(No Model.)

H. C. PRATT.

CULTIVATOR TOOTH.

No. 374,130. Patented Nov. 29, 1887.

Fig. 1

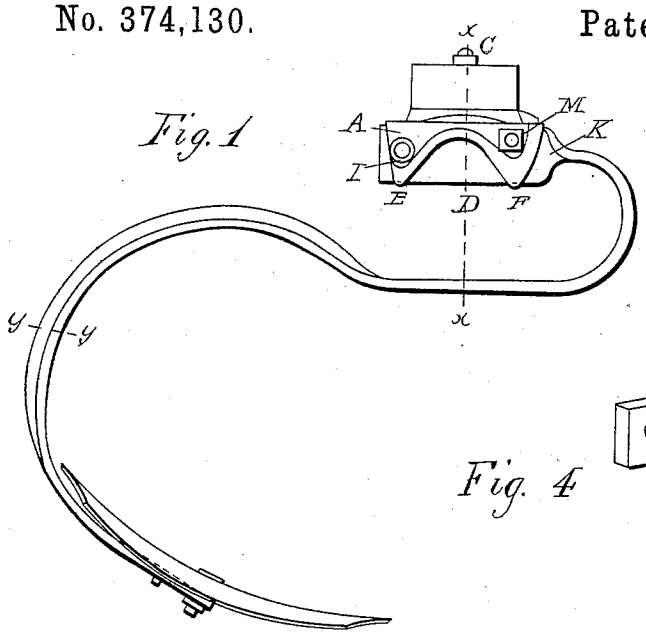


Fig. 3

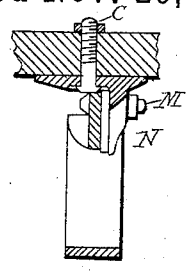


Fig. 4

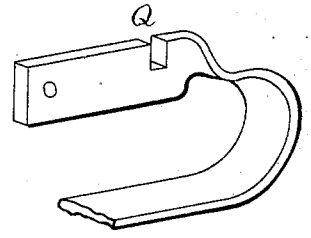


Fig. 2

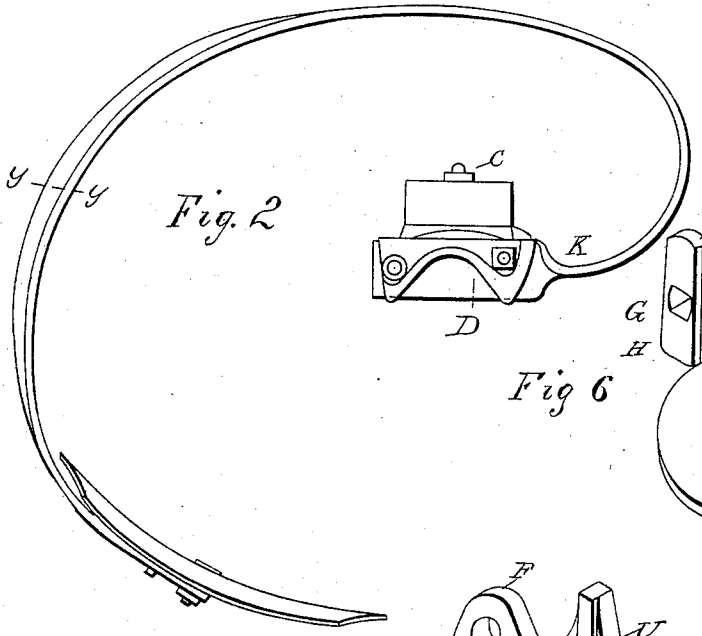


Fig 5

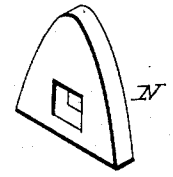


Fig 6

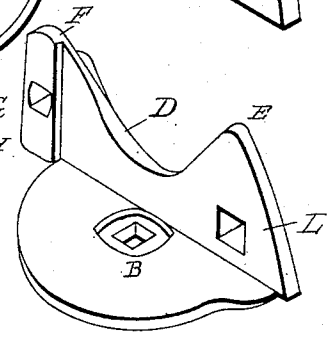


Fig 7

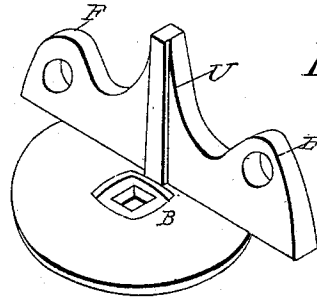


Fig 8



WITNESSES

H. B. Davis

Phil. C. Masi.

INVENTOR

Henry C. Pratt

by E. W. Anderson

his

Attorney

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

HENRY C. PRATT, OF CANANDAIGUA, NEW YORK.

CULTIVATOR-TOOTH.

SPECIFICATION forming part of Letters Patent No. 374,130, dated November 29, 1887.

Application filed March 12, 1887. Serial No. 230,699. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. PRATT, a citizen of the United States, and a resident of Canandaigua, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Cultivator-Teeth; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side elevation. Fig. 2 is a side elevation. Fig. 3 is a vertical sectional view on line *x x*, Fig. 1. Fig. 4 is a detail perspective view. Fig. 5 is a perspective view of the leather washer. Figs. 6 and 7 are bottom perspective views of the metal castings. Fig. 8 is a sectional view on lines *y y*, Figs. 1 and 2.

My invention relates to cultivator-teeth; and it consists in the construction and novel combination of parts, as hereinafter set forth.

In one form of cultivator-tooth patented to me March 15, 1887, No. 359,518, an eye is turned at the upper end of the spring standard, and this eye is fastened between two parallel metal walls on the cultivator-frame. It is not practicable to make the eye, bolt, and holes in the parallel walls fit so closely but that there will be a slight rocking motion of the tooth, and as the parts become worn by use this motion will be increased. I have found by practical test that the spring-standard bolted to a single wall of the casting, by giving the standard a twist near its rear end, so as to bring the flat surfaces of the spring-standard and casting together, produces a more rigid connection, and one that permits the tooth to give way as before.

The wooden break-pin used in the construction shown and described in the patent before mentioned I find will sometimes break partly down without coming out, thereby changing the angle of the tooth, and not always being readily removed when partly broken down. I therefore now do away with one wall of the casting or standard holder entirely, and by giving the standard a twist still farther forward bring the flat surface of the standard against the face of the wall of the casting and secure it by a slot in the upper edge of the standard and a bolt and nut, the bolt being seated in the wall of the casting. I have found, further, by tests that some suitable connection between the parts is necessary, and I tried a bearing-surface of wood, but found it had necessarily to be made small to be used in connection with the standard-holder. I therefore decided on using a leather washer, which washer is held in place by the bolt that connects the front portion of the casting to the spring-standard. The leather washer I found to answer the same purpose as wood, while it can be made small without danger of breaking, and is therefore adapted to the parts. This breaking device permits the standard to give way at the desired tension when the tooth becomes fast. Further trials have proven that a connection may be made between the spring-standard and the wall of the casting by taking advantage of the elasticity of the standard between the bolts that secure it to the standard-holder. When using this method, the tooth-holder is made with a slight elevation between the two bolts, which elevation acts as a fulcrum, against which the standard is pressed by tightening the bolts. Experiments thus far indicate that midway between the bolts is a suitable place for the elevation. When the leather washer is used, a projection of the casting covers it and protects it from the weather. The lower portion, or **C**-shaped portion, of the spring-standard is ribbed, or is made concavo-convex in cross-section, so that the spring action of the tooth is between the **C**-shaped portion and the end attached to the casting.

Referring by letter to the accompanying drawings, A designates a metal casting, which is provided with a central bolt-hole, B, made vertically through it, for the reception of the bolt C, by which said casting is secured to the cultivator-frame. On its lower face the casting A is provided with an integral depending wall or flange, D, which is preferably, in some instances, deeper at its front and rear ends, as at E F, than it is intermediately of said points or lugs. The portion F of the flange D is provided on its inner face with a vertical rib, G, and a bolt-hole, H, is provided through this ribbed or thickened portion for the reception of the bolt I, by which the rear end of the

twisted spring-standard K is secured to the flange D of the casting. The front end, E, of the flange D is provided with a bolt-hole, L, for the securing-bolt M. The inner face of the end E of the flange D is plain or unribbed, and a leather washer, N, is interposed between the end E of the flange D and the outer vertical face of the spring-standard K in rear of the twist T in said spring-standard. In the upper edge of the horizontal vertical portion P of the spring-standard, and immediately in rear of the twist T, I provide a rectangular notch, Q, which is open at its upper side or end and is designed to receive the front attaching-bolt, M, which passes through the leather washer N and is seated in the lug E.

When the attaching-bolt M and the leather washer are in place and the nut S is turned tightly up on the bolt M, the spring-standard will be held in the working position under all ordinary strain; but when too great strain comes upon the tooth of the spring-standard the bolt M will cause the leather washer to slip with it and permit the tooth to move back and then ride over the obstruction without injury to the tooth or spring-standard.

Instead of having the vertical rib G on the face of the rear lug, F, I provide a rib, U, at the middle of the flange D, which flange in this instance projects farther down, or is deeper, than the lugs E F. The rib U serves as a fulcrum, against which the standard K is pressed by tightening the bolts M and I, and the spring of the metal would be sufficient to permit the leather washer to be omitted; and when I use the rib U, I may omit the leather washer between the spring-standard and the wall of the casting, and thus take advantage of the elasticity of the spring-standard between the bolts.

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

1. The combination, with the casting provided with the depending flange having a fulcrum-rib on its inner face, the bolt-holes, and the attaching bolts and nuts, of the spring-standard provided with a bolt-hole near its rear end and a notch in its upper edge, substantially as specified.

2. The combination, with the casting provided with a depending flange, of the bolt-holes near the ends of the depending flange, the twisted spring-standard having a bolt-hole and notch in the portion in rear of the twist, the attaching bolts and nuts, and the leather washer or break-piece secured in place between the faces of the flange and spring-standard, substantially as specified.

3. The combination, with a spring cultivator-tooth having a ribbed or stiffened lower portion, of a frictional break device in contact with the elastic portion forward of the stiffened part of the tooth and at the upper end of said elastic portion of said tooth, substantially as specified.

4. The combination, with the casting having the depending flange having the bolt-holes near the ends, of the depending flange, the spring-tooth, a bolt-hole and notch in rear of the twist, the attaching bolts and nuts, and the leather break-piece secured in place between the face of the flange and the spring-standard, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY C. PRATT.

Witnesses:
ED. W. SIMMONS,
L. S. WILBER.