

No. 685,201.

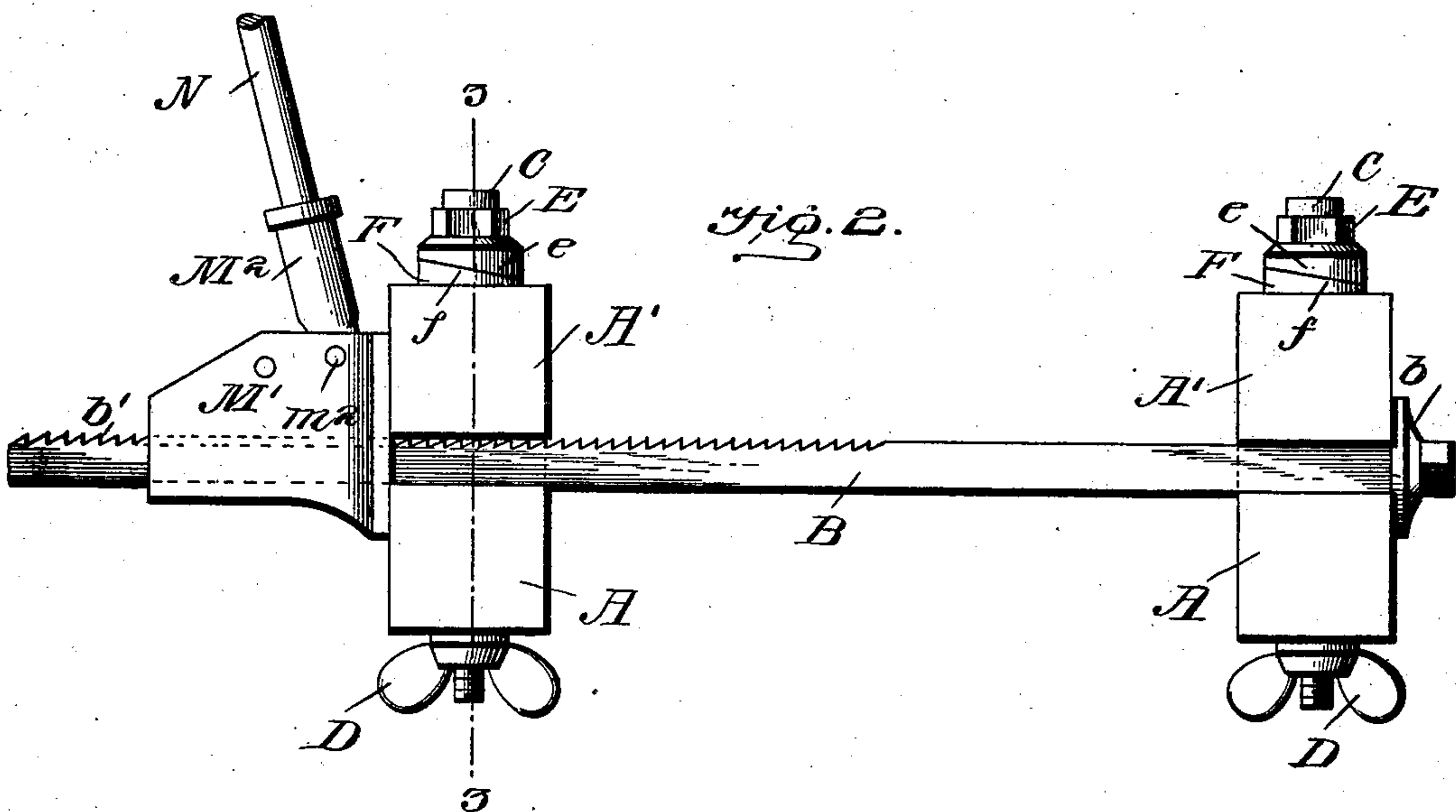
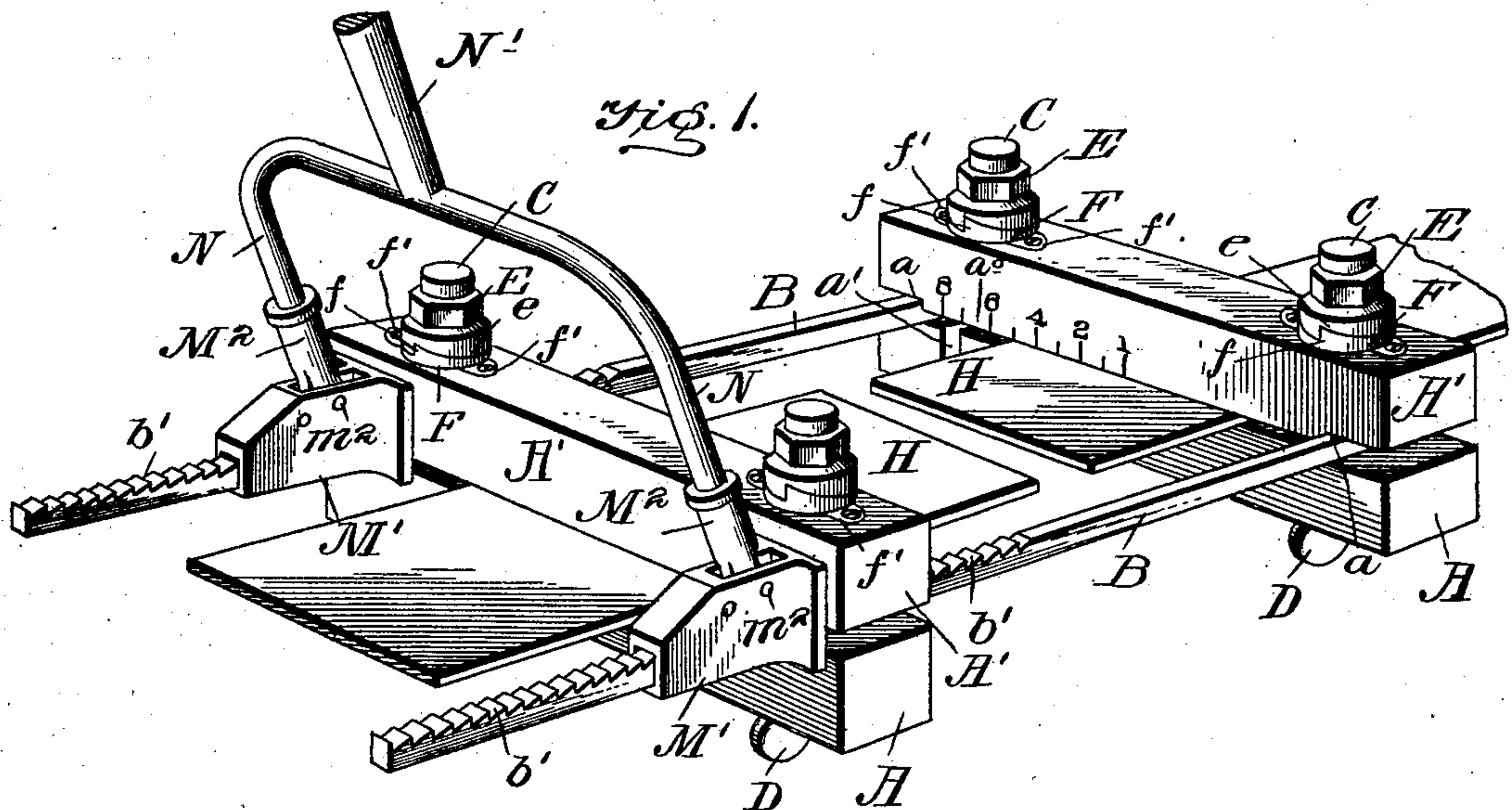
Patented Oct. 22, 1901.

C. T. CUMMINGS.
BELT STRETCHER.

(Application filed Feb. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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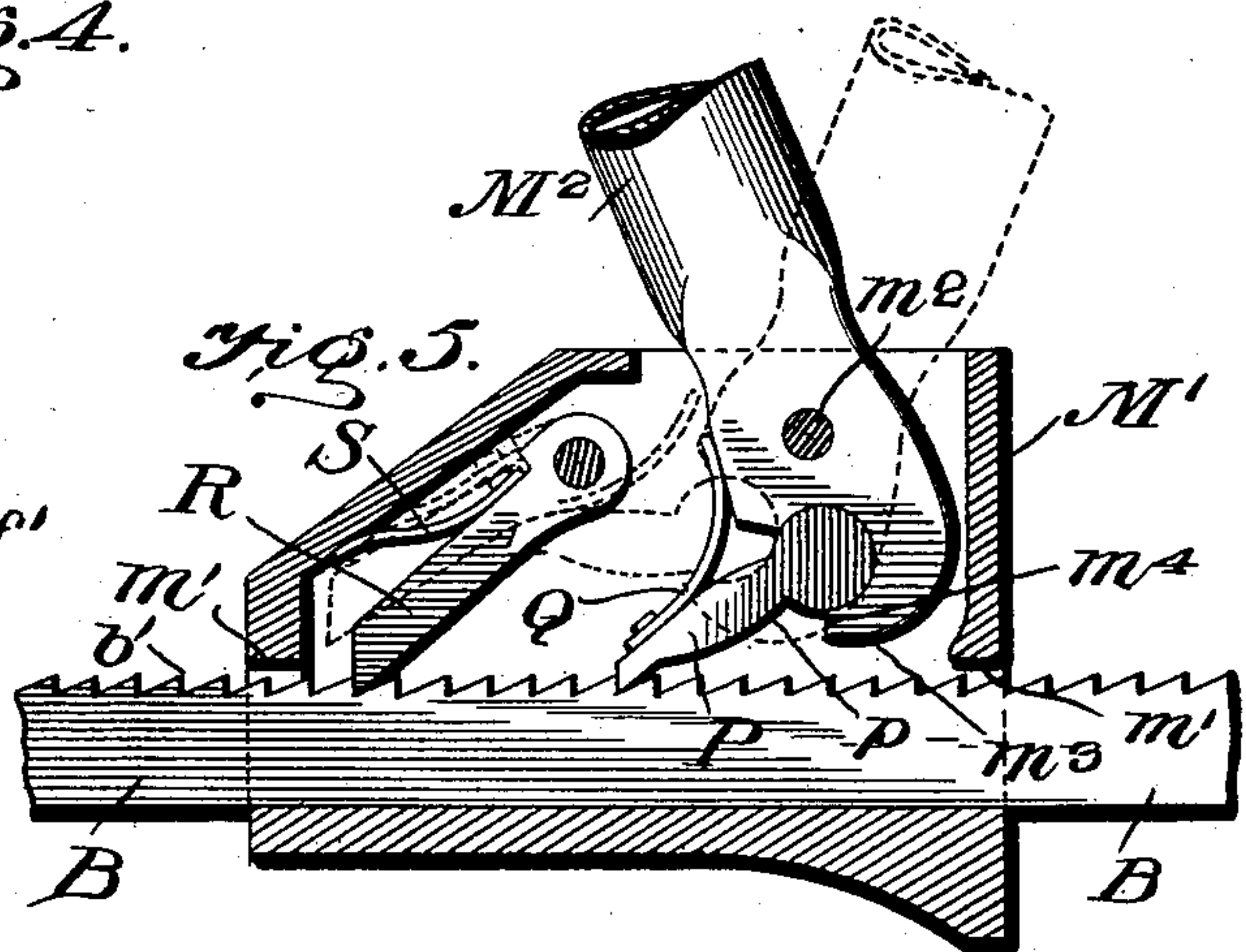
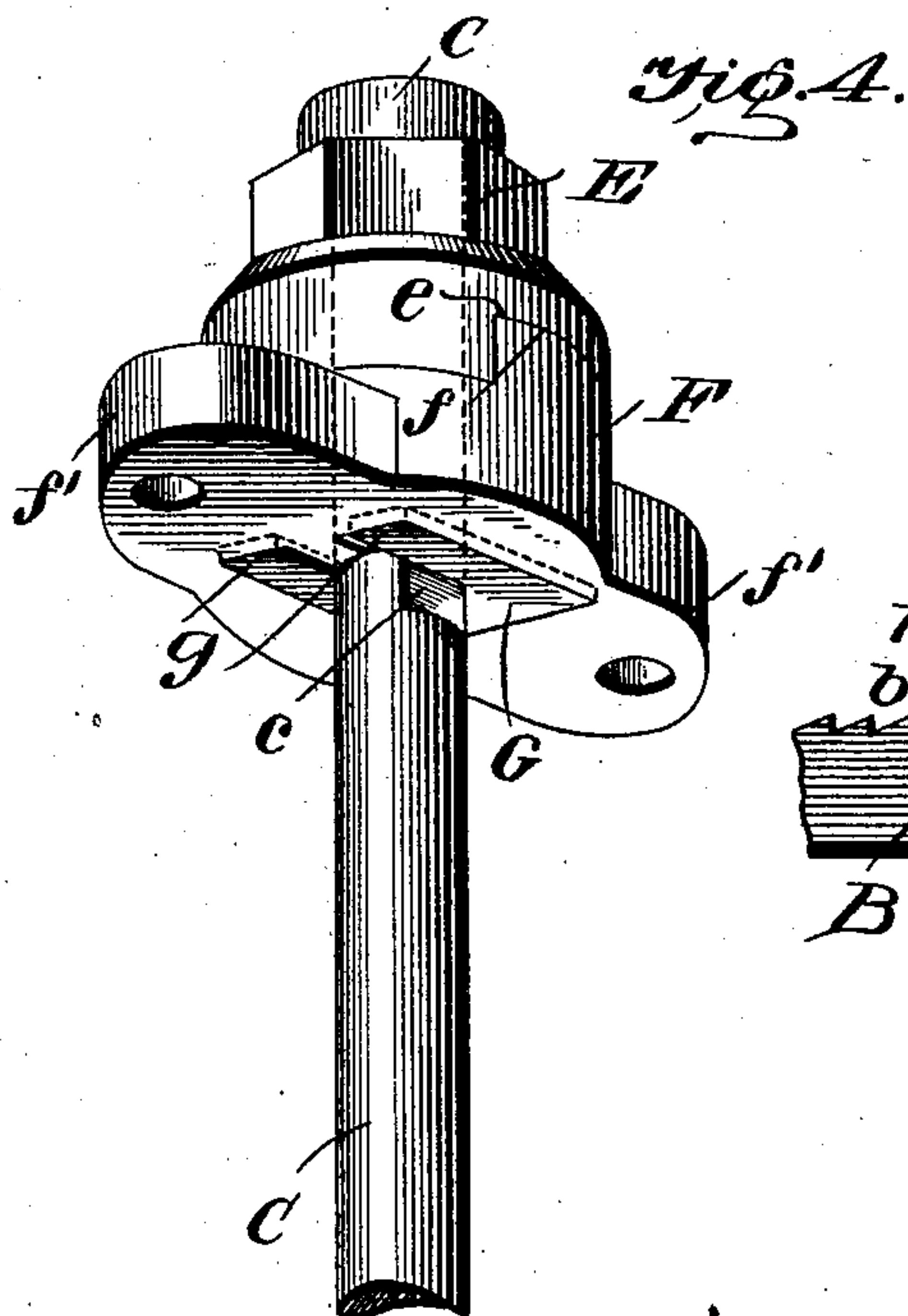
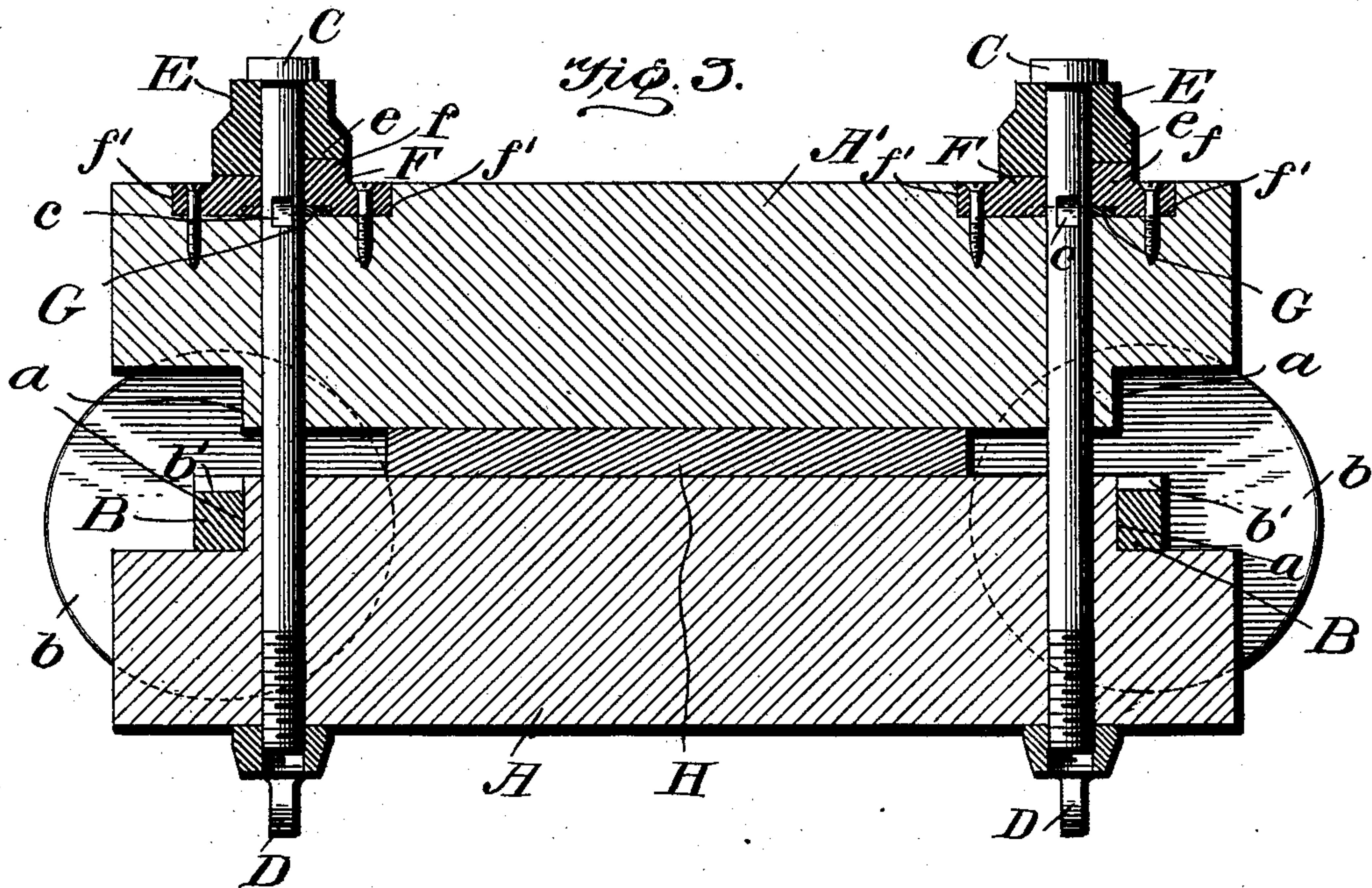
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CORNELIUS T. CUMMINGS, OF WALTERBORO, SOUTH CAROLINA.

BELT-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 685,201, dated October 22, 1901.

Application filed February 14, 1901. Serial No. 47,316. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS T. CUMMINGS, a citizen of the United States, residing at Walterboro, in the county of Colleton and State of South Carolina, have invented certain new and useful Improvements in Belt-Stretchers; 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 appertains to make and use the same.

My invention relates to improvements in belt-stretchers; and it consists of improved apparatus by means of which the belt may be readily and rapidly stretched or tightened and the apparatus quickly and conveniently removed.

The various advantages of the herein-described construction will be evident from the following description, in which reference will be had to the accompanying drawings.

The same parts shown in the drawings are indicated by the same letters throughout the several views.

Figure 1 is a perspective view showing the apparatus in use in stretching or tightening a belt. Fig. 2 is a side elevation of the device shown in Fig. 1. Fig. 3 represents a section along the line 3 3 of Fig. 2. Figs. 4 and 5 are detail views showing, respectively, the bolt for holding the clamping-blocks together and the ratchet mechanism.

A and A' are the clamping-blocks, preferably of wood, which are shouldered, as at *a*, to permit the insertion of the ratchet-bars B. These ratchet-bars have a flanged head *b* on one end, and the other end is provided with ratchet-teeth *b'*. Each of the clamping-blocks A is transversely slotted, as at *a'*, (see Fig. 1,) so as to swing over one of the bolts C when the stretcher is being put on and so as to swing back and allow the bolts to be readily removed when the stretching or tightening operation is over. The bolts C pass through the cam-blocks E and F and have their opposite ends screw-threaded to engage the thumb-nuts D. These cam-blocks have cam-faces *e* and *f*, (shown in Fig. 4,) and the bolts C are cut away, as at *c*, having flattened portions (see Fig. 4) to pass between the arms *g* of the plate G, which is let into the cam-block F, secured by screws through the ears *f'* to the

clamping-block A'. This plate G prevents the bolt C from turning about its axis. It is an advantage to fit the plate G into the cam-block F, because it permits the use of an ordinary round bolt having flattened portions, and obviates the necessity of making a squared hole in the block F, which is troublesome and somewhat expensive. On the inside of the blocks A', I provide a scale *a''*, preferably in inches, which renders it easier to center the belt.

The ends of the belt are brought together by a suitable ratchet mechanism, preferably that shown in Figs. 1, 2, and 5 of the drawings, in which M' is a metal frame slotted, as at *m'*, to slip over the ends of the ratchet-bar B, as shown in Fig. 1, and in this frame two pawls P and R are mounted. The pawl P is pivoted in the hook *m''* at the lower end of the operating-lever M², which is pivoted at *m''* in the frame M'. This pawl is normally pressed toward the teeth *b'* by means of the spring Q. The other pawl R is pressed toward the teeth *b'* by means of the spring S.

Referring to Fig. 5, it will be seen that by reciprocating the lever M² through a small angle the frame M' will be moved along, the rack-bar pushing the clamping-blocks A and A' before it; but if this lever be given a considerable throw to the right or to the position shown in dotted lines in Fig. 5 the shoulder *m'''* on the hook *m''* will bring up against the face *p* of the pawl P, raising the same to the position shown in dotted lines, and the back of this pawl will lift the pawl R out of engagement, as shown in dotted lines in Fig. 5, when the whole ratchet mechanism may be slid bodily backward without having the pawls engage the ratchet-teeth. Thus the tension on the belt or rope may be speedily released.

The ratchet mechanism on the two bars B may be operated separately, as by two separate hand-levers, such as the lever N, (shown in Fig. 2;) but I prefer to have these two formed in a bow terminating in a single handle, as shown at N and N' in Fig. 1.

In practice the two ends of the belt are brought into the approximate position shown in Fig. 1, the clamping-blocks are put in place, and then the thumb-screw D is screwed down by hand until a slight resistance is encountered, due to the clamping-blocks bear-

ing on the belt. Then a wrench is applied to the angular heads of the cam-blocks E, and these blocks are turned until the cams *e* and *f* cause the clamping-blocks to bind the belt very firmly in position. Then the belt is stretched or tightened by operating the handle N' until the desired tension is secured. The ends of the belt are now fastened together and the cams E are eased down, which will relieve the pressure so much that the block A may be swung around about one of the bolts C, allowing the other bolt to pass through the slot *a'*, and the entire apparatus may be readily removed.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a belt-stretcher, the combination with rack-bars and clamping devices mounted thereon for holding the belt, of ratchet mechanism traveling on said rack-bars, each comprising a traveling frame sliding over the rack-bars, an operating-lever pivoted in said frame, a spring-pawl mounted on said operating-lever, a second pawl mounted in said

frame and a shoulder on said operating-lever adapted to engage the first pawl and throw it out of engagement with the rack-teeth and to cause it to strike the second pawl and throw it also out of engagement when the operating-lever is thrown to its extreme position, substantially as described.

2. In a belt-stretcher, the combination with a pair of clamping-blocks, of a bolt threaded at one end and provided with flattened portions near the other end, a cam-block with a plate let therein and holding the bolt against turning, a second cam-block revolvably mounted on the bolt and engaging the other cam-block, and a thumb-screw mounted on the screw-threaded end of said bolt, substantially as and for the purposes set forth.

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

CORNELIUS T. CUMMINGS.

Witnesses:

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