(No Model.)

L. SWEET.

SPRING TOOTH HARROW.

No. 358,950. Patented Mar. 8, 1887.

Fig. 1.

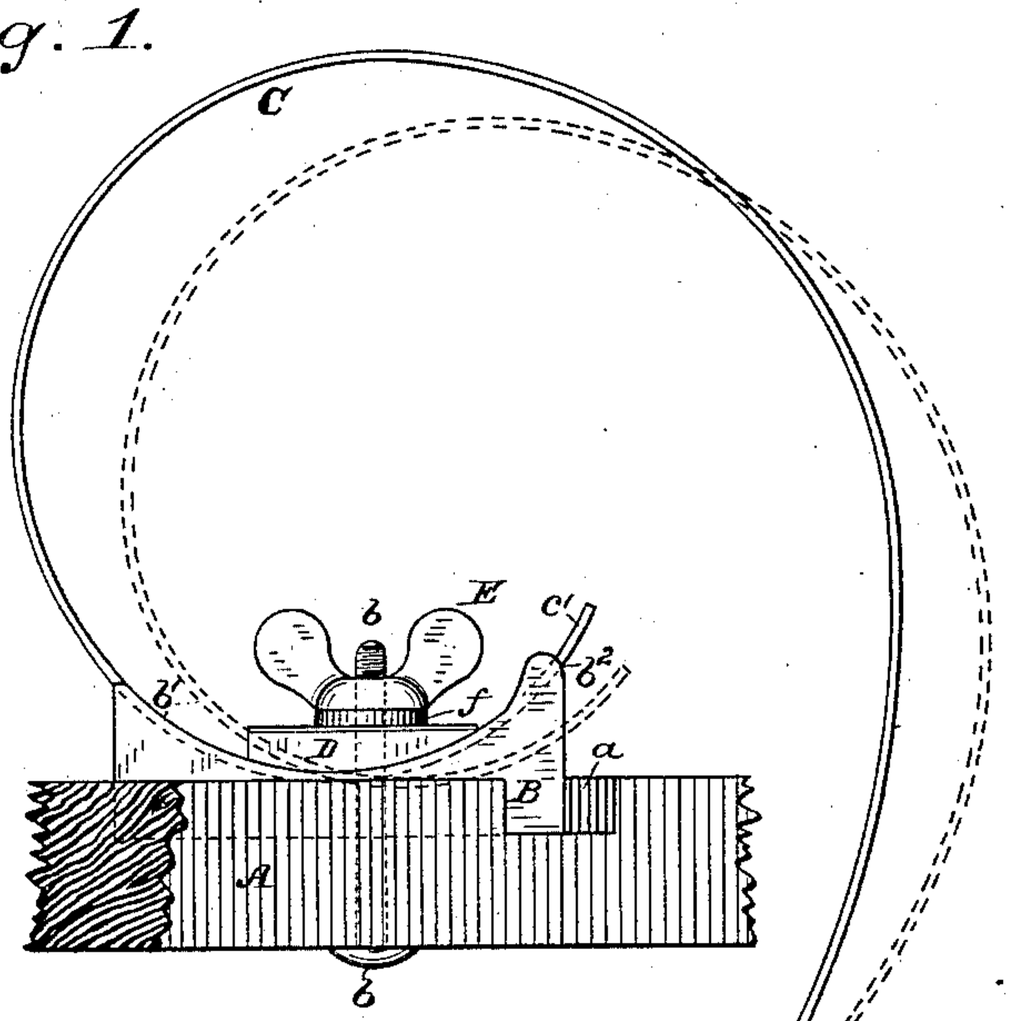


Fig. 2.

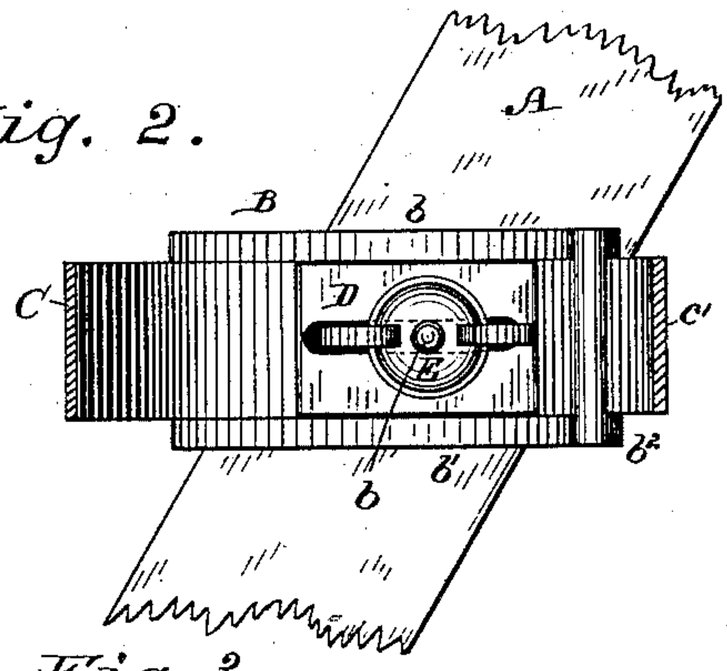


Fig. 3.

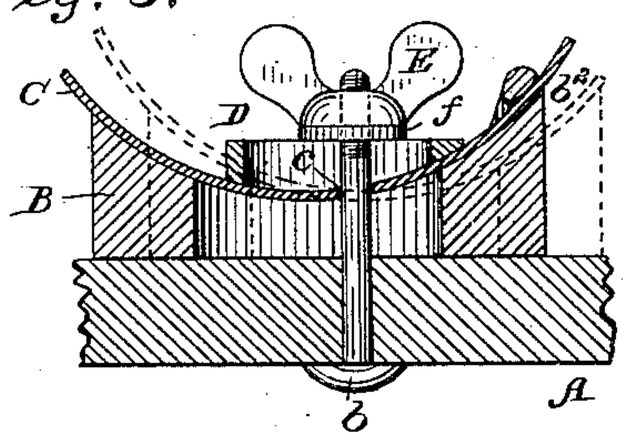


Fig. 4.

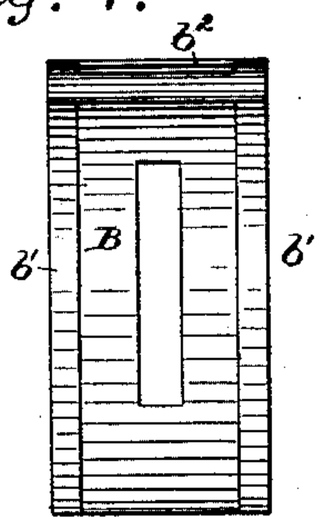
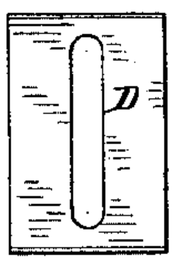


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

LEBBEUS SWEET, OF WELLSVILLE, NEW YORK.

SPRING-TOOTH HARROW.

SPECIFICATION forming part of Letters Patent No. 358,950, dated March 8, 1887.

Application filed November 15, 1886. Serial No. 218,862. (No model.)

To all whom it may concern:

Be it known that I, LEBBEUS SWEET, of Wellsville, Allegany county, New York, have invented an Improvement in Spring-Tooth Harrows, of which the following is a specification.

My invention relates specially to that class of. spring-tooth harrows in which curved arched spring harrow-teeth are secured upon one or more transverse beams or tooth-bars. I refer to the general type of harrow shown in the reissued patent of Garver, No. 8,142, of March 26, 1878.

The purpose of my invention is to provide an organization whereby the teeth may be adjusted with facility to raise and lower them or adjust their angle relatively to the soil. Various devices for this purpose have heretofore been patented.

In the accompanying drawings, Figure 1 is a view of a portion of a tooth-bar with one spring-tooth mounted thereon. Fig. 2 is a plan view of the same with the tooth cut away. Fig. 3 is a side elevation with the harrow-tooth cut away. Fig. 4 is a detail view of the sliding block or shoe in which the tooth is secured, and Fig. 5 is a detail view of the clamp-block or washer which holds the tooth in its seat.

The tooth-bar A has a slot, *a*, cut in its upper face, either at right angles or at any angle which may be desired, and in this slot a shoe, B, in which the harrow-tooth C is seated, slides. The shoe or block B is formed with a central longitudinal slot, through which a bolt, *b*, passes. The harrow-tooth is not slotted, but is merely provided with an aperture, *c*, through which the bolt *b* loosely passes. The upper end, *c'*, of the harrow-tooth is curved, as illustrated, to conform in general outline to the curved upper face of the shoe. At each edge the shoe is provided with vertical flanges *b'*, between which the end of the harrow-tooth lies, and at the right-hand end, as viewed in Fig. 1, there is a transverse slot, b^2, in the shoe, which forms a continuation of the curved seat in which the end of the harrow-tooth lies, and through which the end of the tooth passes.

A washer or clamp-block, D, also provided with a longitudinal slot, is placed over the end of the harrow-tooth, and the tooth-bar, shoe, tooth, and clamp-block or washer may be clamped together by a thumb-nut, E, which works upon the upper end of the bolt *b*. The full lines in the drawings indicate the harrow-tooth in one position—that is, with the point raised farthest from the earth. By loosening the thumb-nut and sliding the shoe to the right, as viewed in the drawings, the upper end of the tooth will be depressed, so that the tooth will be thrown into the position indicated by the dotted lines in Figs. 1 and 3. In this adjustment, as will be obvious, there is no endwise movement of the upper end of the tooth, but it merely rocks upon the bolt *b*. The tooth may readily be clamped in any position into which it may be thrown.

A washer, *f*, is preferably interposed between the clamp-block and the thumb-nut.

The means of adjustment above described may be employed in connection with any tooth having a curved upper end, whether it be a spring-tooth or otherwise, and, so far as the scope of the invention is concerned, it is immaterial whether the end of the tooth and sliding shoe be located upon the under face of the beam or upon its upper face, as shown.

I am aware that a tooth holder or socket formed with a countersink for the reception of the curved end of a spring-tooth is old, and do not broadly claim such subject-matter.

I claim as my invention—

1. The sliding shoe formed with a curved seat, in which the curved end of the harrow-tooth rests, and a slotted end through which the harrow-tooth passes, in combination with a tooth-bar and clamping devices, substantially as set forth.

2. The combination of the tooth-bar, a transversely-sliding shoe mounted on the upper face thereof, a curved seat in said shoe, a curved arched harrow-tooth, the upper end of which is seated in the shoe, means whereby the endwise sliding of the shoe rocks the curved arched tooth relatively to the bar, and devices for holding or locking the tooth in its adjusted positions.

3. The combination of a tooth-bar, a transversely-sliding shoe mounted thereon and having a curved face, a harrow-tooth the upper end of which is curved to correspond with the shoe and rests thereon, and holding devices

whereby the relation of the tooth to the soil is varied by the sliding of the shoe and the tooth locked in any adjusted position.

4. The combination of a tooth-bar, a transversely-sliding shoe, by the movement of which the relation of the harrow-tooth to the soil is varied, the shoe being formed with a depressed or countersunk tooth-seat, a spring harrow-tooth, the upper end of which lies in the countersunk seat in the shoe, and clamping devices, for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

LEBBEUS SWEET.

Witnesses:
F. H. FURMAN,
FRANK MACKEN.