

(No Model.)

2 Sheets—Sheet 1.

H. M. ESSINGTON.

CLAMP CENTERING DEVICE FOR BUTTON HOLE SEWING MACHINES.

No. 377,933.

Patented Feb. 14, 1888.

Fig. 1.

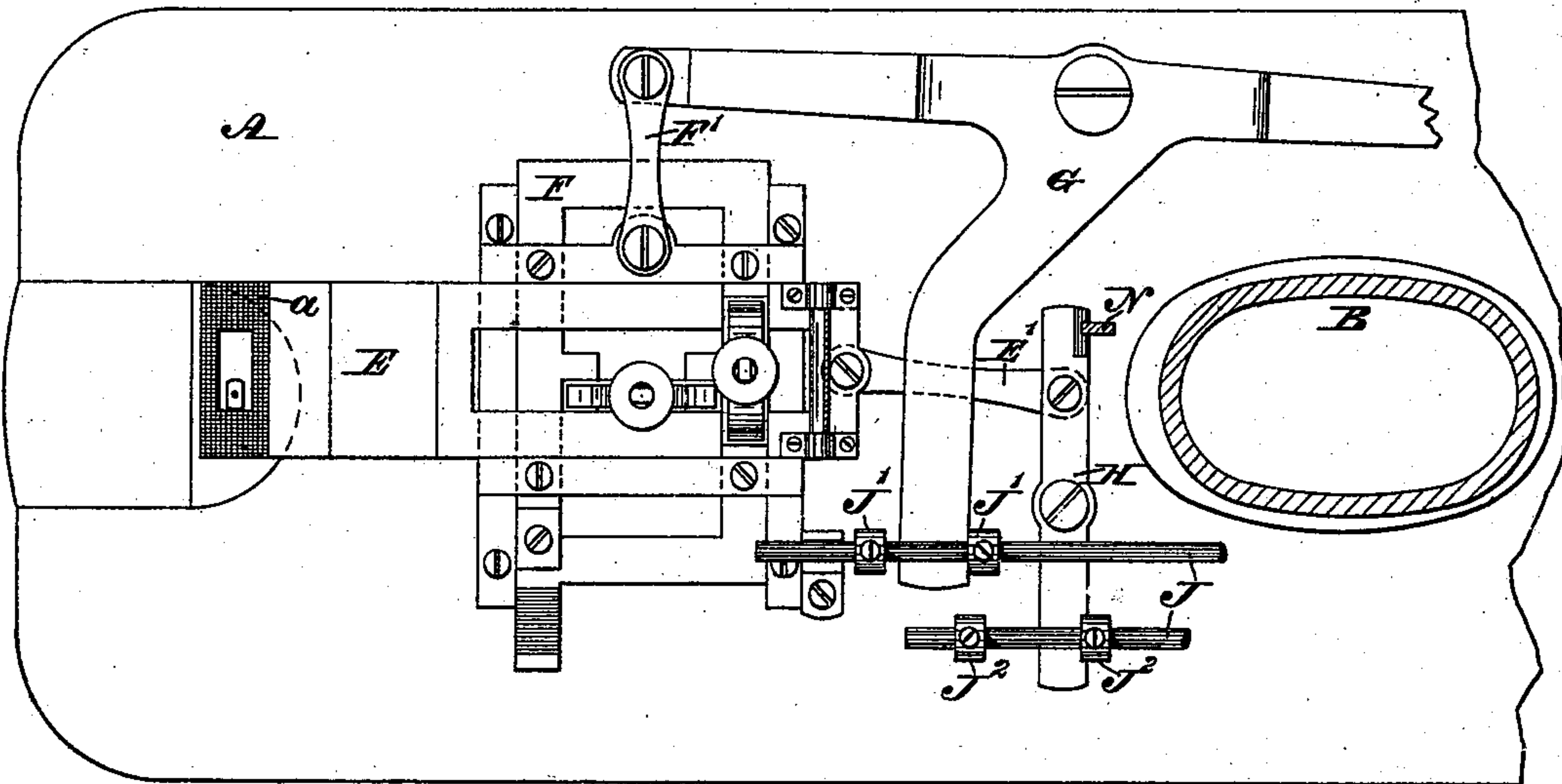


Fig. 2.

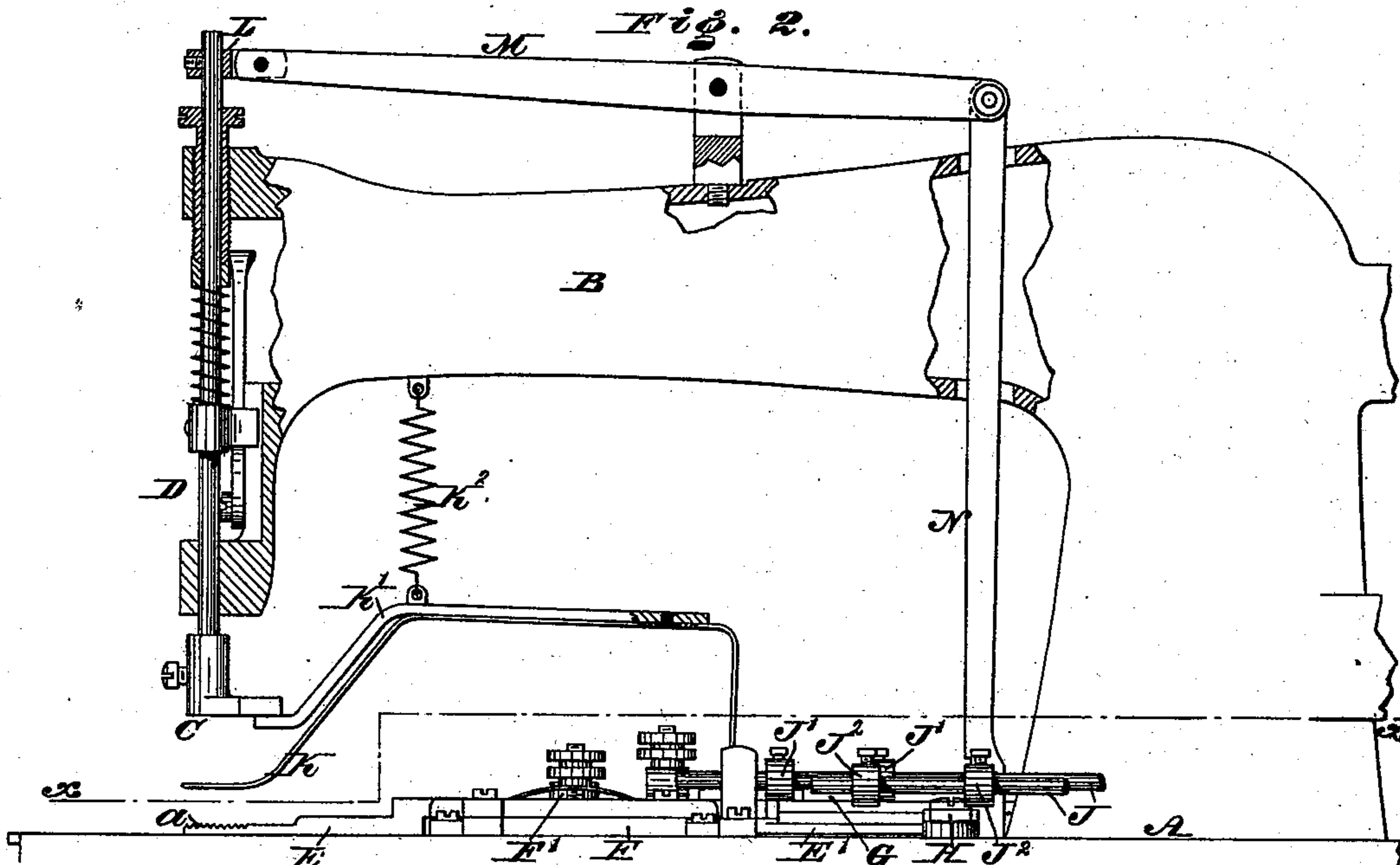


Fig. 3.

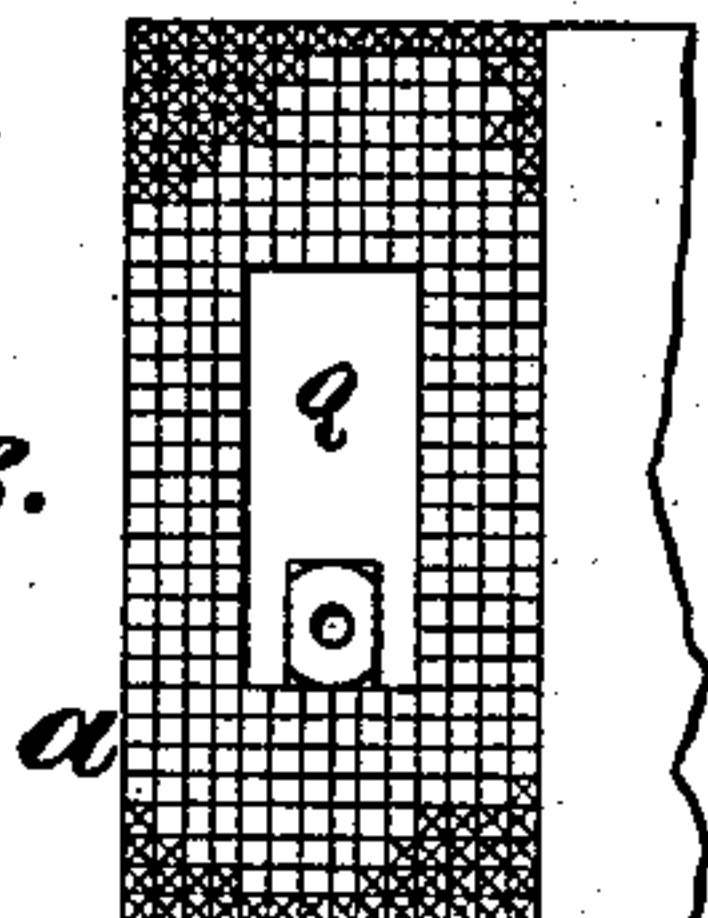
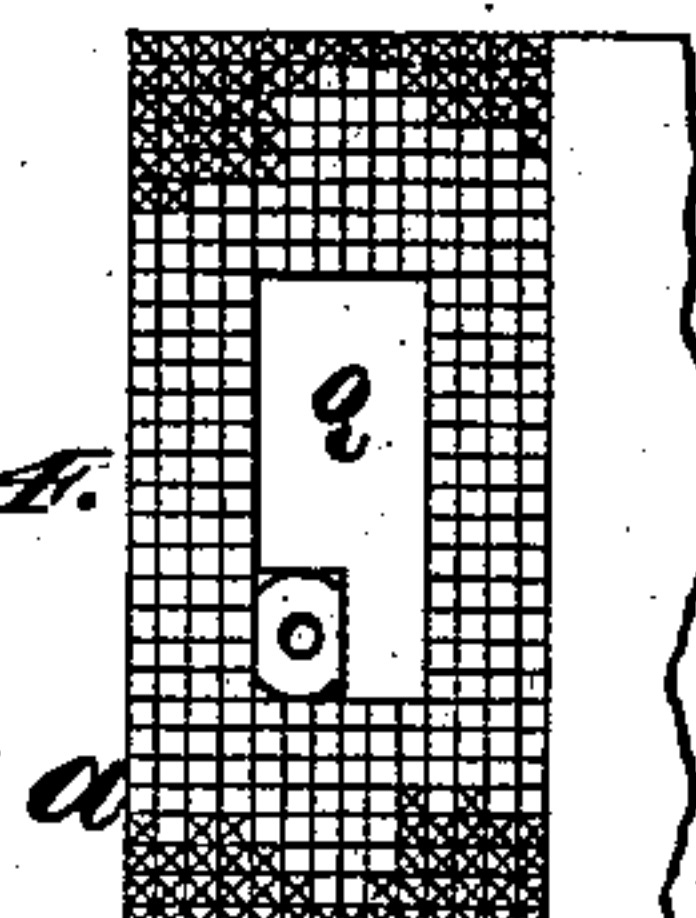


Fig. 4.



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2 Sheets—Sheet 2.

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Fig. 5.

Fig. 6.

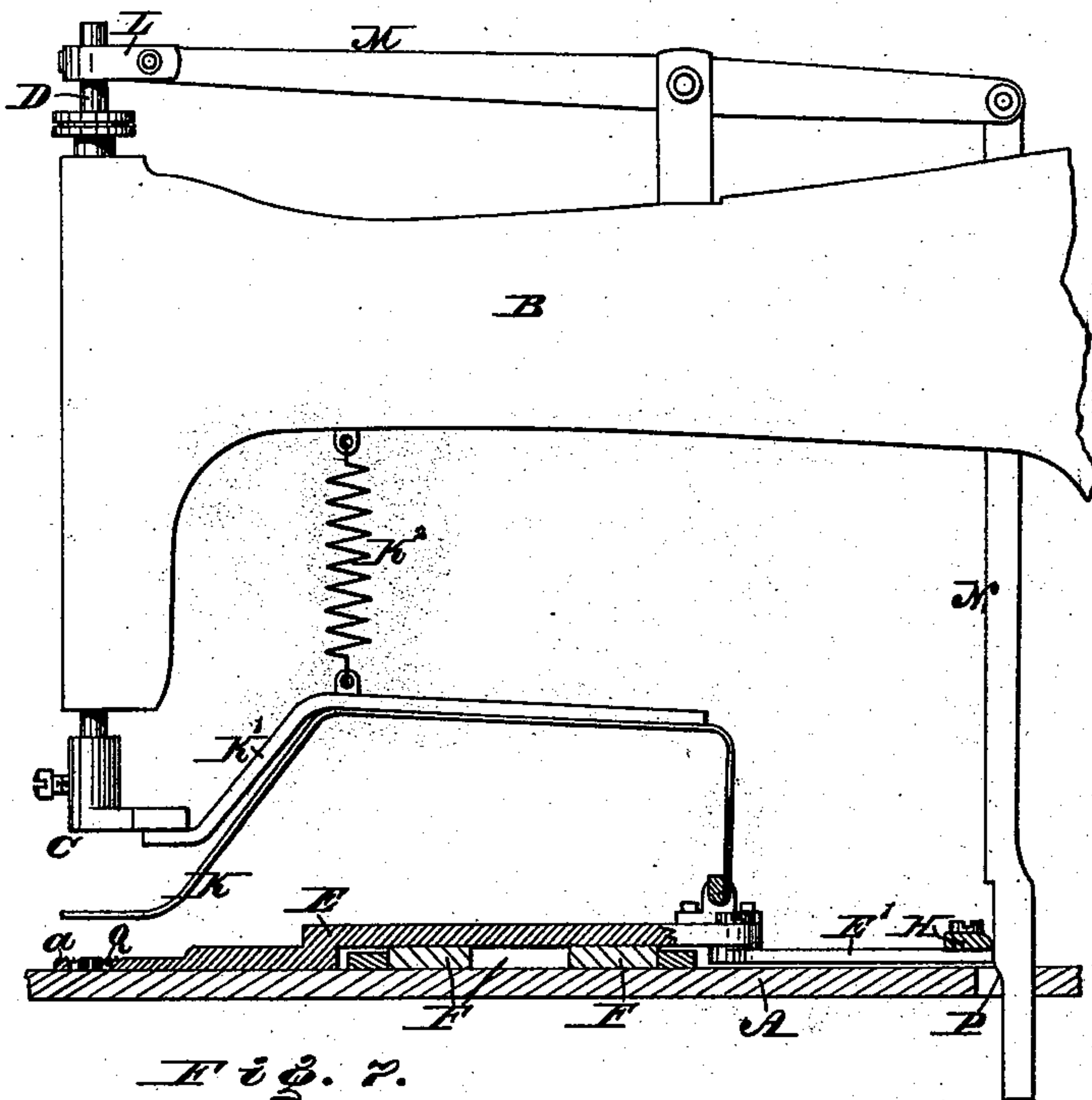
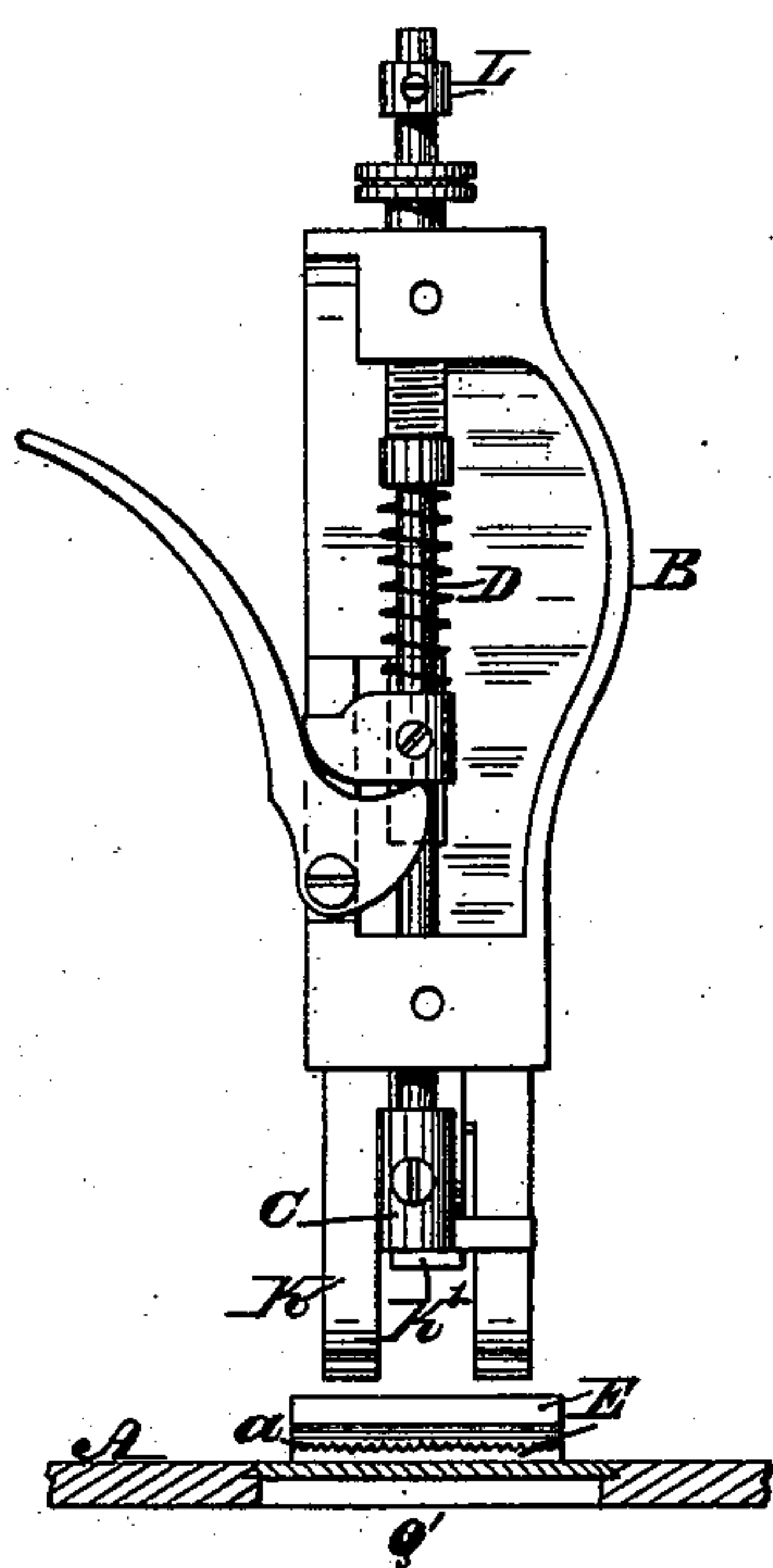
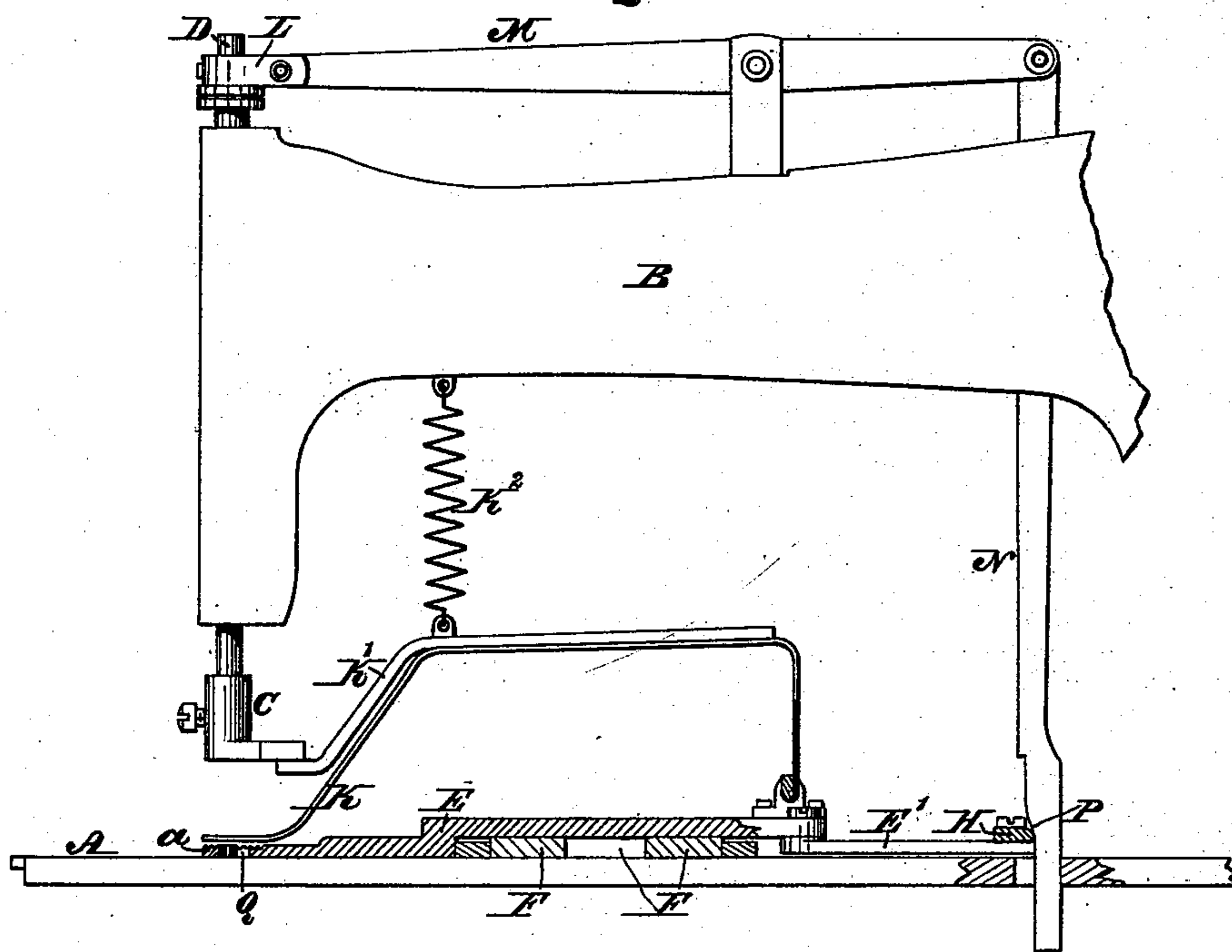


Fig. 7.



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# UNITED STATES PATENT OFFICE.

HARRY M. ESSINGTON, OF CAMDEN, NEW JERSEY, ASSIGNOR TO THE ESSINGTON BUTTON-HOLE FINISHING MACHINE COMPANY.

CLAMP-CENTERING DEVICE FOR BUTTON-HOLE SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 377,933, dated February 14, 1888.

Application filed April 21, 1887. Serial No. 235,614. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY M. ESSINGTON, a citizen of the United States, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Button-Hole Attachments for Sewing-Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a partial plan view and partial horizontal section in line *xx*, Fig. 2, of a sewing-machine embodying my invention. Fig. 2 represents a partial side elevation thereof. Figs. 3 and 4 represent different portions of the serrated or roughened face of one of the slides of the machine. Fig. 5 represents a front end view of portion of the machine. Figs. 6 and 7 represent partial side elevations and partial vertical sections of the machine, the parts being in different positions in the two figures.

Similar letters of reference indicate corresponding parts in the several figures.

In an application for Letters Patent, No. 206,109, filed by me on the 24th day of June, 1886, there are described and shown means for imparting motion to plates which slide in both longitudinal and transverse directions, whereby stitches are formed first in one direction and next over the same in a right angle thereto.

In an application for Letters Patent, No. 226,935, filed by me on the 8th day of February, 1887, there are described and shown means for centering the throat of one of the sliding plates in relation to the needle or needle-opening in the cloth-plate, whereby when the machine stops the work may thereafter be started at the proper place, thus producing uniformity and correctness thereof.

In the present invention the centering is accomplished by the act of raising the presser-foot when the work is to be relieved.

Referring to the drawings, A represents the cloth plate or table of a sewing-machine, and B the stationary arm rising therefrom.

C represents the presser-foot, whose rod D is guided in said arm B.

E represents a plate or slide which is guided on a slide, F, the latter being guided on the table A and moving at a right angle to said slide E. Connected with the slide F is a piv-

otal link, F', which is also connected with the three-armed lever G, mounted on the table A.

J represents two rods, which have collars J<sup>1</sup>, J<sup>2</sup>, respectively, for engagement with the levers G, H, said rods being alternately operated, whereby motions are imparted to the slides E, F alternately in directions at a right angle to each other.

The features thus far described are in general respects shown in the application for Letters Patent heretofore referred to.

Connected with the slide E is a clamp, K, which is located above the slides and formed of a bent piece of spring metal having the inner end secured to said slide E and the outer end placed over the roughened or serrated face of the slide E, so that when the clamp is depressed its outer end is forced against the cloth or work placed on said face. The upper part of the clamp has secured to it an arm, K', which is engaged by the presser-foot C, whereby as the presser-foot is lowered said arm, and consequently the outer end of the clamp, is also lowered. As the clamp is elastic in its nature, it is restored to its normal position when the presser-foot is raised; but this is assisted by means of a spring, K<sup>2</sup>, which is secured to said arm K' and a proper part of the arm B of the machine. To the upper end of the rod D of the presser-foot is attached a link or strap, L, to which is pivoted a lever, M, whose axis is on an ear rising from the arm B. To the rear end of said lever M is pivoted a bar, N, which extends in upright position and has its lower end passed freely through the table as a bottom guide therefor, as will be seen in Figs. 6 and 7. The upper part of the bar passes freely through the arm B, as will be seen in Fig. 2; but it may be located outside of the same, and the lower end may be otherwise guided without departing from my invention. The lower portion of the bar is located adjacent to the lever H, so as to be engaged with the side of the same, and has an inclined or cam face, P, which, when the bar is lowered, rides against said lever, and consequently moves the same a certain extent, whereby the slide E is advanced in the direction toward the presser-foot.

The operation is as follows: When the machine is stopped, the slides occupy or approximately occupy such position that the throat of



the slide E may be located, as in Fig. 4, into the needle-opening Q' in the cloth-plate; but it is desirable to "center" said throat, as in Fig. 3, whereby the work is always started from the same place, and the same is uniform and correct. As soon as the presser-foot is raised in order to remove the cloth or material, the clamp K is released and the lever M operated, whereby the bar N descends. The face P of said bar now presses against the lever H, whereby the latter is moved and the slide E is advanced to its proper extent, the throat Q being properly located or centered, so that when the presser-foot is subsequently lowered the cloth or material is clamped on the face a in proper position for the stay-forming or button-hole-finishing operation to be started at the correct place.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine of the character described, a presser-foot, in combination with the slide E, the clamp K, having the arm K', and mechanism, substantially as described, connected to said presser-foot and slide for operating the said slide, whereby the same is centered, substantially as and for the purpose described.

2. In a machine, substantially as described, the slides with clamping device, the connected

levers of said slides, and means for operating the same, in combination with a bar having a cam-face which is adapted to engage with one of said levers, the lever M, and the presser-foot, said lever M being connected with said bar and presser-foot, substantially as set forth, whereby when the machine is stopped the elevation of the presser-foot centers the clamping device or locates it at the correct starting-point, as stated.

3. The presser-foot C, in combination with the arm, the bed-plate A, the slide E, the clamp K, secured to said slide E and having the arm K', the spring K', secured to said arms B and K', and mechanism, substantially as described, connected to said arms B and K', for operating the slide, whereby the same is centered, substantially as and for the purpose set forth.

4. In a machine of the character described, the presser-foot C, having rod D, with link L, attached thereto, in combination with the pivoted lever M, the bar N, having on its lower end the cam-face P, the slide E, with throat Q, and mechanism, substantially as described, for operating the slide E, connected thereto and including the pivoted lever H, substantially as and for the purpose set forth.

HARRY M. ESSINGTON.

Witnesses:

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