(No Model.)

J. P. THRAMER.

SPRING TOOTH FOR SEEDERS, &c.

No. 434,100. Patented Aug. 12, 1890.

Fig. 1.

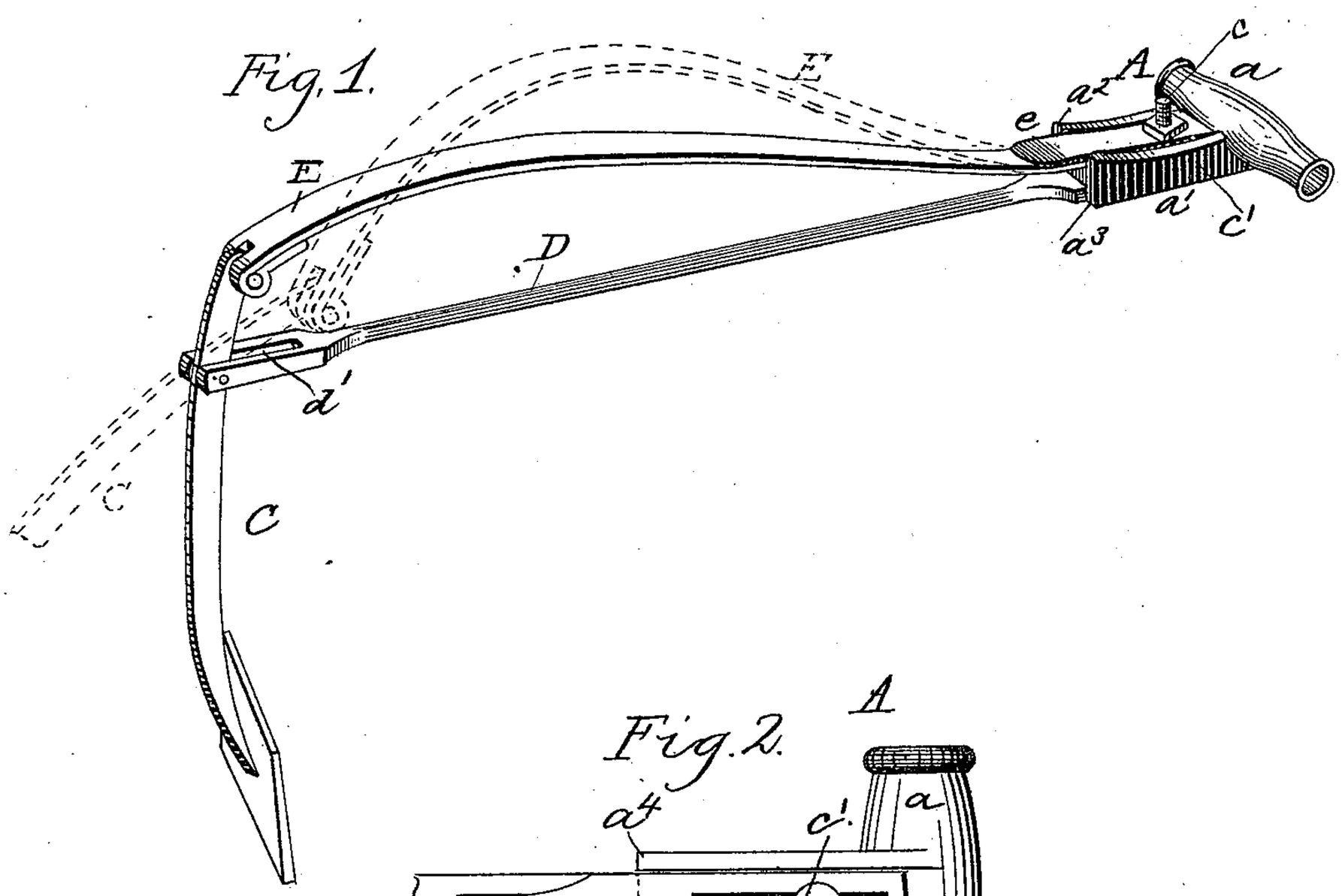

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

JACOB P. THRAMER, OF TWO RIVERS, MINNESOTA.

SPRING-TOOTH FOR SEEDERS, &c.

SPECIFICATION forming part of Letters Patent No. 434,100, dated August 12, 1890.

Application filed March 22, 1890. Serial No. 344,881. (No model.)

To all whom it may concern:

Be it known that I, JACOB P. THRAMER, a citizen of the United States, residing at Two Rivers, in the county of Morrison and State of Minnesota, have invented certain new and useful Improvements in Spring-Teeth for Seeders, Cultivators, and Drags; 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 the letters of reference marked thereon, which form a part of this specification.

My invention has relation to spring-teeth for cultivators and seeders; and it consists in the novel construction and arrangement of its parts.

In the accompanying drawings, Figure 1 is a perspective view of my invention, and Fig. 2 is a detail view.

My invention is described as follows:

A represents a casting consisting of the barrel *a*, by means of which the tooth may be attached to the frame-work of a seeder or cultivator, and of a rear extension *a'*. Said extension is provided on its upper face with a recess a^2 and on its lower face with a recess a^3. In the lower recess is secured by a bolt *c* and nut *c'* an arm D. The front end of said arm is provided with a longitudinal slot *d*, so that said arm may be let out or drawn in and thus give more or less pitch to the tooth C. The rear end of said arm is provided with a continuous slot *d'*, in which is pivoted the tooth C. Said tooth is pivoted in said slot at a point which leaves about one-fourth of its length extending above said arm D, and to the upper end of said tooth is pivoted the rear end of a spring-arm E, while its other end is secured in the upper recess a^3 of the casting A by means of the said bolt and nut *c c'*; and in the same recess and on top of the said spring-arm and secured by the same bolt and nut is a spring *e*, the outer end of which gradually diminishes to an edge, like the auxiliary springs of a buggy. Where the ground is tenacious and offers considerable resistance two, three, or more of these short springs may be used, one on top of the other, and the lower one may be long enough to extend half the length of said spring-arm E. The dotted lines, Fig. 1, show the position taken by the said tooth when it strikes a root, stone, or other like substance; but immediately in passing over said stone it automatically assumes its original position.

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

The combination of the casting A, consisting of the barrel *a*, rear extension *a'*, provided with the upper recess a^2, lower recess a^3, arm D, provided with a longitudinal slot *d* and continuous slot *d'*, tooth C, pivoted in said slot *d'*, spring-arm E, its rear end pivoted to the upper end of said tooth and the other end secured in the slot a^2, spring *e*, secured on the top of said spring-arm E and in said recess a^2, and bolt *c* and nut *c'*, securing the arm D, spring-arm E, and spring *e* to the said casting A, all substantially as shown and described, and for the purposes set forth.

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

JACOB P. THRAMER.

Witnesses:
S. F. STAPLES,
HENRY GOULET.