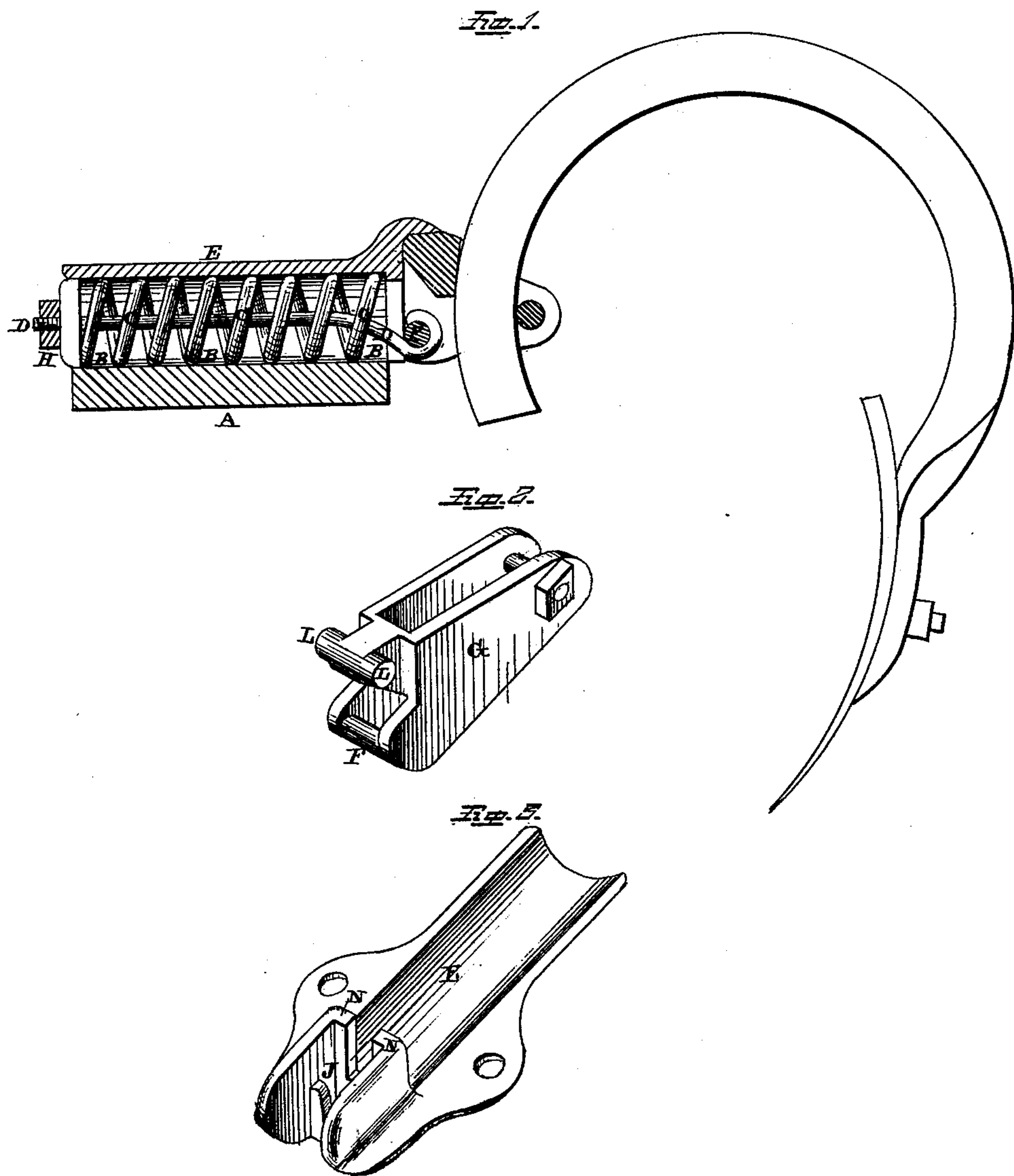


(No Model.)

C. D. CARTER.  
Spring Harrow Tooth.

No. 231,268.

Patented Aug. 17, 1880.



WITNESSES-

W. W. Mortimer.  
W. B. Kern.

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per  
F. A. Lehmann, atty.

# UNITED STATES PATENT OFFICE.

CHARLES D. CARTER, OF GRAND RAPIDS, MICHIGAN.

## SPRING HARROW-TOOTH.

SPECIFICATION forming part of Letters Patent No. 231,268, dated August 17, 1880.

Application filed June 22, 1880. (No model.)

*To all whom it may concern :*

Be it known that I, CHARLES D. CARTER, of Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Spring 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 a curved tooth which is passed through an opening in a pivoted holding-block that is placed in the frame, and which block has an adjustable spring secured to its inner end, whereby when any strain is brought to bear upon the tooth the spring is compressed and the block turns upon its pivot in the frame so as to allow the tooth to ride over an obstruction, as will be more fully described hereinafter.

The object of my invention is to provide each tooth with a spring tension device which will allow the tooth to give sufficiently when it catches against any obstruction in the ground to prevent the breakage of the tooth or the sudden stoppage of the team, as is always the case where the tooth is not provided with a device of this nature.

Figure 1 is a vertical section of my invention. Fig. 2 is a perspective of the block in which the tooth is held. Fig. 3 is a perspective of the iron frame.

A represents a beam of the harrow, which has a groove or recess, B, made in its face, so as to receive the coiled spring C. This spring C is placed around the screw-bolt D, and is held in between the beam A and the metal frame E, as shown.

The bolt D has a hook made on its rear end, so as to catch the part F of the block G, and has a screw-thread made upon its forward end, so that the tension of the spiral spring can be changed at will by means of the nut H. This nut projects beyond the front edge of the beam A, and is always in sight, and where a wrench or other device can be applied to it at any moment for the purpose of loosening or tightening the pressure of the spring. In

order to center the forward end of this spring and have it always promptly acted upon by the nut, the centering-core is placed inside of the spring and over the bolt at the forward end of the spring, and against this core the nut always bears.

In the rear end of the frame there is made a socket, J, for the pivots L of the block to fit in, and just in the rear of these pivots are formed the two flanges N, against which the rear end of the spring presses, and between which flanges the rear end of the bolt passes for the purpose of catching over the spring-block. This block, being provided with pivots, as shown in Fig. 2, fits in the socket made in the rear end of the frame to receive it, and is held firmly in place by the pressure of the spring, its rear end bearing against the two flanges made in the frame.

When any strain is brought to bear upon the tooth the block turns upon its pivots sufficiently to allow the lower end of the tooth to either give before the pressure which is brought to bear upon it in such a manner that the tooth will not be broken or so that the tooth can ride over the obstruction without stopping the forward movement of the team. As soon as this tooth is released from the pressure the spiral spring instantly draws the block back into position again, and thus causes the tooth to again assume its position in the ground.

By means of the screw on the end of the screw-bolt, as already described, the tension of the spring can be so changed as to regulate the amount of pressure which is necessary to cause the tooth to bend backward before the obstruction.

By means of my invention harrows, drill-teeth, and other such agricultural implements can be drawn along with but little or no danger of being injured or stopping the forward motion of the team unless the teeth should happen to catch under an obstruction over which it is not possible for it to pass.

Having thus described my invention, I claim—

1. A spring tension device for harrow and drill teeth, consisting of a metallic frame having a socket in its rear end, a block which can turn upon its pivots, a screw-bolt, and a spiral



spring, the tooth being passed through the rear end of the pivoted block, substantially as shown.

5 2. The metallic frame having a recess to receive the coiled spring, a socket in its rear end to receive the pivoted block, and flanges against which the rear end of the spring bears, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of 10 June, 1880.

CHARLES D. CARTER.

Witnesses:

GEO. W. THOMPSON,  
WILLIS B. PERKINS.