

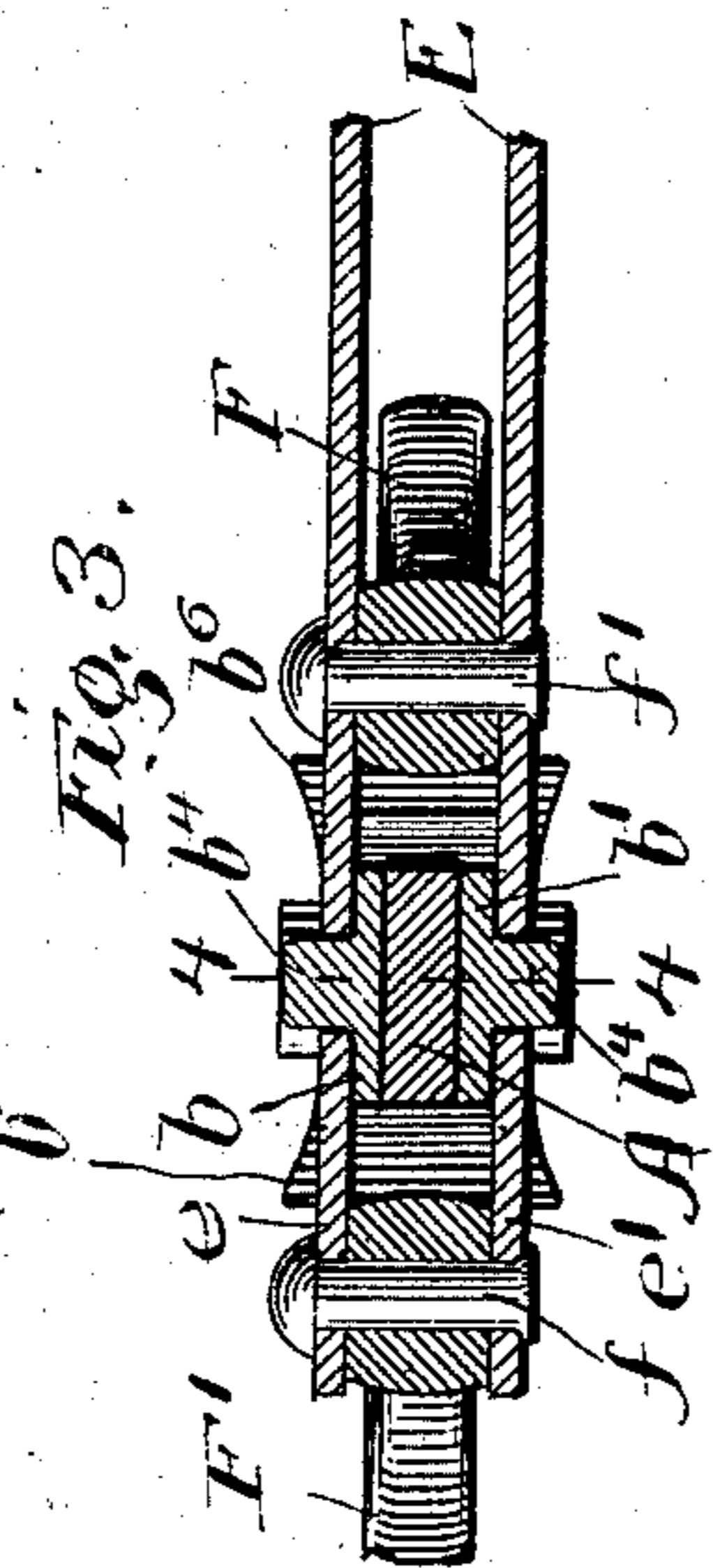
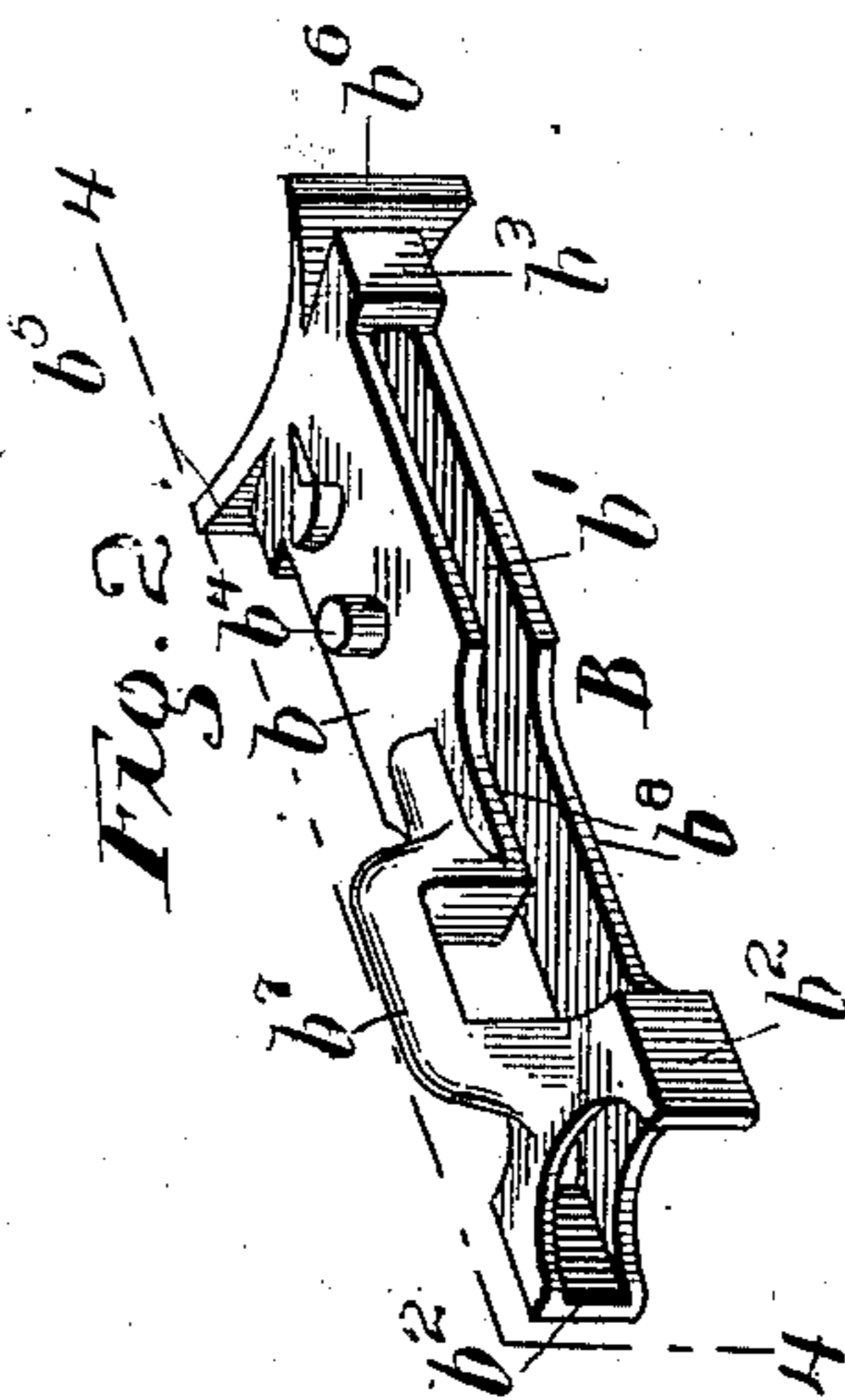
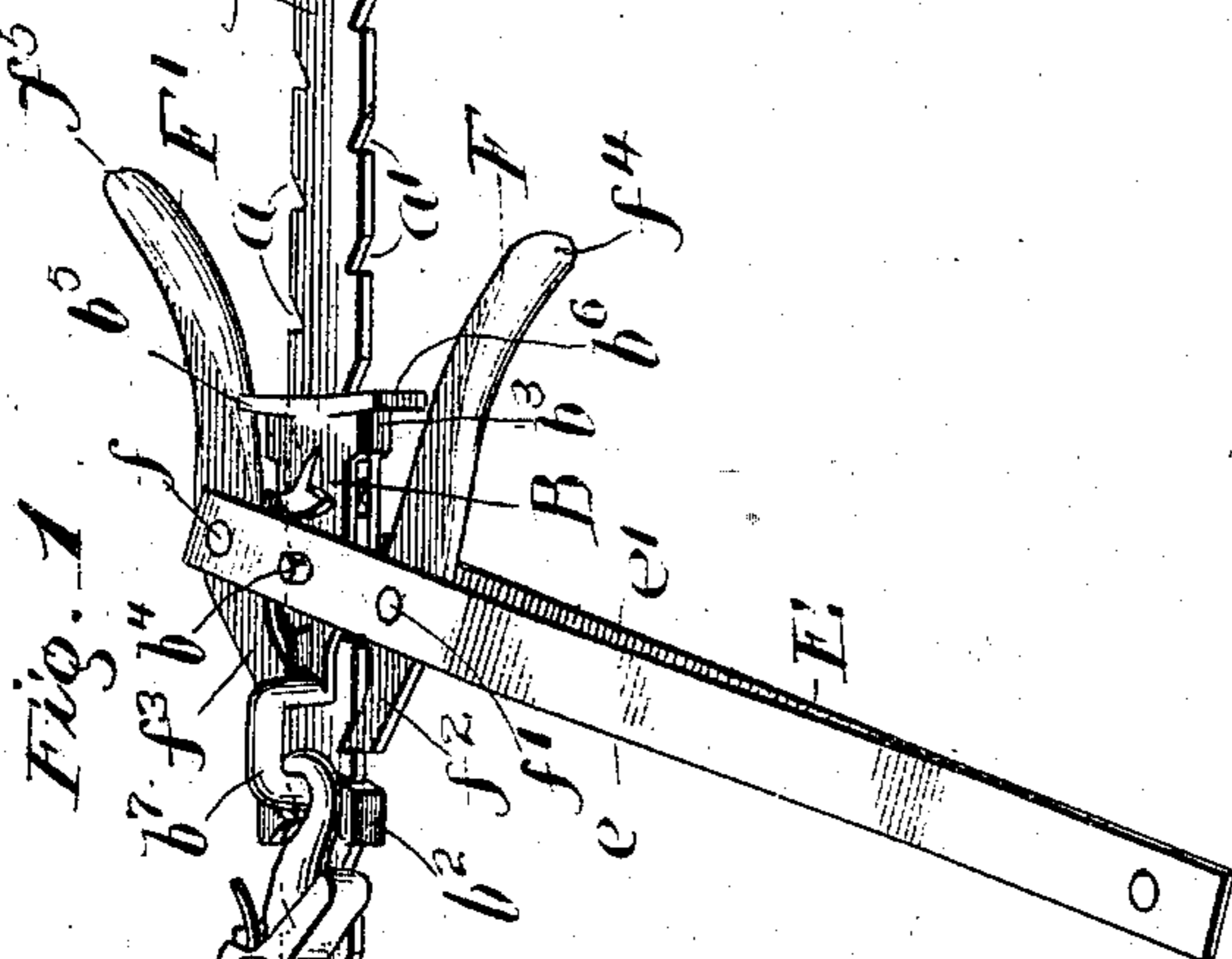
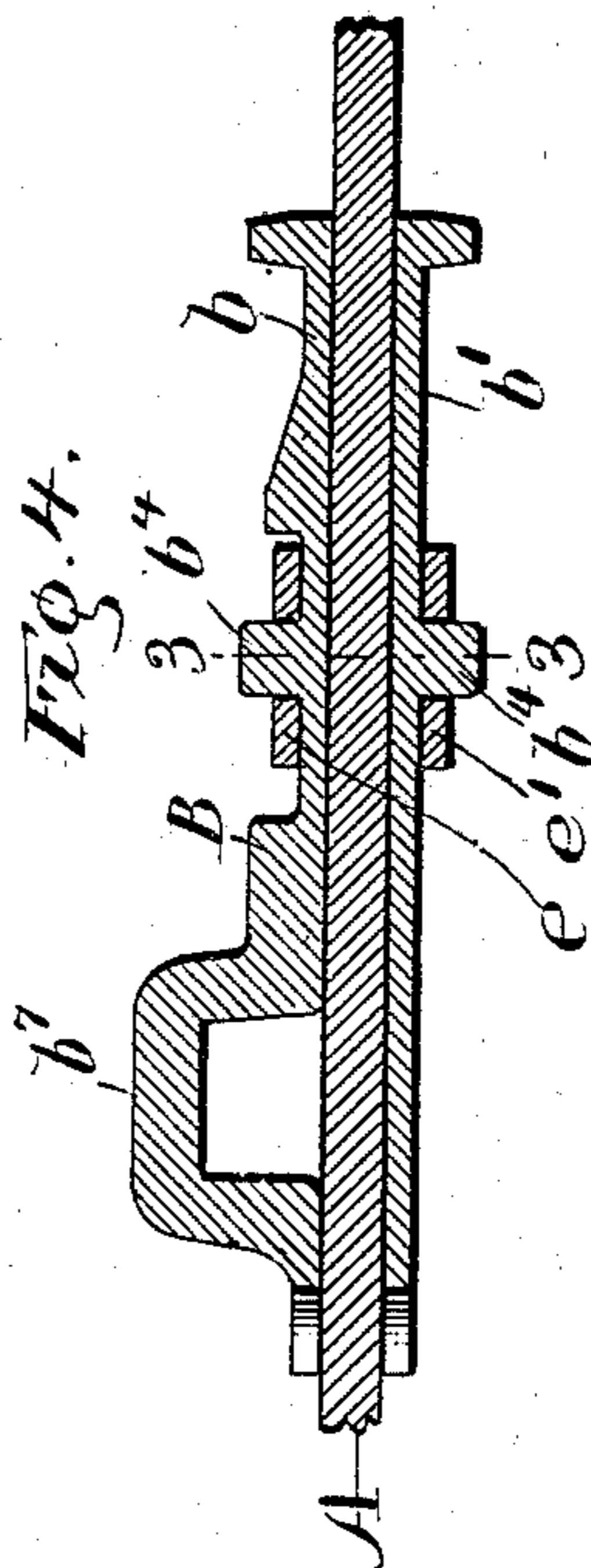
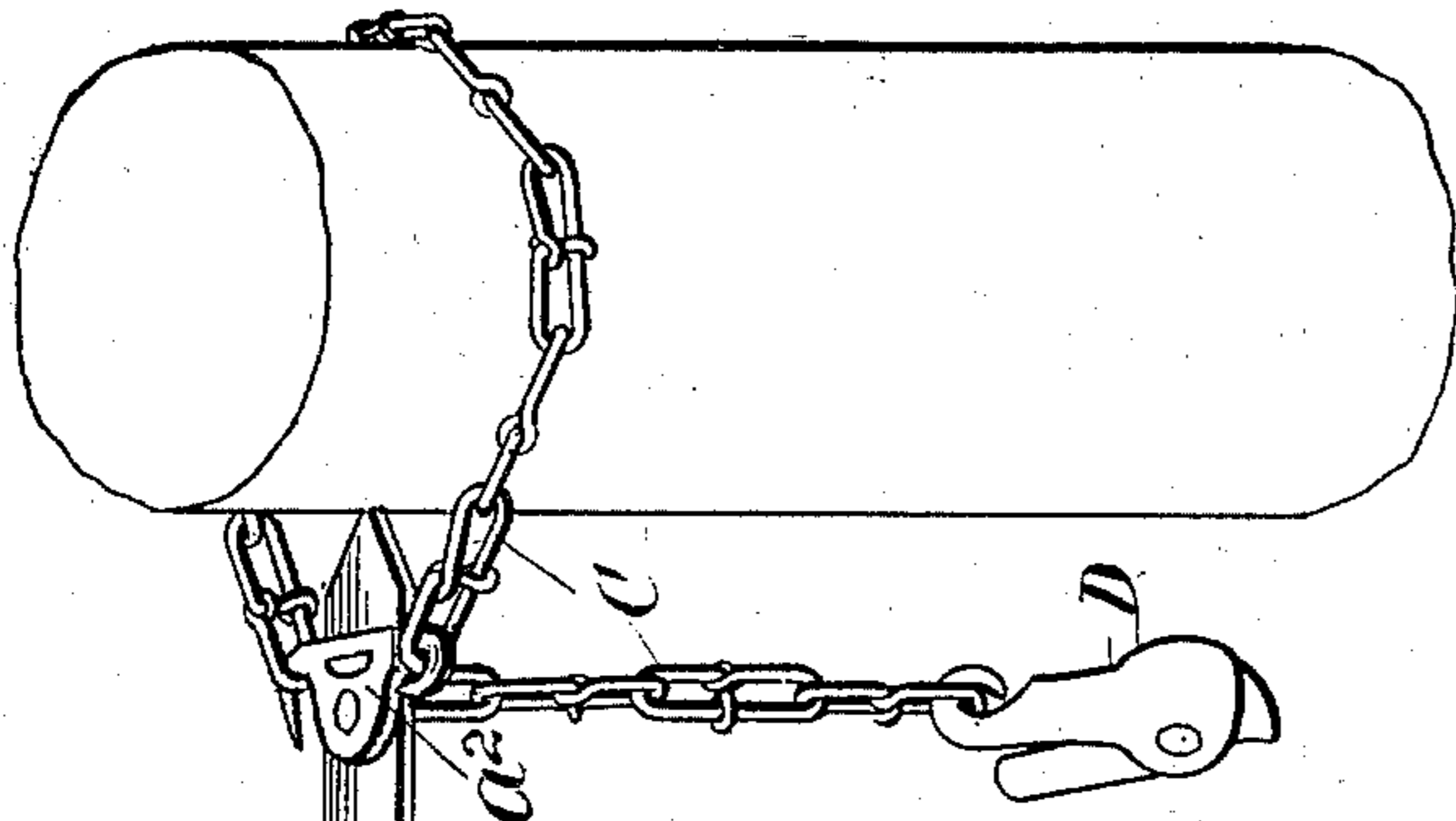
No. 702,295.

Patented June 10, 1902.

H. L. FERRIS.  
WIRE STRETCHER.

(Application filed Oct. 9, 1901.)

(No Model.)



Witnesses:

Chas. O. Shurway  
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Inventor:  
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Atty

# UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM,  
FERRIS & COMPANY, OF HARVARD, ILLINOIS, A COPARTNERSHIP.

## WIRE-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 702,295, dated June 10, 1902.

Application filed October 9, 1901. Serial No. 78,033. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Wire-Stretchers, of which the following is a specification.

My invention relates to certain improvements in devices for stretching or tightening wire or the like, the object being to simplify and condense the construction and at the same time increase the power and durability.

To such end the invention consists in certain novel characteristics of construction and arrangement, a description whereof will be found in the following specification and the essential features more definitely pointed out in the claims.

The invention is illustrated by means of drawings furnished herewith, in which—

Figure 1 is a perspective view of the wire-stretcher secured in place upon a post in position to tighten the wire. Fig. 2 is a perspective view of a slide which is moved upon the supporting-bar in the tightening of the wire. Fig. 3 is a detail cross-section through the device, the line of section being indicated at 3 3 in Fig. 4; and Fig. 4 is a detail longitudinal section, the line of section being indicated at 4 4 in Figs. 2 and 3.

In the drawings, A represents a bar adapted to be secured to a post or other suitable support and upon which is slidingly mounted a slide B, adapted to be connected to the wire which is to be stretched, which slide is provided with suitable means for moving it upon said bar and securing it thereto at any point along the same. As shown, this bar has secured upon one end a hooked block  $a^2$ , upon which is secured a chain C, which is adapted to be carried around a post or other supporting device and hooked upon the block  $a^2$  to support the bar upon a post. This chain may, if desired, be supplied with a suitable wire-clamp D, by means of which this end of the stretcher may be secured to a wire should it be found necessary to use the stretcher where no post is available.

The slide B is best seen in Fig. 2 and, as shown, contains two side portions or plates  $b b'$ , connected at their ends by edge portions

$b^2 b^3$ , forming an approximately rectangular frame having a longitudinal opening extending through its entire length and openings in a portion of its sides. Said longitudinal opening is of a size to allow the slide to move freely upon the bar, and for the purpose of moving said slide in tightening the wire a lever E is provided, which is pivoted upon the slide and carries two dogs or detents  $F F'$ , adapted to engage notches  $a a'$  on opposite edges of the bar, the oscillation of said lever upon its pivot serving to move the dogs alternately into engagement with the notches on the opposite edges of the bar.

The pivot of the lever E is in the form of two gudgeons  $b^4$ , projecting from the plates  $b b'$  of the slide, and said lever is preferably formed in two parts  $e e'$ , having their free ends brought together and riveted. On the opposite sides of the lever-pivot are pivoted dogs  $F F'$  by means of rivets  $f f'$ , (see Fig. 3,) their working ends engaging the notches  $a a'$  in the bar against the tension of the wire upon the slide B. Said slide has side lugs  $b^5 b^6$ , lying in the path of the handle portions  $f^4 f^5$  of the dogs, adapted to direct the working ends  $f^2 f^3$  into the notches as the lever is oscillated in the operation of the stretcher. In swinging the lever to the right from the position seen in Fig. 1 the dog  $F'$  will remain in engagement with one of the notches  $a$ , while the dog  $F$  will be carried to the notch  $a'$ , back of the one with which it was previously in engagement, the lug  $b^6$  serving to direct the working end into engagement therewith. When the lever is released, the tension upon the slide caused by the tightening of the wire will securely hold both dogs in engagement with the notches.

The plates  $b b'$  of the slide are somewhat narrower at  $b^8$  to permit the dogs to engage the notches in the bar, and the upper plate  $b$  is formed at this place into a yoke  $b^7$ , upon which a wire-clamp G may be directly hooked, thereby bringing the working parts close together and into very compact form. A wire H is shown as secured in the wire-clamp G, and by oscillating the lever E the end of said wire may be drawn toward the supporting-post upon which the stretcher is secured.

The formation of the gudgeons  $b^4$  upon the

slide to act as a pivot for the lever is of great importance, as they afford a convenient pivotal support for the lever and are readily inserted in the holes provided therefor when the lever is put together. This arrangement in my improved device is particularly desirable and advantageous, owing to the fact that the lever can be very cheaply constructed of sheet metal and to the fact that by using rivets passing through the dogs as the only means for securing the other end of the lever in place all rivets on the blade proper are dispensed with. It will be seen that the ends of the lever are secured in place by the lugs upon the frame passing through the holes in the sides of the lever, and the lever is then riveted through the dogs, requiring no other fastening whatever upon the frame. By the arrangement of the yoke the wire-clamp may be secured directly to the slide, thus economizing space and simplifying the construction. This slide has been constructed in the form of a rectangular frame inclosing the bar, being thereby more easily guided upon the bar and not liable to become wedged thereon.

A stretcher made in accordance with this specification is simple, powerful, and comparatively inexpensive.

I claim as new and desire to secure by Letters Patent—

1. In a wire-stretcher, the combination with a bar notched upon the opposite sides, of a hollow rectangular slide, comprising a metal

plate cut away upon its sides to form a narrowed central portion, a second plate, similarly cut away and having its narrowed central portion raised to form a yoke, and suitable struts connecting said upper and lower plates, a lever pivoted between its ends to the opposite plates of the slide, and bar-engaging dogs pivoted to the lever upon opposite sides of the pivot, between the lever and the slide; substantially as described.

2. In a wire-stretcher, the combination with a bar notched upon the opposite sides, of a hollow rectangular slide, comprising a metal plate cut away upon its sides to form a narrowed central portion, a second plate similarly cut away and having its narrowed central portion raised to form a yoke, a suitable outwardly-projecting lug upon each of said plates, said lugs being arranged opposite one another, a lever pivoted between its ends to the opposite plates of the slide, and bar-engaging dogs pivoted to the lever upon opposite sides of the pivot between the lever and the slide; substantially as described.

In witness whereof I have hereunto set my hand at Harvard, in the county of McHenry and State of Illinois, this 30th day of September, A. D. 1901.

HENRY L. FERRIS.

Witnesses:

BLAKE B. BELL,  
L. EUGENE NORTON.