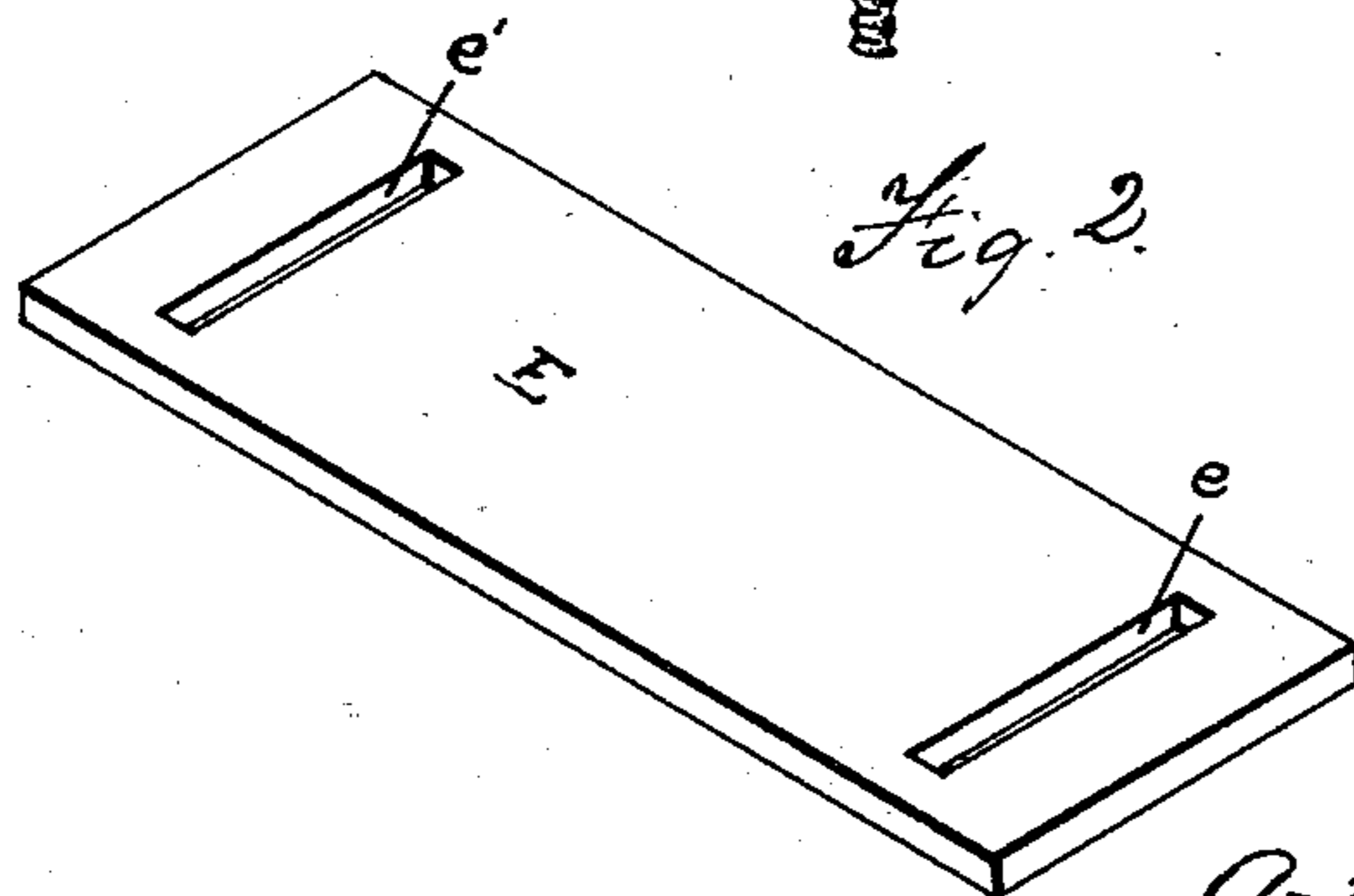
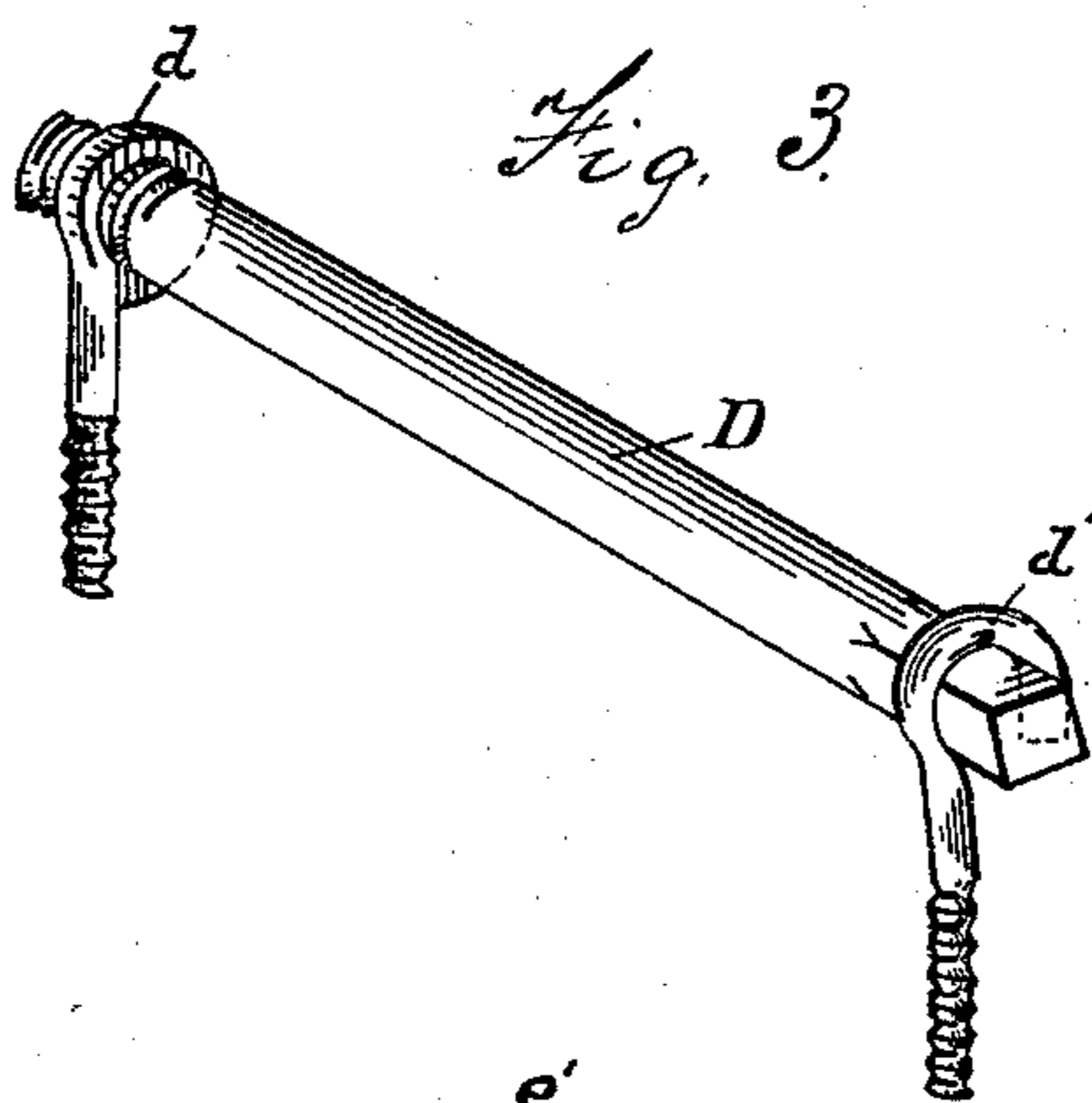
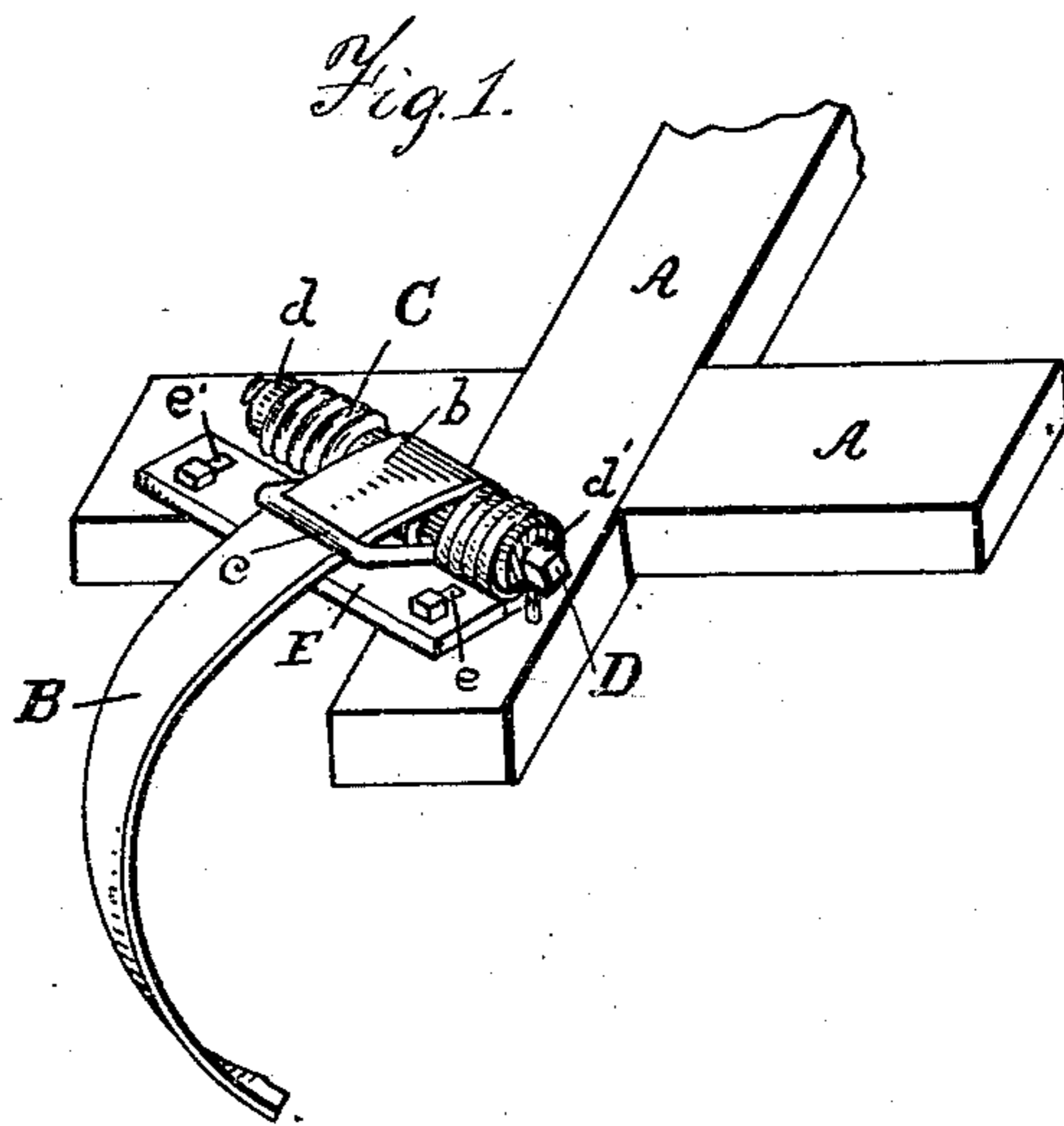


(No Model.)

A. O. BEMENT.
SPRING TOOTH HARROW.

No. 272,939.

Patented Feb. 27, 1883.



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR O. BEMENT, OF LANSING, MICHIGAN.

SPRING-TOOTH HARROW.

SPECIFICATION forming part of Letters Patent No. 272,939, dated February 27, 1883.

Application filed May 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR O. BEMENT, of Lansing, county of Ingham, State of Michigan, have invented a new and useful Improvement in Spring-Tooth Harrows; and I declare the following to be a full, clear, and exact description of the same, 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 a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of a device embodying my invention. Fig. 2 is a separate view of the plate. Fig. 3 is a separate view of the bolt and its fastenings.

The object of my invention is to provide means for changing the pitch of a spring harrow-tooth, so that it may be readily adjusted for soft or hard ground to give the proper depth of cut.

This invention is designed more specifically as an improvement on a spring harrow-tooth patented by David L. Gauer, January 22, 1878, No. 199,430; and it consists in a novel arrangement of an independently-adjustable plate under the spring-tooth and in such relation thereto that by adjusting said plate the point of the tooth may be raised or lowered or thrown to front or rear, as desired, for the purpose of regulating the cut.

It also consists in a novel construction and combination of devices for securing the tooth to the harrow-beam, all as hereinafter particularly described.

In the accompanying drawings, A represents a bar or beam of a harrow.

B is the spring harrow-tooth, provided with the eye *b*.

C is the torsional spiral spring, with the U-shaped central portion, *c*.

D is the bolt passing through the eye of the spring.

d is an eyebolt and *d'* a hook, whereby the bolt D is secured to the beams of the harrow.

The bolt D is threaded at one end and squared at the other, and is thus adapted to be in-

serted under the hook *d'* and screwed into the eyebolt *d*.

E is a metallic plate, located under the tooth and provided with elongated slots *e e'*, through which the plate may be bolted to the bars A. The slots are so constructed that the plate may be caused to slide back and forth, so as to project the point of the tooth forward or backward, as may be desired, for varying the depth of cut. The plate E is adjustable independently of the fastening devices of the tooth, and may be applied readily to a harrow already constructed and in use.

The employment of the adjustable plate is not necessarily limited to a hinged tooth such as is shown, for it is equally applicable with any other form of tooth for effecting the same adjustment of the depth of cut.

I am aware that spring-tooth harrows have been provided with adjustable plates for raising and lowering the teeth, and I do not claim such construction, broadly.

What I claim as new, and desire to have patented, is—

1. The combination, with the curved spring harrow-tooth arranged in the angle formed by the cross-bars of the frame, and having its inner end secured to said bars, of the independently-adjustable plate E, arranged under and in contact with said harrow-tooth, and supported by the frame-bars, substantially as and for the purpose set forth.

2. The combination, with the bars of the harrow-frame and the spring-tooth B, of the torsional spring C, having the loop *c*, arranged to bear upon the upper surface of said tooth, the bolt D, arranged through the eye of said torsional spring, said bolt being screw-threaded at one end and squared at the other, and the hook *d* and eyebolt *d'*, adapted to engage the ends of said bolt, respectively, and having their shanks passed through the frame-bars, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ARTHUR O. BEMENT.

Witnesses:

ARTHUR T. DAVIS,
ORSON A. MILLER.