

C. R. TAYLOR.
Harrow-Teeth.

No. 197,682.

Patented Nov. 27, 1877.

Fig. 1.

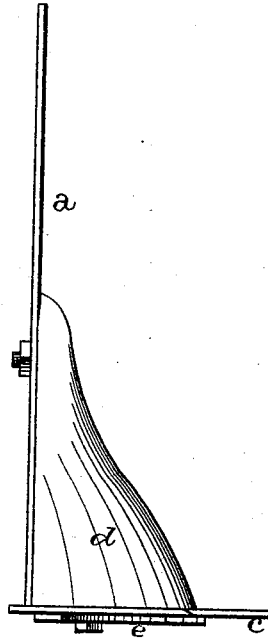


Fig. 2.

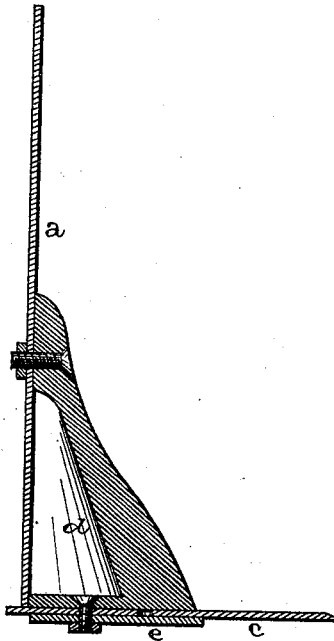


Fig. 3.

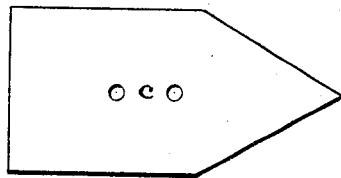


Fig. 4.

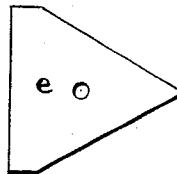
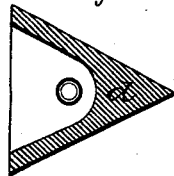


Fig. 5.



WITNESSES:

Wm. Garner,
A. S. D. Haines

INVENTOR:

C. R. Taylor,
J. A. Lehmann
Att'y

UNITED STATES PATENT OFFICE.

CARLO R. TAYLOR, OF SOUTH BEND, INDIANA.

IMPROVEMENT IN HARROW-TEETH.

Specification forming part of Letters Patent No. **197,682**, dated November 27, 1877; application filed October 27, 1877.

To all whom it may concern:

Be it known that I, CARLO R. TAYLOR, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Harrow-Teeth; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in harrow-teeth; and it consists in attaching the tooth to the lower end of the spring by means of a shoe, which is placed at the angle of the tooth and spring, and which serves to prevent the tooth from being clogged up by the earth, which would otherwise catch in the angle, as will be more fully described hereinafter.

Figure 1 is a side elevation of my invention. Fig. 2 is a vertical section of the same. Figs. 3, 4, and 5 are detail views.

a represents the spring, and *c* the harrow-tooth, the two being placed at right angles to each other, as shown. Placed in the angle formed by this spring and tooth is the shoe *d*, which is made triangular in cross-section, and has both of its front sides formed similar to the mold-board of a plow, so that the earth that is loosened by the tooth will be thrown off to each side without catching in the angle or against the front side of the spring, and thus clogging the action of the tooth. This shoe may be made hollow, as here shown, or solid, as may be preferred; and passing through its lower end, through the tooth and a plate or washer on the under side of the tooth, is a screw or bolt, by means of which the shoe and the tooth are rigidly secured together. Through the tooth are made two or more holes, so that it may be adjusted back and forth in relation to the shoe, and thereby change the angle at which the shoe stands to the spring. The washer *e* on the under side of the shoe braces and strengthens the tooth, and serves to prevent it from being broken should it catch behind some obstruction. Passing through the upper end of the shoe

and through the spring *a* is another bolt, by means of which the shoe and tooth are fastened to the spring.

Should it be desired to change the angle at which the tooth stands to the spring, it is only necessary to move the shoe forward to the front hole through the tooth, when it will be found that the hole through the spring will no longer come just even with the hole through the top of the shoe; and in order to fasten the shoe and tooth to the spring, they will have to be placed at an angle, as shown.

One great difficulty heretofore experienced with harrow-teeth in which there is anything of a curve or angle formed near the lower end is, that the dirt will enter in this curve or angle, and clog the action of the tooth to such an extent as to nearly ruin its efficiency. My invention not only overcomes this great defect, but also braces and strengthens the tooth, so as to make it stronger and better adapted for work of all kinds.

Having thus described my invention, I claim—

1. The shoe *d*, made triangular in cross-section, and placed in the angle of the spring and tooth, substantially as shown.

2. The triangular washer or plate *e*, secured to the under side of the tooth *c*, substantially as set forth.

3. The combination of the spring *a*, tooth *c*, and shoe *d*, the shoe being made triangular in cross-section, and serving to unite the tooth and spring together, substantially as described.

4. The combination of the spring *a*, tooth *c*, shoe *d*, constructed as described, washer *e*, and the bolts by means of which the parts are secured together, the tooth having two or more holes through it, so as to change its angle to the spring, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of October, 1877.

C. R. TAYLOR.

Witnesses:

EDWIN NICAR,
JOHN W. HARLOW.