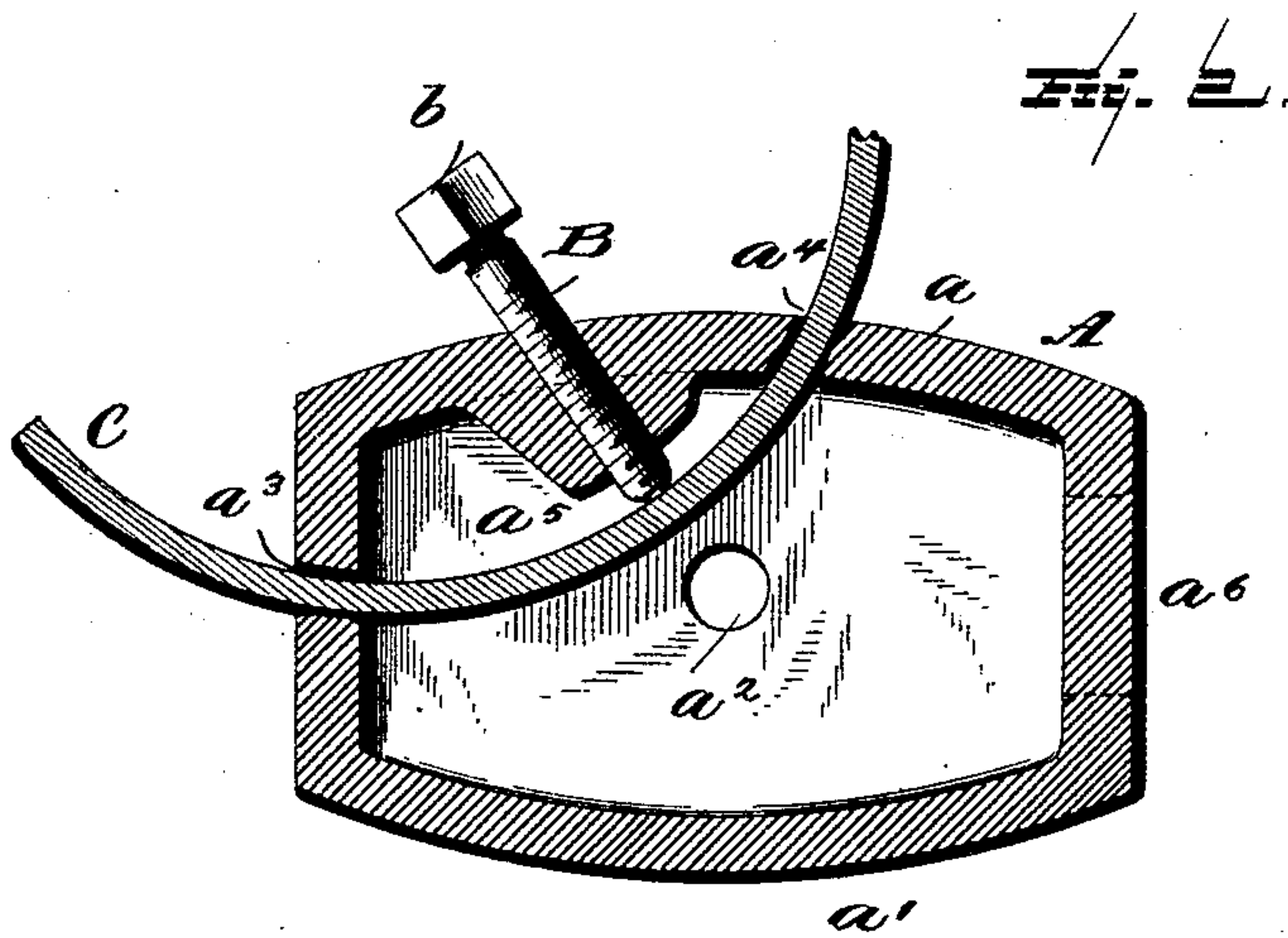
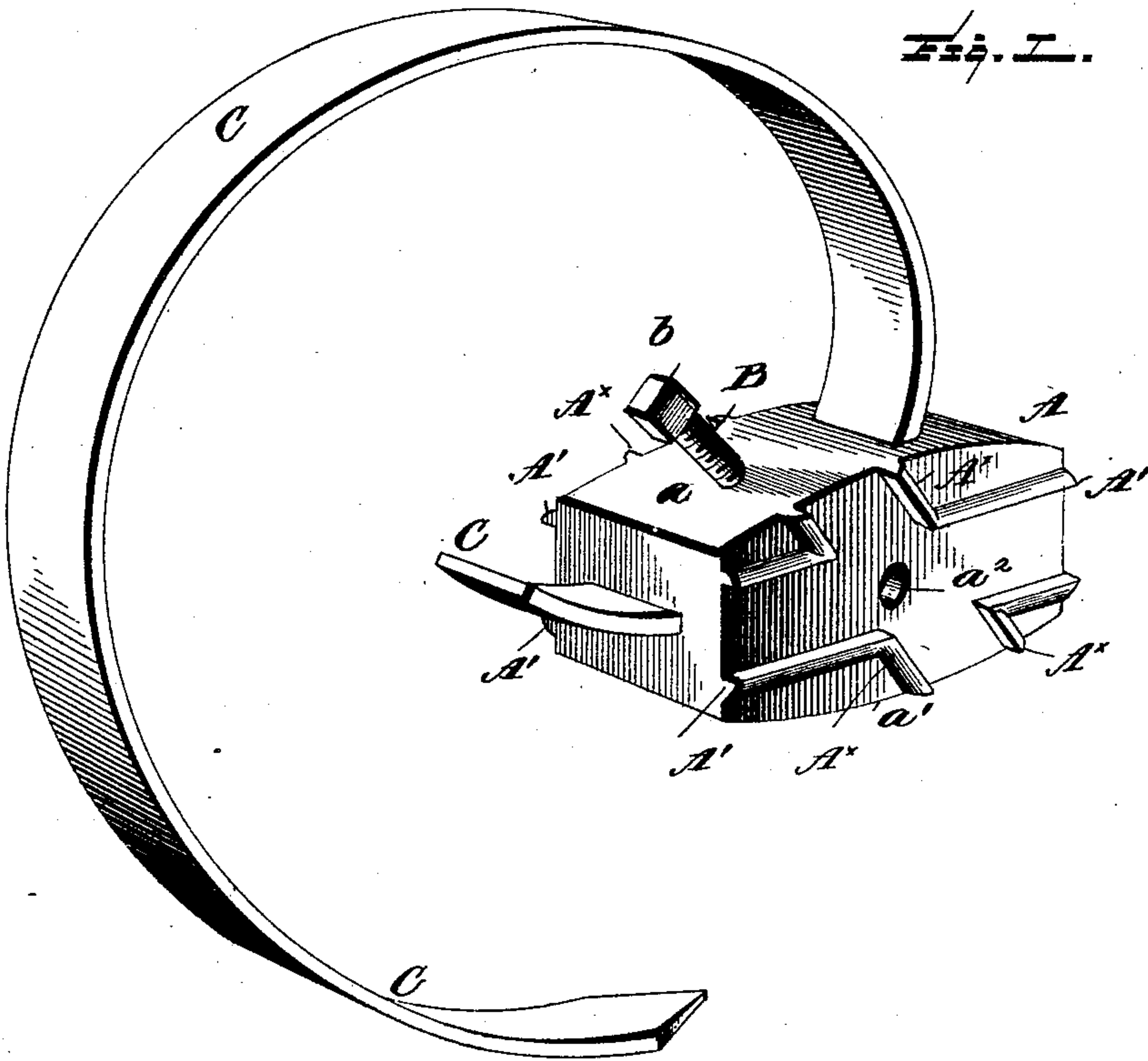


(No Model.)

J. W. BRANT.  
SPRING TOOTH HARROW.

No. 480,705.

Patented Aug. 16, 1892.



Witnesses

L. C. Hills  
C. H. Bond

Inventor

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# UNITED STATES PATENT OFFICE.

JOHN W. BRANT, OF YORK, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO  
CHARLES W. BRANT, OF SAME PLACE.

## SPRING-TOOTH HARROW.

SPECIFICATION forming part of Letters Patent No. 480,705, dated August 16, 1892.

Application filed April 19, 1892. Serial No. 429,703. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. BRANT, a citizen of the United States, residing at York, in the county of York, State of Pennsylvania, have invented certain new and useful Improvements in Spring-Tooth Harrows, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in spring-tooth harrows, and more particularly to the means or devices for holding the tooth in position.

It has for its object, among others, to provide a simple, efficient, and durable holder for the tooth, which will permit of sufficient movement of the tooth when meeting an obstruction to prevent injury thereto and yet allow it to automatically assume its normal position after passing such obstruction. I provide a hollow holder having lugs for its attachment to the frame and openings through which the spring-tooth is inserted, and upon which opening-walls the tooth has bearing. Suitable means, as a set-screw, serves to hold the tooth against displacement, as well as for regulating the movement or tension thereof. The holder is formed with an interior enlargement to give increased bearing for the said screw.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view showing one of my holders with a spring-tooth therein. Fig. 2 is a central longitudinal section through the holder, showing, also, a portion of the tooth.

Like letters of reference indicate like parts in both views.

Referring now to the details of the drawings by letter, A designates the holder, which, as shown, is in the form of a hollow substantially rectangular block of wood, metal, a combination of wood and metal, or any other material. The upper and lower faces  $a$  and  $a'$ , respectively, are convexed to provide greater

strength with lightness of material, and upon the opposite vertical longitudinal wall are the exterior projections or ribs  $A'$ , designed to receive between them closely-fitting portions of the frame. (Not shown.) This block is further provided, preferably, centrally through the said opposite vertical longitudinal walls with the coincident openings  $a^2$ , through which is designed to pass a bolt to hold the same to the frame. This block is also further provided in its rear end with an opening  $a^3$  and upon its upper face, slightly in front of its transverse center, with an opening  $a^4$ , it being understood that the openings  $a^4$  and  $a^3$  are substantially at right angles to each other, but upon the arc of a circle. The upper face or wall of this block is formed interiorly and to the rear of the vertical transverse center with an enlargement  $a^5$ , the lower face of which is preferably upon the arc of a circle, as seen in Fig. 2, and through this upper wall and enlargement is formed a forwardly-inclined screw-threaded opening for the set-screw B, which is provided with some suitable means for turning, being shown as provided with a polygonal head  $b$  for the reception or engagement of a wrench or other suitable implement. The forward end of this block may be formed with an opening, as indicated at  $a^6$  by dotted lines in Fig. 2, for the purpose of lightening the same and providing for the removal of sand or any foreign substances that may find ingress into the block.

C is the spring-tooth of any suitable or well-known construction. Its forward end is passed through the opening  $a^4$  in the top of the block and then through the opening  $a^3$  in the rear end of the block, the end being extended for any suitable distance. It will thus be seen that the portion of the tooth held in the block is free to move in the direction of its length and also to and from the central point of the block. If the tooth be made a sufficiently snug fit for the openings, the set-screw may be dispensed with; but the presence of the latter is preferred, inasmuch as by its use the amount of movement of the tooth may be regulated and limited, as will be readily understood from Fig. 2.

In order to provide for the maximum amount



of adjustment of the tooth, I may sometimes provide the block with the ribs or lugs  $A^x$ , as seen in Fig. 1, which extend substantially at right angles to the ribs  $A'$ . The lugs  $A'$  will allow the tooth to be worn to a certain depth by sliding the tooth through the openings  $a^3 a^4$  until the rear end of the tooth is barely supported in the opening  $a^3$ . The tooth can then, after being worn as far as possible, be placed in the same position relatively to the holder as when first used and the block adjusted so that the frame will be held in the lugs  $A^x$ . By this construction an additional amount of wearing-surface is allowed the tooth—in fact, the same additional amount as when held in its first position.

What I claim is—

1. A spring-tooth holder consisting of a block having longitudinal side lugs, a transverse bolt-hole, and openings in its top and rear walls on the arc of a circle, substantially as shown and described.

2. A spring-tooth holder consisting of a hollow block having transverse bolt-openings and in its upper and rear walls openings on the arc of a circle for the reception of the tooth, as set forth.

3. A spring-harrow-tooth holder consisting of a hollow rectangular block with convex upper and lower walls, side ribs, a transverse bolt-opening, and openings in its top and rear walls upon the arc of a circle, as set forth,

4. A spring-harrow-tooth holder consisting of a hollow rectangular block with convex

upper and lower walls, side ribs, a transverse bolt-opening, and openings in its top and rear walls upon the arc of a circle, and an interior enlargement on the upper wall to the rear of the opening therein and provided with a screw-threaded opening, as set forth.

5. The combination, with a hollow block having convex upper and lower walls, a transverse bolt-opening, openings in the upper and rear walls at substantially right angles to each other upon the arc of a circle, and an interior enlargement of the upper wall to the rear of said opening therein and provided with inclined screw-threaded openings, of a spring harrow-tooth having its rear end passed through said openings in the upper and rear walls, and a set-screw passed through said inclined screw-threaded opening and adapted to bear upon said tooth, as set forth.

6. A spring-tooth holder consisting of the block having openings for the reception of a tooth and upon its sides frame-embracing ribs arranged to receive the frame in either of two positions, each of which is at right angles to the other, whereby additional adjustment is provided for the purpose of increasing the life of the tooth, substantially as specified.

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

JOHN W. BRANT.

Witnesses:

H. L. MOTTER,

GEORGE H. LIBER.