

(No Model.)

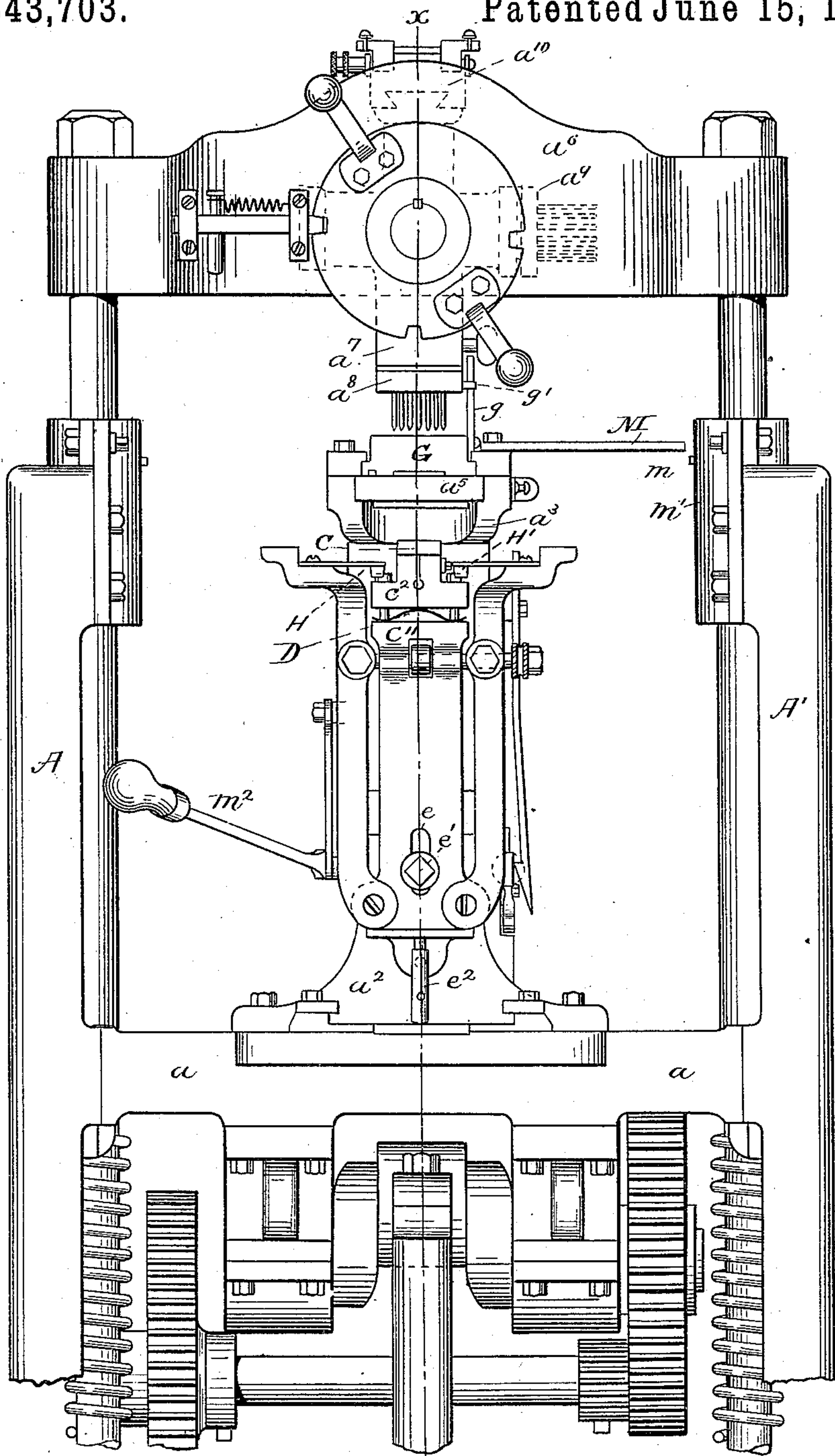
G. T. DEMARY.

3 Sheets—Sheet 1.

## HEEL NAILING MACHINE.

No. 343,703.

Patented June 15, 1886.



WITNESSES.

George Thal  
Fred. B. D. Rao.

Fig-1<sup>5c</sup>

INVENTOR.

Geo. T. Demery  
by his atty.  
Charles H. Raymond.

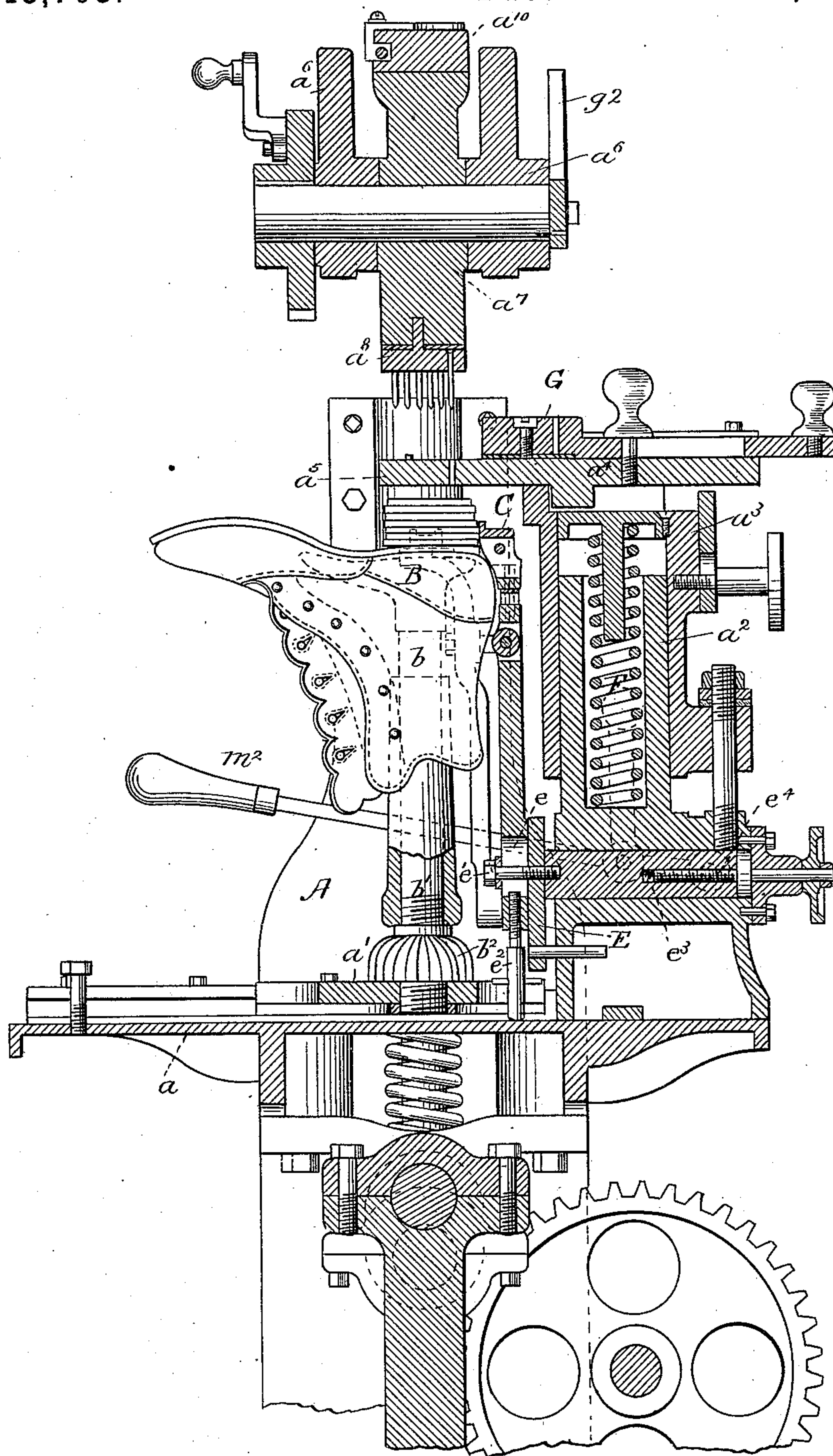
(No Model.)

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G. T. DEMARY.  
HEEL NAILING MACHINE.

No. 343,703.

Patented June 15, 1886.



WITNESSES.

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*Fig. 2.*

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*Clarke & Raymond*



(No Model.)

3 Sheets—Sheet 3.

G. T. DEMARY.  
HEEL NAILING MACHINE.

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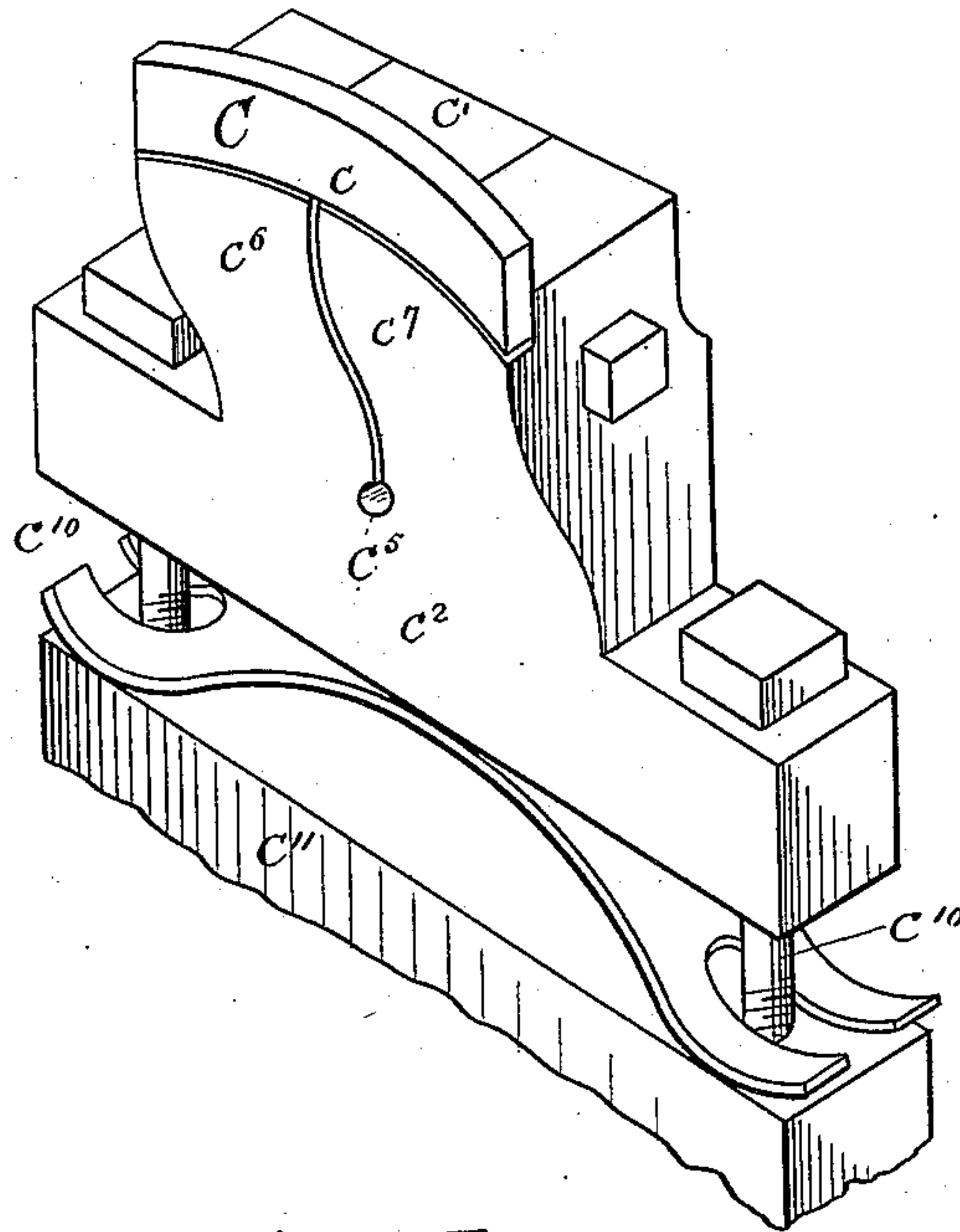


FIG. 3.

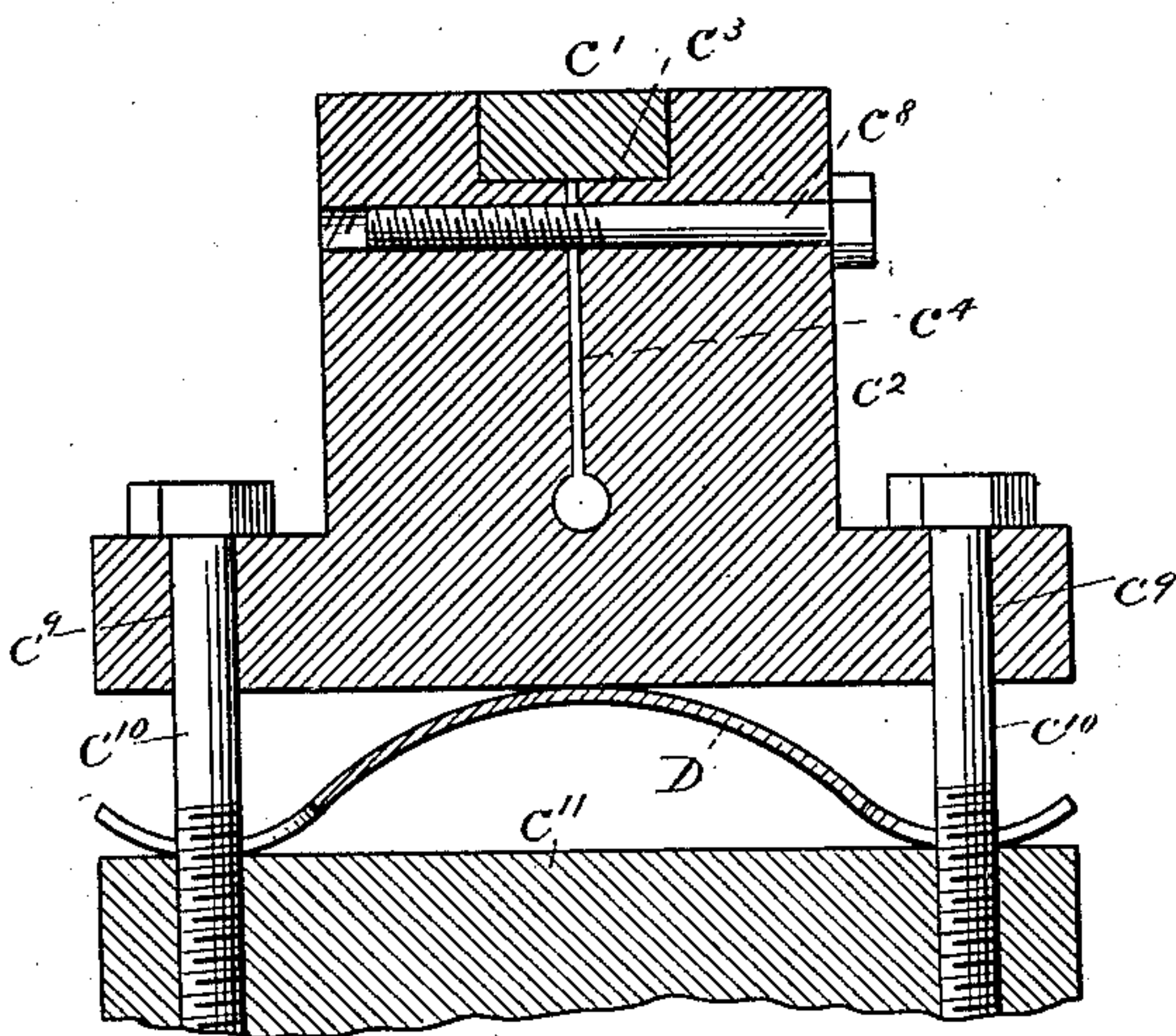


FIG. 4.

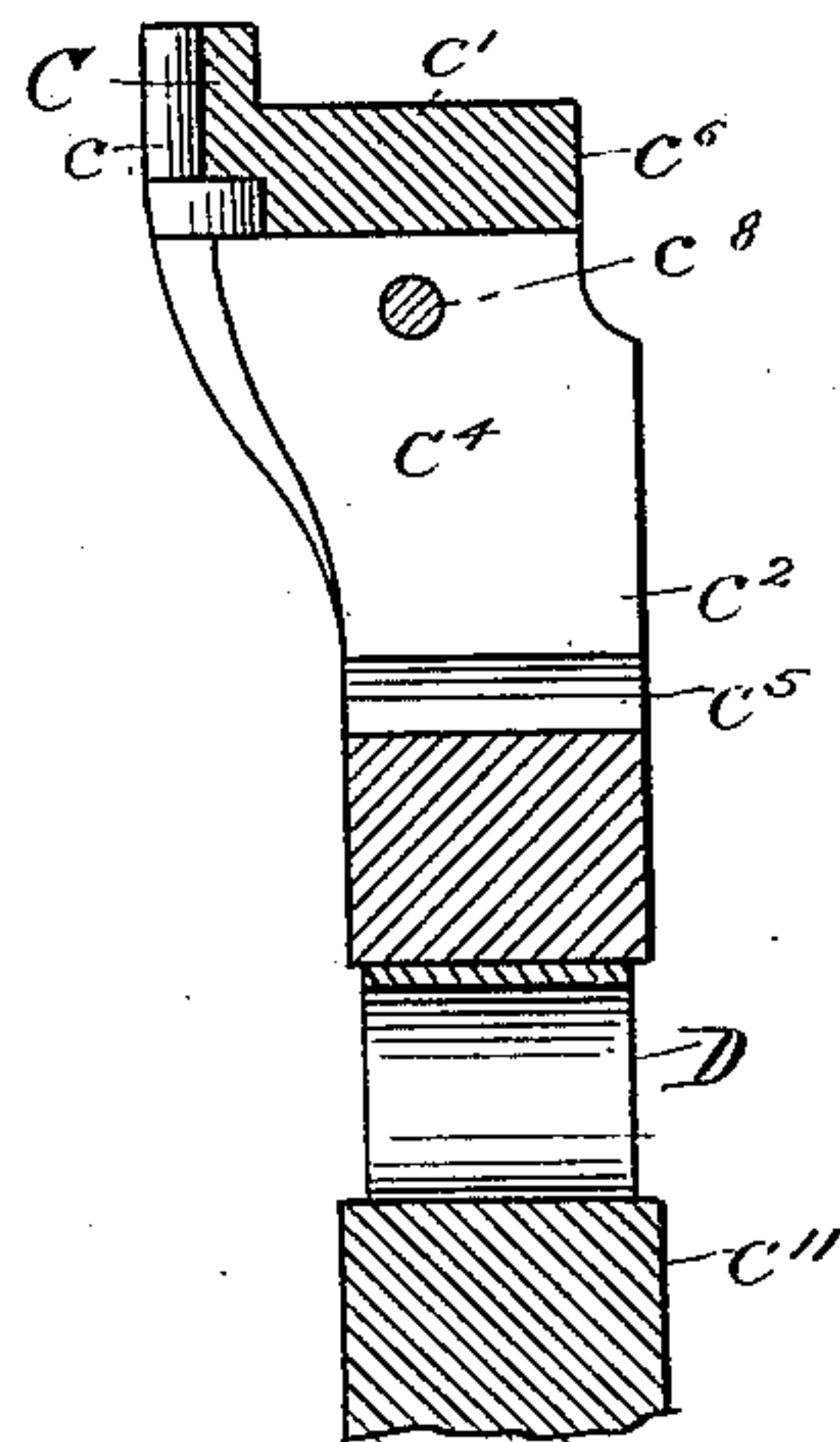


FIG. 5.

WITNESSES.

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*Clark & Raymond.*



# UNITED STATES PATENT OFFICE.

GEORGE T. DEMARY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE  
NATIONAL HEELING MACHINE COMPANY, OF PORTLAND, MAINE.

## HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,703, dated June 15, 1886.

Application filed August 10, 1885. Serial No. 173,934. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE T. DEMARY, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Heel-Nailing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention is an improvement upon the style of back-stop used on the National heeling-machine for locating the position of the heel-blank on the boot or shoe; and it consists in making the same to yield vertically in relation to its support, in order that it may be moved downward when the templet or pressure plate, upon its downward vertical movement, shall come in contact therewith. Herebefore the said stop has been stationary in use, although adjustable vertically.

The invention also relates to various other features more fully specified hereinafter.

Referring to drawings, Figure 1 is a front elevation of the central and upper parts of a National heeling-machine provided with my improvement. Fig. 2 is a vertical central section upon the line *xx* of Fig. 1, also showing the jack in section and elevation and the shoe and heel thereon. Fig. 3 is an enlarged view in perspective of the back-stop. Fig. 4 is a vertical central section lengthwise the stop; and Fig. 5 is a vertical central section at right angles to that shown in Fig. 4.

*A A'* are the side frames of the machine.

*a* is the bed which supports the jack *a'*, and the post *a''*, which carries or supports the carriage or table *a'''*, in which the templet or pressure plate *a''''* is arranged to slide.

*a<sup>5</sup>* is the templet carried at the end of the templet or pressure plate.

*a<sup>6</sup>* is the cross-head, which is reciprocated, as described in the Henderson Patent, No. 316,894, dated April 28, 1885, or in any equivalent way. *a<sup>7</sup>* is the revolving head carried thereby and having arms supporting the blocks *a<sup>8</sup>* *a<sup>9</sup>* *a<sup>10</sup>*, carrying, respectively, a gang or group of awls, a gang or group of drivers, and the spanker and top-lift holder.

*B* is the heel-support, (shown in dotted lines in Fig. 2,) which is mounted upon the post *b*

of the jack, which has a screw-thread, *b'*, upon its lower end, upon which the nut *b''* screws, and by which it is made vertically movable.

*C* is the heel-stop. It is rounded inwardly upon its outer surface, *c*, and has a backward-extending arm, *c'*, by which it is secured in place to block *c''*, the block having a recess, *c'''*, formed in its upper surface, and a slit, *c''''*, which extends downward to the round horizontal hole *c<sup>5</sup>*, to form the two parts *c<sup>6</sup>* *c<sup>7</sup>* of the block, which by means of the screw *c<sup>8</sup>* are made movable sufficiently when brought together by the screw upon the arm *c*, to lock or clamp it in place. This construction permits the horizontal movement of the back-stop upon the block *c''*. The block *c''* has extending through holes *c<sup>9</sup>*, formed therein, the guide-pins *c<sup>10</sup>*, which are fastened to the supporting-plate *c<sup>11</sup>*. The pins have heads which limit the upward movement of the block *c''*, produced by the spring *D*, arranged between the upper surface of the plate *c<sup>11</sup>* and the block *c''*. The plate *c<sup>11</sup>* is supported by a block, *E*, (see Fig. 2,) upon which it is vertically adjustable by means of the slot *e* and the screws *e'* *e''*, and this block *E* is carried at the end of the round piece *e'''*, which extends into a hole in the post *a''*, and is adjustable horizontally in relation thereto to and from the same by means of the screw *e''''*. The carriage or table supporting the templet or pressure plate is vertically adjustable with its carriage or support by the awl-block against the resistance of the spring *F*, which, after the nails have been driven and the plate unlatched, automatically returns it to its original position.

*G* is the nail carrier, which transfers the nails to the holes in the templet or pressure plate.

*H H'* are the shoe-guides.

The templet or pressure plate is moved downward to the same level each reciprocation, and to enable heels of varying heights to be compressed and attached it is necessary to make the heel-support adjustable in relation to the templet or pressure plate. This is done by means of the screw *b''*. It is also necessary to adjust the heel back-stop vertically, in order that it may be brought in proper relation to the heel which is to be located thereby, and this is accomplished by lifting or lowering the plate



$c^{11}$  by means of the screws  $e'$  and  $e^2$ , and also to adjust its position horizontally by means of the screw  $e^3$ . To bring the stop into proper position when low heels are nailed, before the improvement herein mentioned was made, the heel back-stop was often moved vertically upward to such a position that the templet upon its downward movement would come in contact therewith and would break the adjusting-screw  $e^2$ . By making the back-stop vertically yielding it is obvious that if the templet-plate comes in contact with it in its downward movement no injury can be done.

In order that the extent of compression to which the heel-blank is to be subjected may be ascertained, I have arranged to project from the carriage  $a^3$  the pointer, M, which extends toward the side frame A', and a pin,  $m$ , is fastened to the bearing-plate  $m'$ , and the relation which the pointer bears to this pin as the pressure-plate is moved down by the hand-lever  $m^2$  upon the heel-blank shows whether it will be necessary to adjust the height of the heel support before the heel is attached.

To prevent the forward movement of the nail-carrier plate G when the awls or spanker are in position for reciprocation, I use the arm  $g$ , which is attached to the side of the nail-holder to project slightly in advance thereof, and a pin,  $g'$ , upon the awl-holding block, against which the stop-arm will come in contact if it is attempted to move the holder and the arm  $g^2$ , which is attached to the revolving head-shaft, and is moved by it into place when the spanker is brought into operative position to bar the passage of the arm  $g$  upon an attempted forward movement of the nail-holder G. These simple devices absolutely prevent the attendant from moving the plate at any but the right interval, and consequently they prevent the breakage of parts, which might otherwise occur. I would state, however, that I do not claim the arms  $g$   $g^2$ , and that they will form the subject-matter of a separate application by another applicant.

In the Henderson patent, above referred to, there is shown a back-stop for locating the po-

sition of the heel-blank upon the outsole of the boot or shoe, which is attached to a support or plate adapted to be moved vertically by a screw for the purpose of adjusting the stop vertically, and to be moved horizontally by a screw for the purpose of adjusting the horizontal position of the stop; but these adjustments must be made before the machine is set in operation, and during the operation of the machine the back-stop is rigid. This construction would answer very well were it not necessary to vary the vertical position of the back-stop frequently. As it is, however, it is necessary to frequently adjust this stop, and especially when a variation in the height of the heel-blanks occurs, and the operator is not always careful to properly adjust the stop to the proper level, so that he sometimes adjusts it to too high a position, and the templet upon being forced down is brought in contact therewith and some part of the machine broken. By mounting the back-stop as herein described, or, in other words, by making it vertically yielding, this liability of breakage from carelessness, or for any other reason, is done away with, and it is also unnecessary in making adjustments to so carefully locate the vertical position of the back-stop. The vertically-yielding back-stop is also advantageous, because a heel blank upon being applied to a boot or shoe is compressed, and it is desirable that the back-stop should yield or move downward as the blank is being compressed.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of a plate or support,  $c^{11}$ , with a vertically-yielding heel back-stop, C, substantially as described.

2. The combination of a plate or support, the guide-pins  $c^{10}$ , the block  $c^2$ , the spring D, and the back-stop C, substantially as described.

GEORGE T. DEMARY.

Witnesses:

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FRED. B. DOLAN.