and so shaped, as hereinafter shown, that the friction incident to the dragging of the point through the soil shall continually operate to grind its edges sharp.

In the drawings I show an ordinary curved

spring-tooth, A. B is my false point. (Shown separately in Fig. 2.) It is of elongated elliptical shape and curved longitudinally to conform to the curve of the tooth A at the point where it is attached to said tooth. At its center, and upon the convex or back side, projects a stud, *b*, with screw-threaded point adapted to fit a corresponding bolt-hole near the point of the tooth A, to which the point B is removably secured by means of said stud or bolt *b* and a nut, *b'*. Other forms of attachment may be used, as desired, as clamps; but I prefer the means shown. As the parts of the point B extending lengthwise from the center are formed on the same curve, it is obvious that either end may be used upward or downward indifferently, and the point thus becomes reversible. Rotation of the point B is prevented by a spur, *a*, upon the inner face of the tooth A, fitting into a corresponding depression upon the back of the point B.

The forward or concave face of the point B may be beveled off at the four corners from both its longitudinal and transverse axes toward the outer edges, forming four facets X X X X, and, as these facets slant backward toward the outer edges of the point when the tooth is passing through the soil, the friction incident thereto serves constantly to grind the edges sharp. I further provide a foot-piece or step, C, having a slot, *c*, of such width as to receive the width of the spring-tooth A, and of such length as to receive the wedge-block D and the thickness of the tooth A. The walls of the slot *c* slant inwardly downward, to conform to a similar configuration of the sides of the wedge-block D, and permit the wedging of the tooth A in the slot. Through the wedge-block I form a bolt-hole, *d*. The butt-end of the tooth A being introduced into the slot *c* of the foot-piece C, the wedge-block D is fitted into the slot and against the tooth, and a bolt, E, with screw-threaded point extending through the frame F of the harrow from the under side, is passed through the bolt-hole *d* in the wedge-block D, and a nut, *e*, is screwed down upon it, thus tightly wedging the tooth in the slot *c* of the foot-piece C and firmly securing the foot-piece to the frame.

If desired, the extreme end of the tooth A may be bent under the wedge-block, as shown by dotted lines in Fig. 5.

The cant of the foot-piece C with reference to the frame F, and hence the cant or set of the tooth A, is effected and retained by means of a lag-screw, G, (shown separately in Fig. 7,) having a screw-threaded point, g , a smooth shank, g' , above the point and of a length somewhat less than the thickness of the foot-piece C, and a square head, g'' , above and of less diameter than the shank, a shoulder, g''' , being formed at the junction of the shank and the square head. As shown in Fig. 1, the point of the lag-screw is completely screwed into the frame F. The shank g' of the lag-screw passes into a corresponding bolt-hole, e' , in the foot-piece C, having a shoulder, e'' , (shown in Fig. 5,) which rests and bears upon the shoulder g'' of the lag-screw G, and the square head g''' , passing through the bolt-hole, projects above the top of the foot-piece C. To change the set of the spring-tooth A and depress its point, the nut e is loosened, and the square head g''' of the lag-screw G is grasped by a wrench and unscrewed. The lag-screw rises as it is unscrewed, and raises that end of the foot-piece C which rests upon the shoulder g'' of the lag-screw. To elevate the point of the tooth, the lag-screw is screwed down, after which the nut e is tightened.

It will be apparent that by my invention the spring-teeth can be readily applied to any common harrow-frame, and the expensive frames commonly used, specially with spring-teeth, dispensed with; that the entire strength of the metal at the butt-end of the spring-tooth is preserved, no slots or bolt-holes being formed therein; that the set of the tooth may be adjusted and secured as desired; that by means of my false point the point of the tooth proper is completely protected and preserved from wear; that the false point may be quickly removed if injured and either reversed or a new point substituted without interference with the tooth itself, and that the false point is constantly kept sharp by the ordinary operation of the harrow when in use.

A further advantage of my false point is that it permits the spring-tooth to be made of lesser width than when it is not used, and consequently when the false point is removed the narrower point of the spring-tooth proper will perform finer work than could otherwise be accomplished.

The false point may, if desired, be formed without the self-sharpening feature.

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

1. A device for adjusting the set or cant of the spring-teeth of harrows and adapted to be attached to a common harrow-frame, consisting of the combination of a foot piece or step formed to admit of the attachment of the spring-tooth, and to be secured to the harrow-frame by a bolt passing through the harrow-frame and one end of said step, and a lag-screw working in said frame, projecting in a square head through an aperture in the opposite end of said step, and having a shoulder bearing upon a corresponding shoulder in said aperture, substantially as described.

2. A device for holding the spring-tooth of a harrow and adjusting the set of said tooth, and adapted to be attached to a common harrow-frame, consisting of the combination of a foot piece or step slotted at one end to receive a wedge-block and the butt-end of the spring-tooth, a wedge-block shaped to fill said slot and bear upon said tooth, (said wedge-block and step being secured to the frame by a bolt passing through said frame and said wedge-block,) and a lag-screw working in said frame, projecting in a square head through an aperture in the other end of said step, and having a shoulder bearing upon a corresponding shoulder in said aperture, substantially as described.

JOHN H. HIGGINS.

Witnesses:

FRED A. THAYER,
FREDERICK M. LAUGHTON.