

(Model.)

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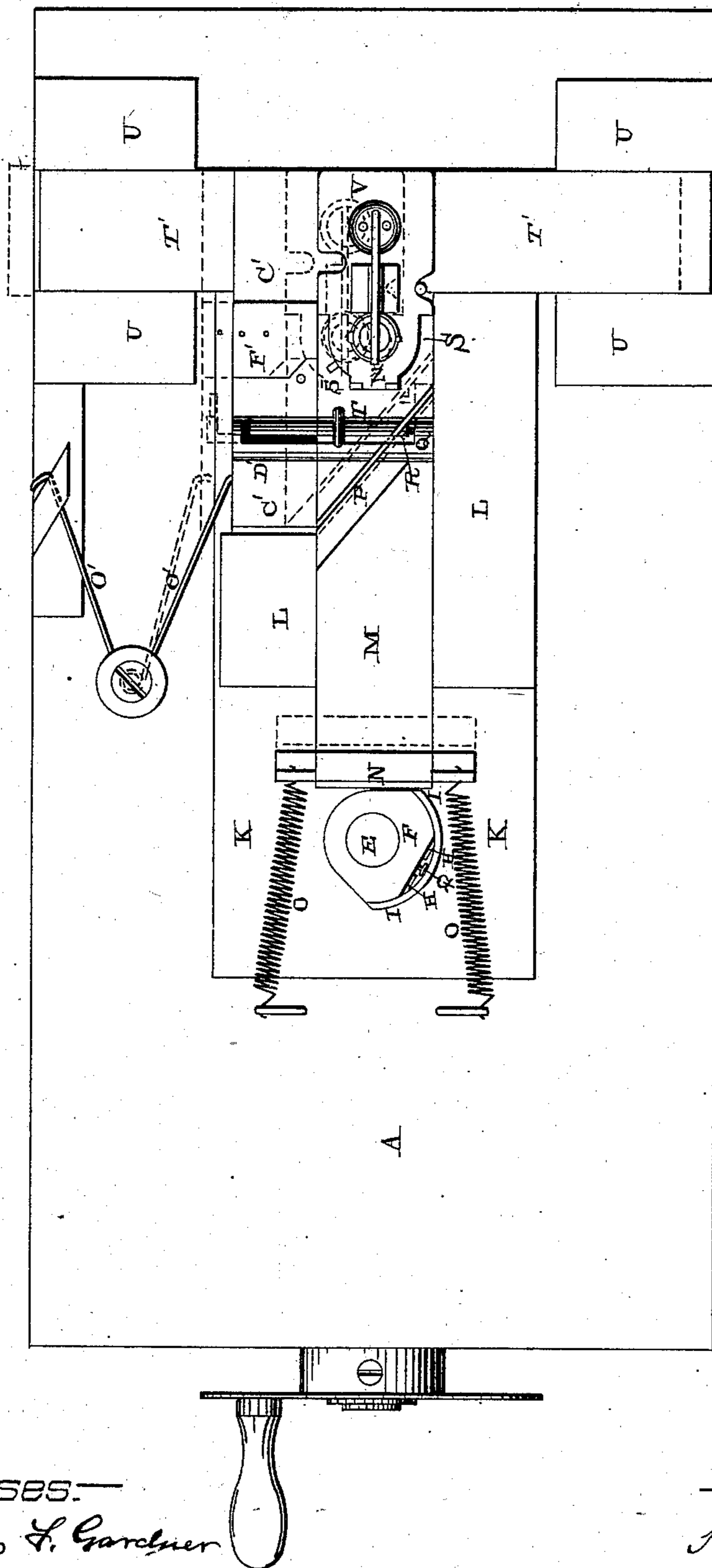
H. A. BEHN.

MACHINE FOR SEWING ON BUTTONS.

No. 267,642.

Patented Nov. 14, 1882.

Fig. 1.



—Witnesses.—

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(Model.)

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Fig. 2.

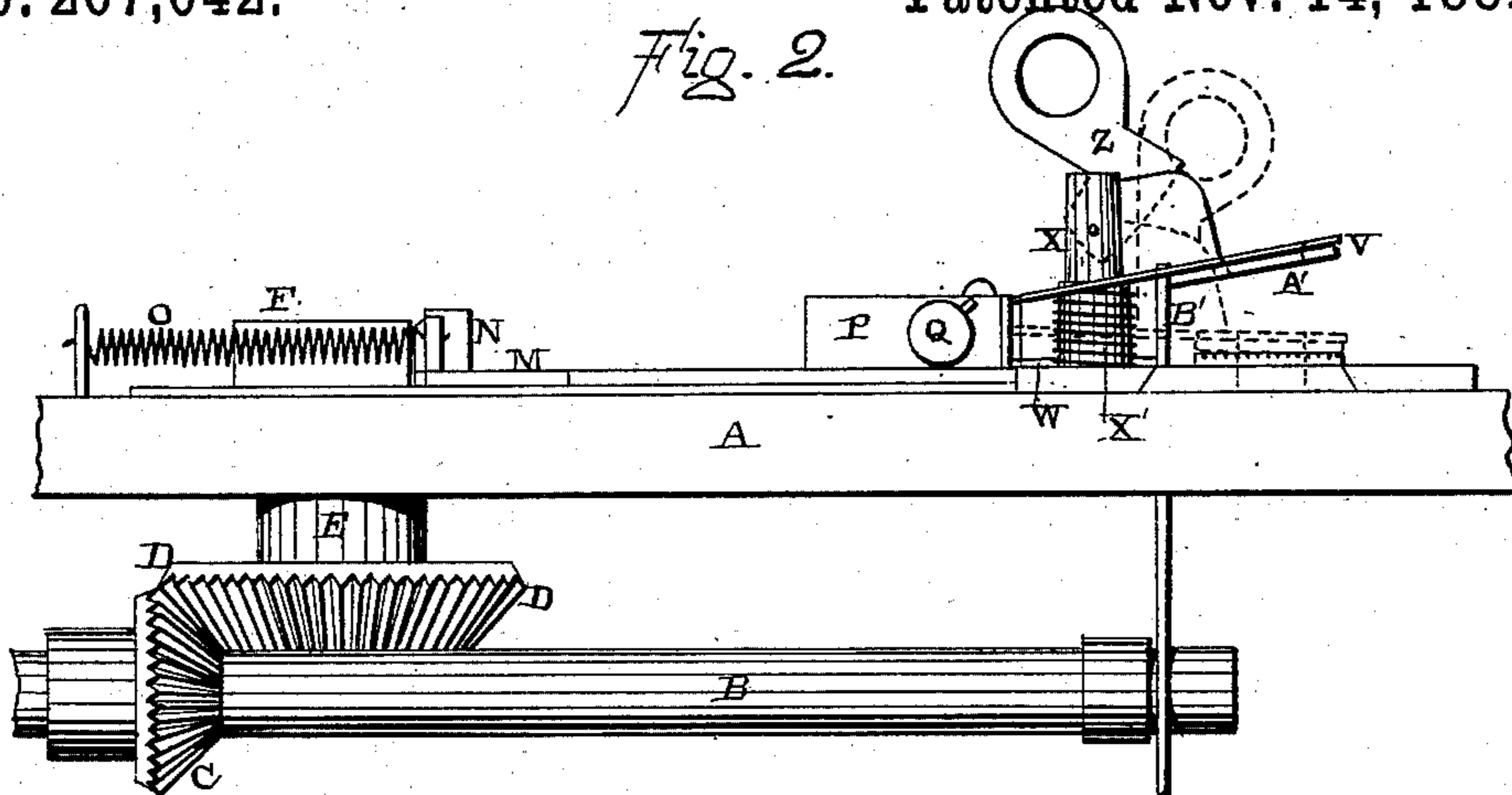


Fig. 3.

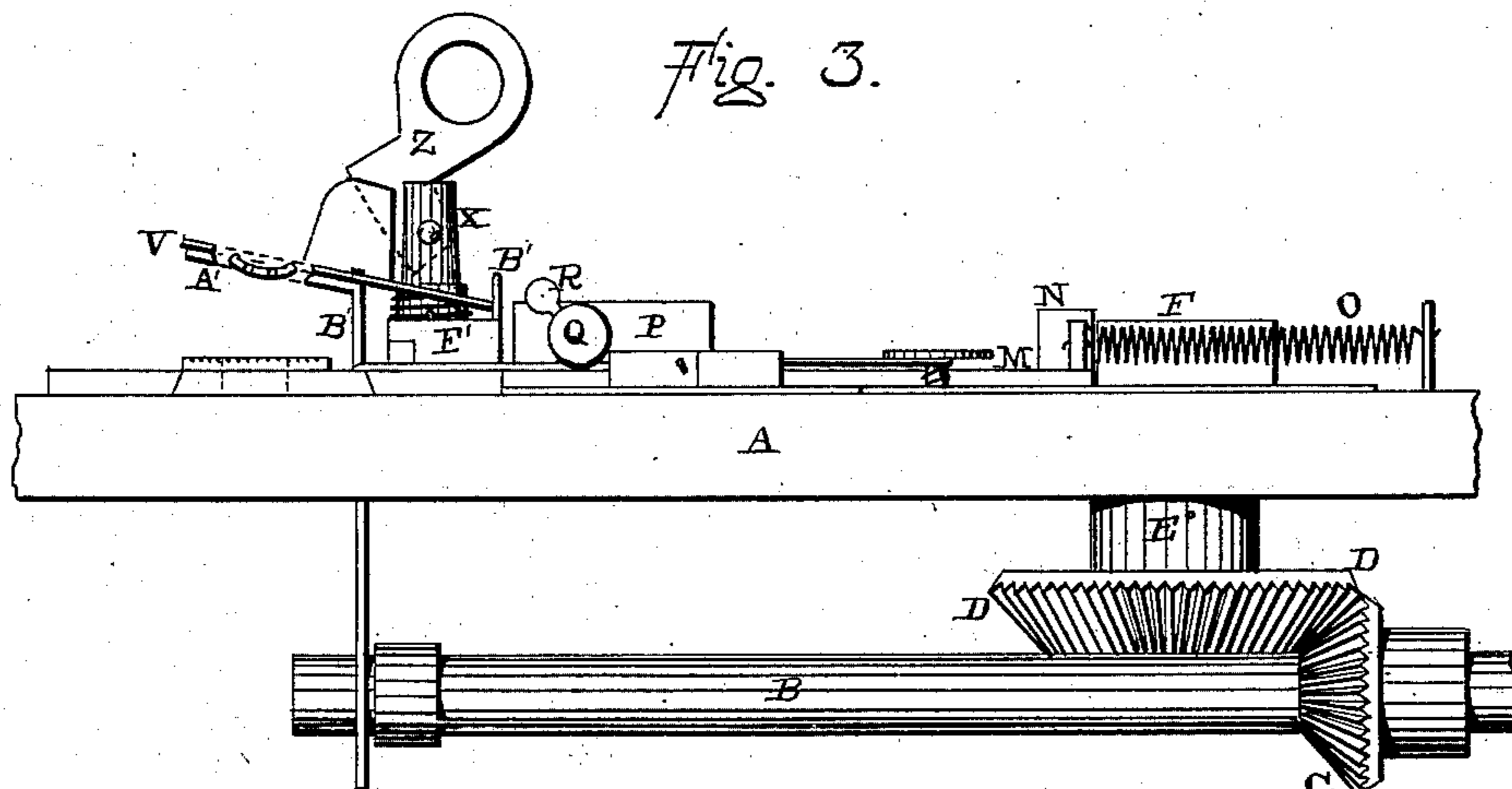
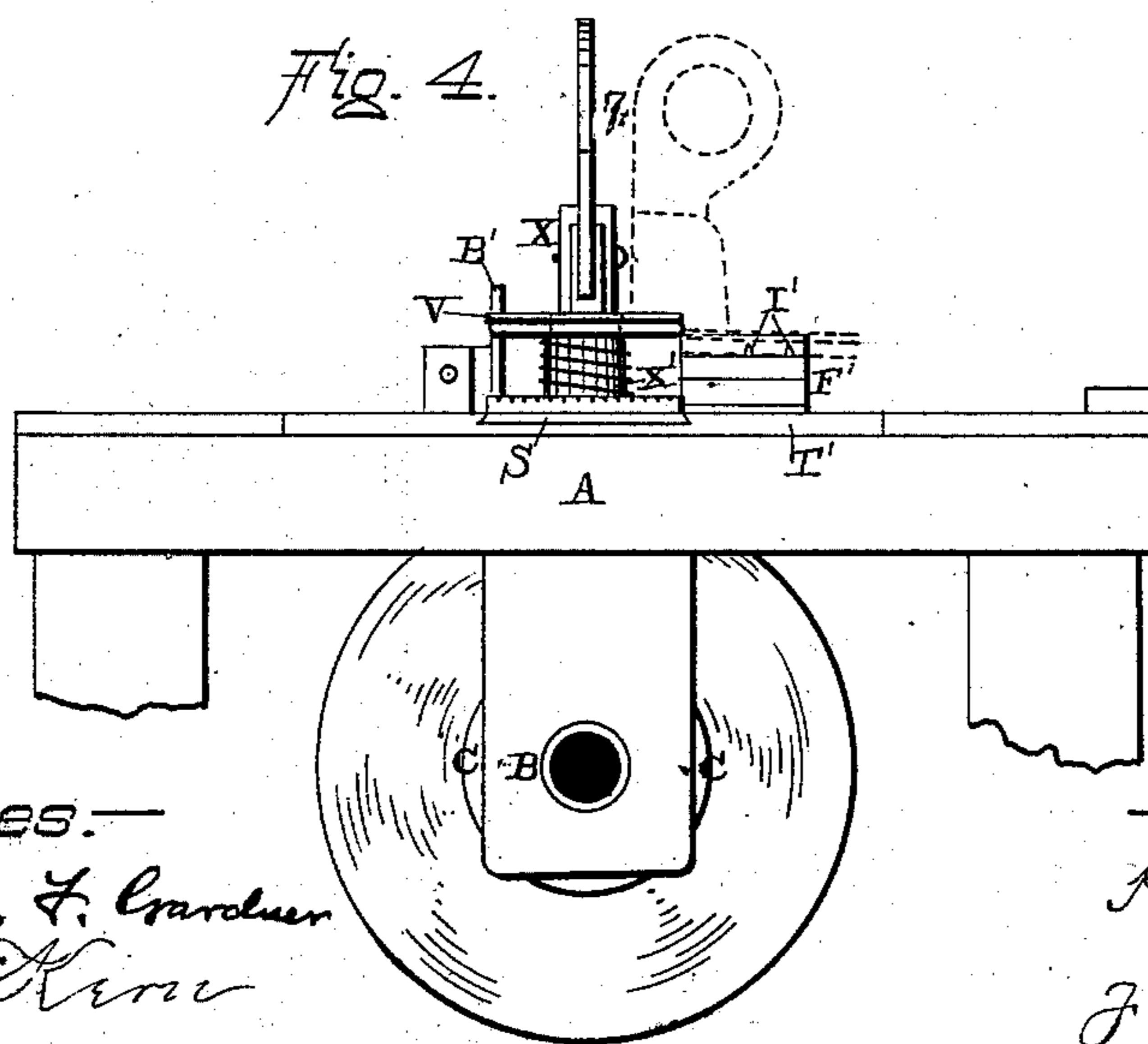


Fig. 4.



—Witnesses.—

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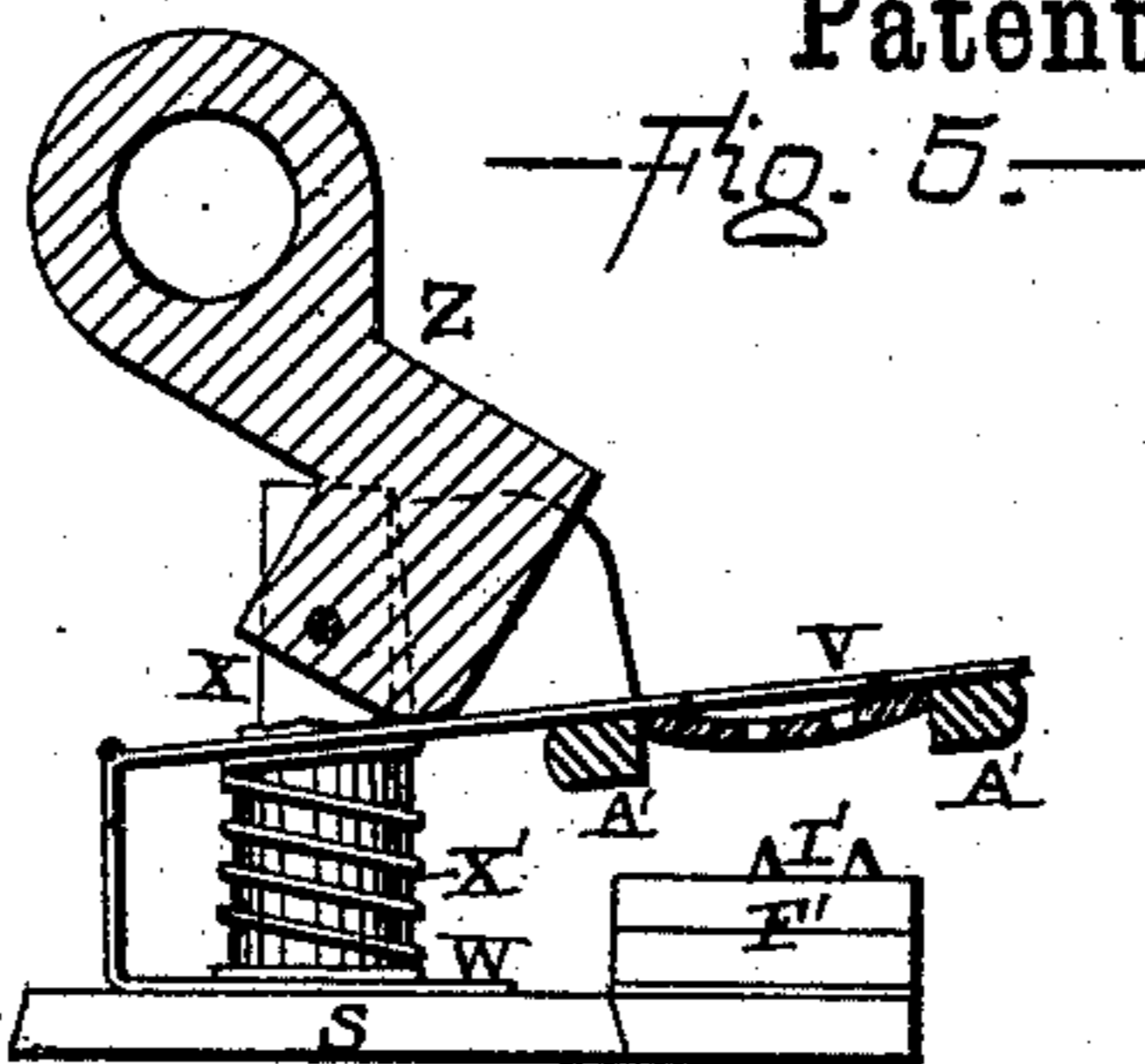
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H. A. BEHN.

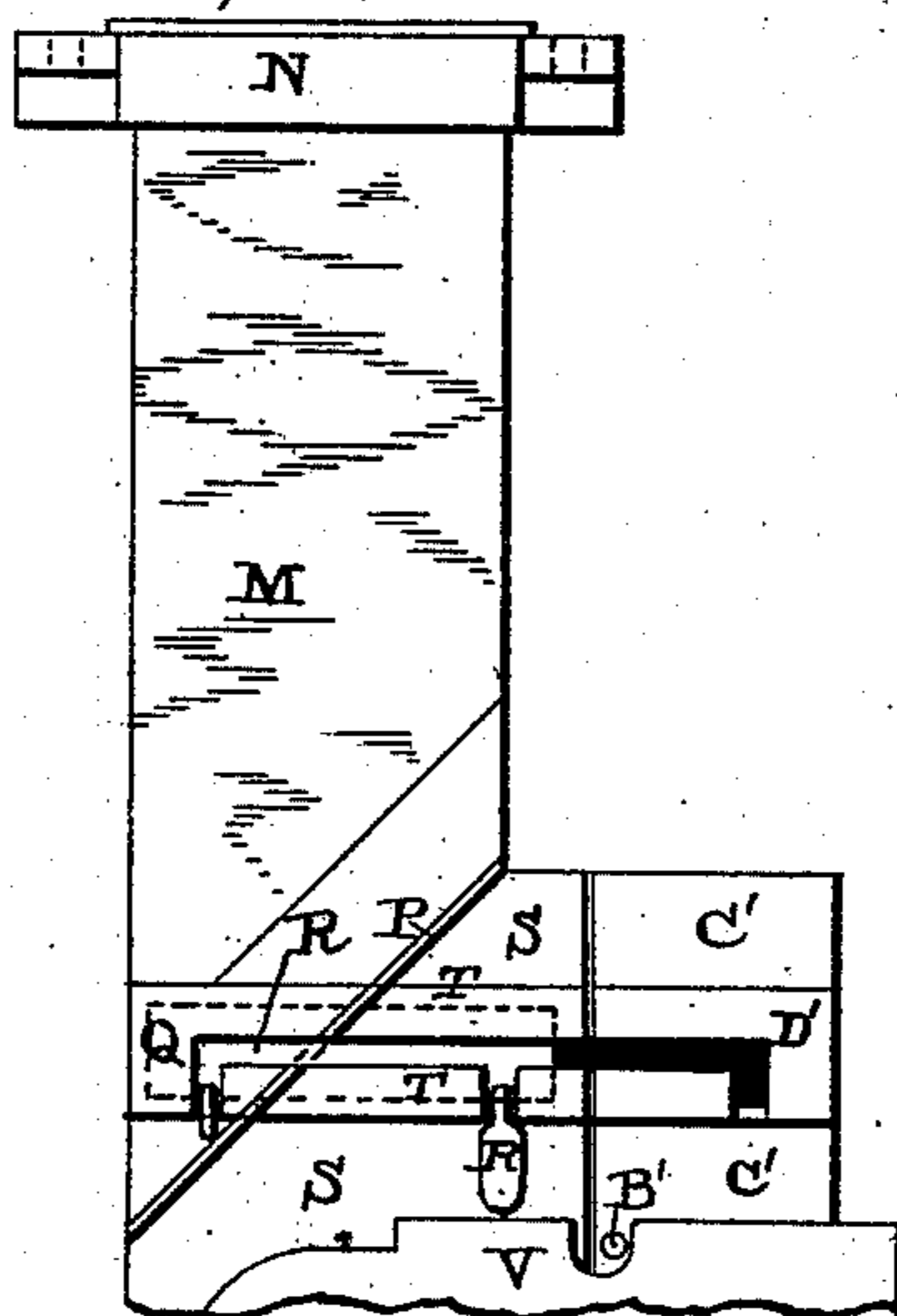
MACHINE FOR SEWING ON BUTTONS.

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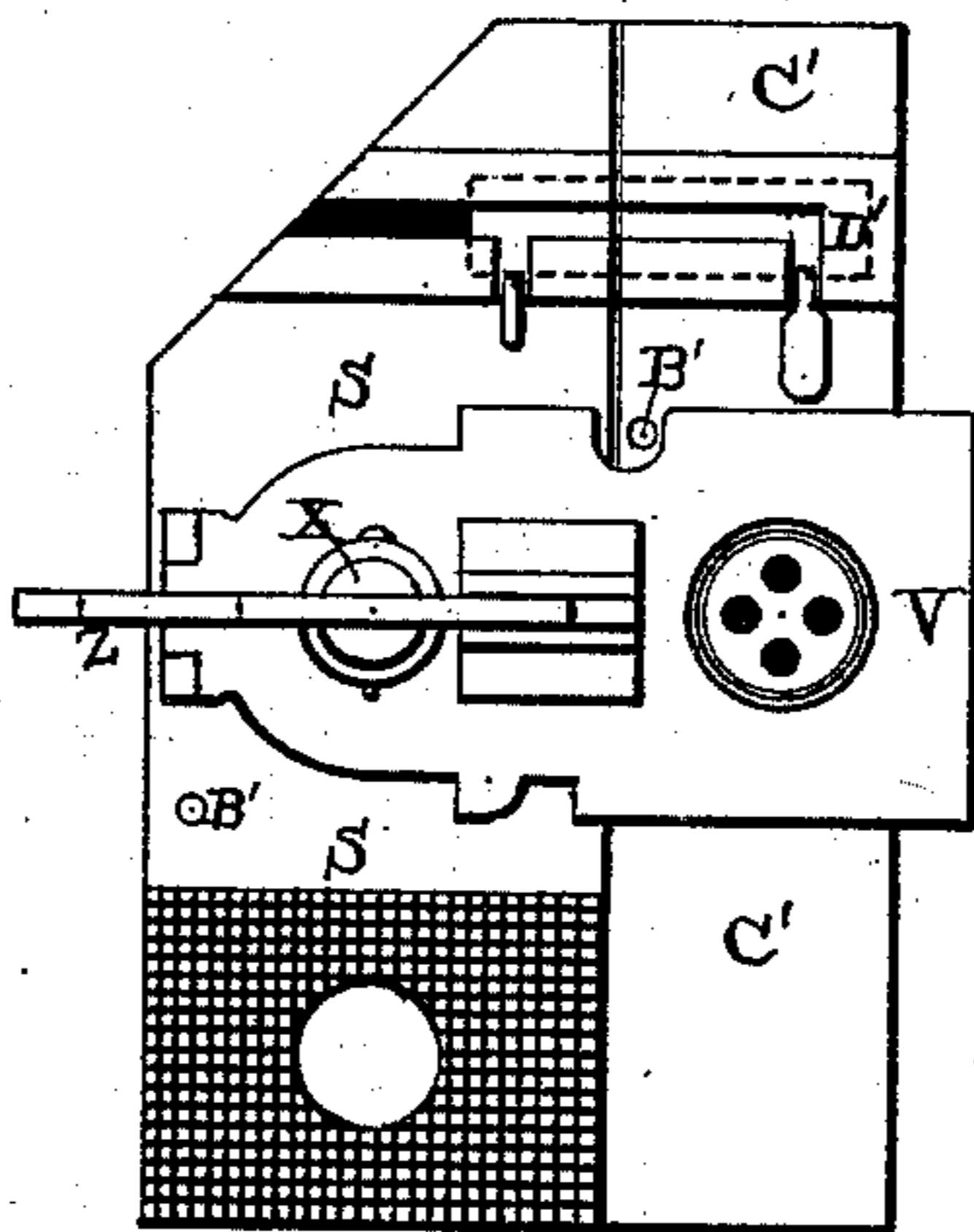
Patented Nov. 14, 1882.



—Fig. 6.—

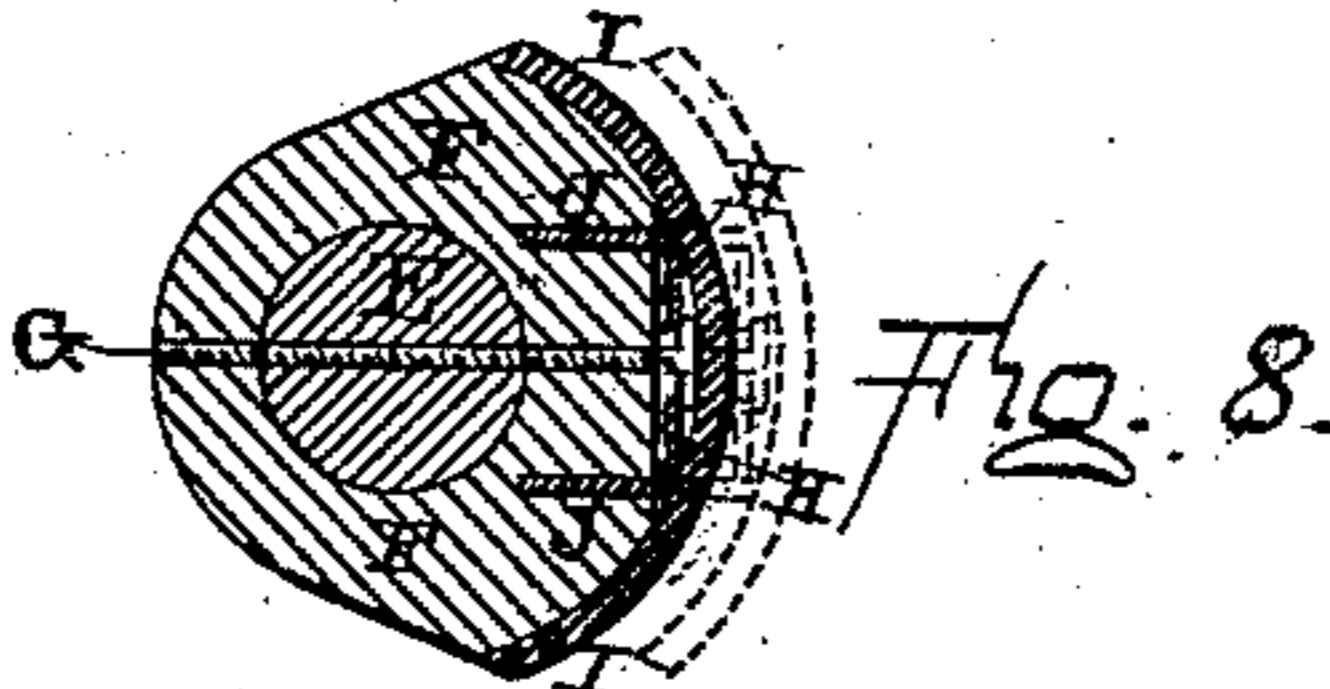


—Fig. 7.—



—Witnesses.—

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(Model.)

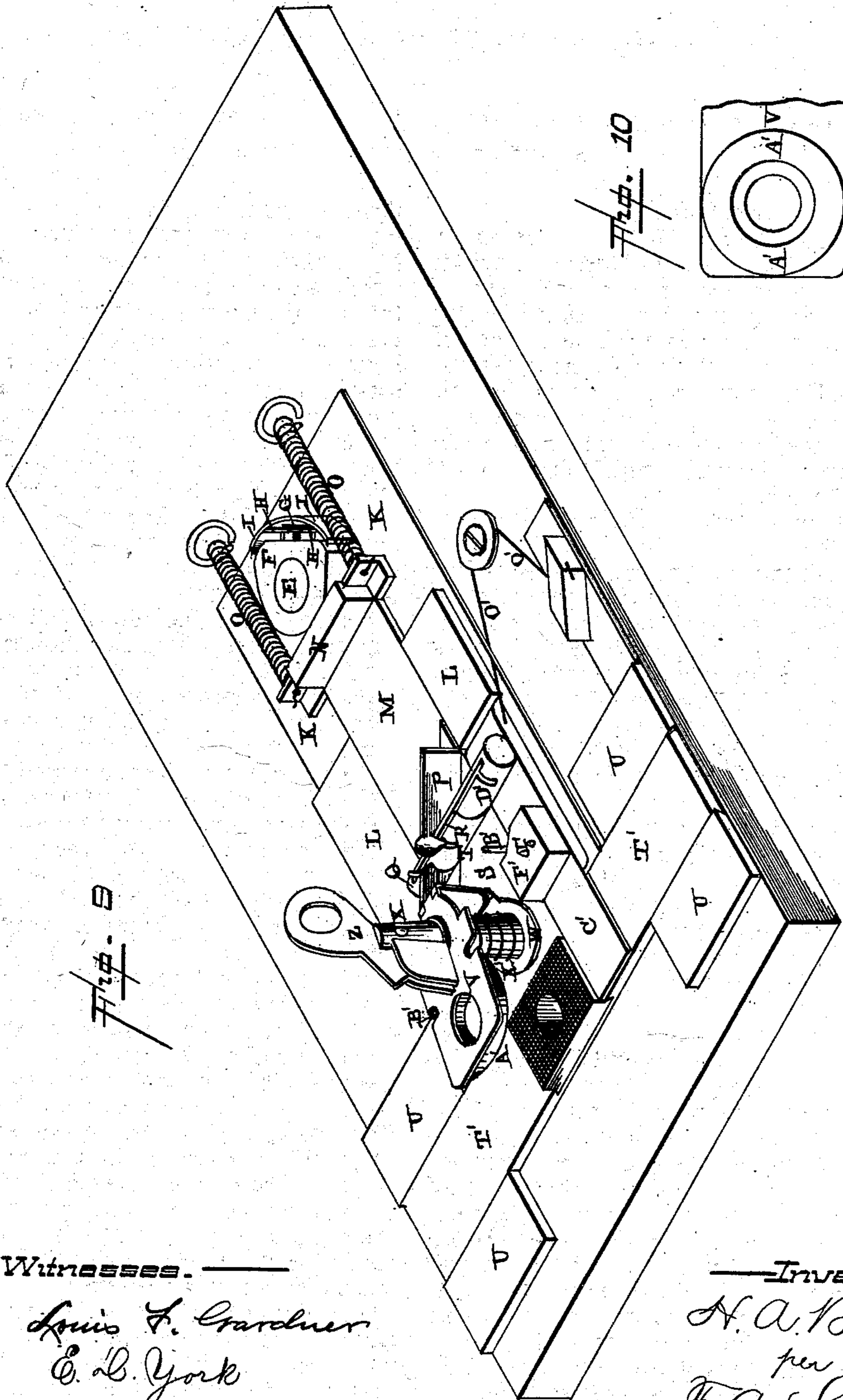
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—Inventor.—

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# UNITED STATES PATENT OFFICE.

HENRY A. BEHN, OF UNION HILL, NEW JERSEY.

## MACHINE FOR SEWING ON BUTTONS.

SPECIFICATION forming part of Letters Patent No. 267,642, dated November 14, 1882.

Application filed August 28, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, HENRY A. BEHN, of Union Hill, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Machines for Sewing on Buttons; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in machines for sewing on buttons; and it consists, first, in the combination of three sliding plates or parts and a connecting-latch or device, whereby two of the plates can be connected together so as to cause them to move in a line according to the direction in which the eyes in the button extend; second, in a presser-foot provided with a suitable means for holding the button, and which presser-foot can be turned back and forth through a quarter of a circle.

The object of my invention is to provide an attachment for a sewing-machine whereby buttons can be sewed upon clothing with great ease and rapidity, and which can be adjusted to buttons of different sizes.

Figure 1 is a plan view of my invention. Figs. 2 and 3 are side elevations taken from opposite sides. Fig. 4 is an end view. Figs. 5, 6, 7, 8 are detail views. Fig. 9 is a perspective of my invention complete. Fig. 10 is a detail view of the presser-foot.

A represents the frame of the sewing-machine, and B the driving-shaft, which is provided with a beveled-pinion, C, for imparting motion to the bevel-wheel D, which is placed upon the lower end of the short shaft E, which extends through the top of the table and operates the different parts. To the upper end of this short shaft E is secured the cam F, which has the screw G passing entirely through it, as shown in Fig. 8. This screw is movable back and forth through the cam, and has its headed end to catch in between suitable projections, H, which are secured to the inner side of the bearing-surface I, which is attached to one side of the cam by means of a screw. This bearing-surface I consists of a circular piece of metal, which is made adjustable in and out

upon the cam, so as to give a greater or less movement to the different parts, in proportion to the distance between the eyes of the button which is being sewed on. In order to keep this bearing-surface I always in position, there are two studs or projections, J, formed on its inner side, and which fit in the corresponding sockets made in the side of the cam, so as to guide the bearing-surface back and forth in its movements. These projections prevent the bearing-surface from getting out of position or bringing any strain to bear upon the head of the screw. The farther apart the eyes in the button the farther this bearing-surface is moved outward, so as to give a longer stroke to the moving parts.

Secured upon the top of the table is the bearing-plate K, which has suitable dovetailed guides, L, secured upon its top, and in between which guides moves the plate M. Upon the outer edge of this plate M is formed a suitable bearing, N, against which the bearing-surface of the cam strikes as the cam is made to revolve, and as the bearing-surface of the cam is made to press against this plate the plate is moved forward in the direction of the needle. As soon as the pressure of the cam upon the plate is relieved suitable springs, O, draw the plate back into position again. The guides between which this plate moves prevent it from rising upward or having any lateral movement whatever. Upon the inner end of this plate is formed a raised flange, P, and upon one side of this flange is formed a socket, Q, into which the end of the locking-bolt R can be forced when it is desired to lock the plate M to the sliding plate S. This sliding plate S also has formed upon its inner end the socket T, through which the bolt passes. The sliding plate S is adapted to have two movements—one in a straight line with the plate or slide M, and the other a movement at right angles to the plate or slide M when disconnected therefrom. The inner end of the sliding plate S is cut away at a suitable angle, so as to correspond with the angle at which the inner end of the plate M is cut, so that when the slides M and S are connected together they form practically one, or when disconnected from the locking-bolt the beveled end of the slide M serves as a cam to force the slide S sidewise at right angles to the movement of the slide M. The slide S has one of its

edges bear against one of the guides against which the slide M moves, while its outer end is dovetailed and fits in a correspondingly-shaped groove, which is made in the top of the sliding plate T'. When the slide S is given a sidewise movement by the beveled end of the slide M this sliding-plate T' moves endwise with it, as though formed in a single piece. The movements of this sliding plate T' are controlled by the guiding pieces U, which have their edges dovetailed, and which not only prevent the plate T' from having any lateral movement, but prevent the plate from being raised upward.

Upon or near the center of the slide S is pivoted the presser-foot V, which is hinged or pivoted at its inner end to the revolving plate W, which is pivoted upon a suitable standard, X', which rises from the top of the slide S. This pivoted plate W is held down in position by suitable catches, which prevent it from rising upward, but allow it to freely revolve. Between the pivoted plate W and the presser-foot is placed a suitable coiled or other spring, which keeps the presser-foot constantly pressed upward when it is left free to move.

Pivoted in the standard X', around which the plate W is placed, is a post, X, which has its upper end slotted, and in which is pivoted the latch Z. This latch serves to hold the presser-foot carrying the button which is to be sewed on the garment down in contact with the garment.

To the under side of the presser-foot is secured the perforated disk of rubber A', which is made to catch hold of the edges of the button when the rubber is pressed down over its edges. This rubber serves to pick up the button, and then to hold it in position while the button is being sewed on. As this presser-foot is intended to be moved through a portion of a circle the two stops B' are provided for the purpose of preventing it from being turned too far around in either direction.

Secured rigidly to the endwise-moving plate T' is the plate C', which extends in a line with the slide S, and which serves as one of the guides between which the plate S moves when the slide S is connected to the slide M by the locking-bolt. Upon this plate C' is formed a portion, D', of the socket in which the locking-bolt moves, and in which one end of the locking-bolt is held while locking the bolt of the plate C'. While the locking-bolt is connecting the slide S and the plate C' together the slide S is entirely disconnected from the slide M, and then the slide M, as it is moved back and forth, serves only to move the slide S at right angles to the movement of the slide M. Upon the top of this plate C' is formed a raised surface, F', and from this raised surface project the two points I', upon which the button is placed. By having these two points I' the button is always placed in the proper position, so that when taken up by the presser-foot the eyes are always in position to have the needle pass through them. The button having been

placed upon these projections, the presser-foot is swung around until it strikes against a stop, B', and the hole in the rubber comes just over the button. When the presser-foot is pressed downward the button is forced upward through this opening through the rubber, where it is held by frictional contact. The presser-foot is then swung back into position in a line with the slide S, and then by forcing down the latch the button is pressed down in position upon the garment. When there are only two holes in the button these holes will extend in a straight line with the slide S; but when there are four holes in the button two of them extend in a straight line and two of them at right angles.

If it is desired to first have the needle carry the thread back and forth through the two eyes which are in a line with the slide S, the locking-bolt is forced inward, so as to lock the two slides M and S together, when the two will operate as though one, and in a direct line with each other. After the thread has been carried through these holes a sufficient number of times the locking-bolt is moved so as to connect the slide S with the plate C', when the slide S at once begins to move at right angles to the slide M, and then the needle is carried through the two holes which are in a line with the sliding plate T'. It will readily be seen that the two movements are given to the slide S for the purpose of enabling the needle to sew on buttons having either two or four holes. The sidewise movement of the slide S is imparted in one direction by the forward movement of the slide M, and the return-movement of the slide is caused by a suitable spring, O', which has one of its ends to bear against the plate C'.

None of the parts of the sewing-machine are here shown, because they form no part of this invention. My attachment can be applied to any or all sewing-machines, and for that reason no part of the sewing-machine proper need here be shown.

Having thus described my invention, I claim—

1. In a machine for sewing on buttons, a pivoted presser-foot which can be swung through a portion of a circle for the purpose of picking up a button, and which is provided with means for holding the button, substantially as shown.

2. In a machine for sewing on buttons, a pivoted presser-foot having a perforated piece of rubber secured to the under side of its free end for catching over the edges of a button, substantially as described.

3. The combination of the slide, having both an endwise and a sidewise movement, with the presser-foot, which is adapted to hold the button while being sewed on, substantially as specified.

4. The combination of a cam and endwise-moving slide M, retracting-springs, the slide S, carrying the presser-foot, and a latch for locking the two slides M and S together, substantially as described.

5 5. The combination of the endwise-moving slide M, having a beveled inner edge, with the slide S, having a beveled end, and a means for locking the slide S, and a sidewise-moving plate, whereby the forward movement of the slide M will move the slide S at right angles thereto, substantially as described.

10 6. In a machine for sewing on buttons, the combination of suitable points for holding the button and a pivoted presser-foot provided with a means for holding the button, substantially as set forth.

15 7. The combination of the endwise-moving slide M, retracting-springs, and a mechanism for moving the slide, with the slide S, the end-

wise-moving plate T, the sidewise-moving plate C', the spring for moving the parts back into position, a locking-bolt, and a pivoted presser-foot provided with means for holding the button, substantially as specified. 20

8. The combination of the cam, the screw G, which passes through it, and the bearing-surface I, provided with projections H, and studs or projections J, substantially as described.

In testimony whereof I affix my signature in 25 presence of two witnesses.

HENRY AUGUST BEHN.

Witnesses:

ALBERT TINARK,

FREDERICK C. WIENKEN.