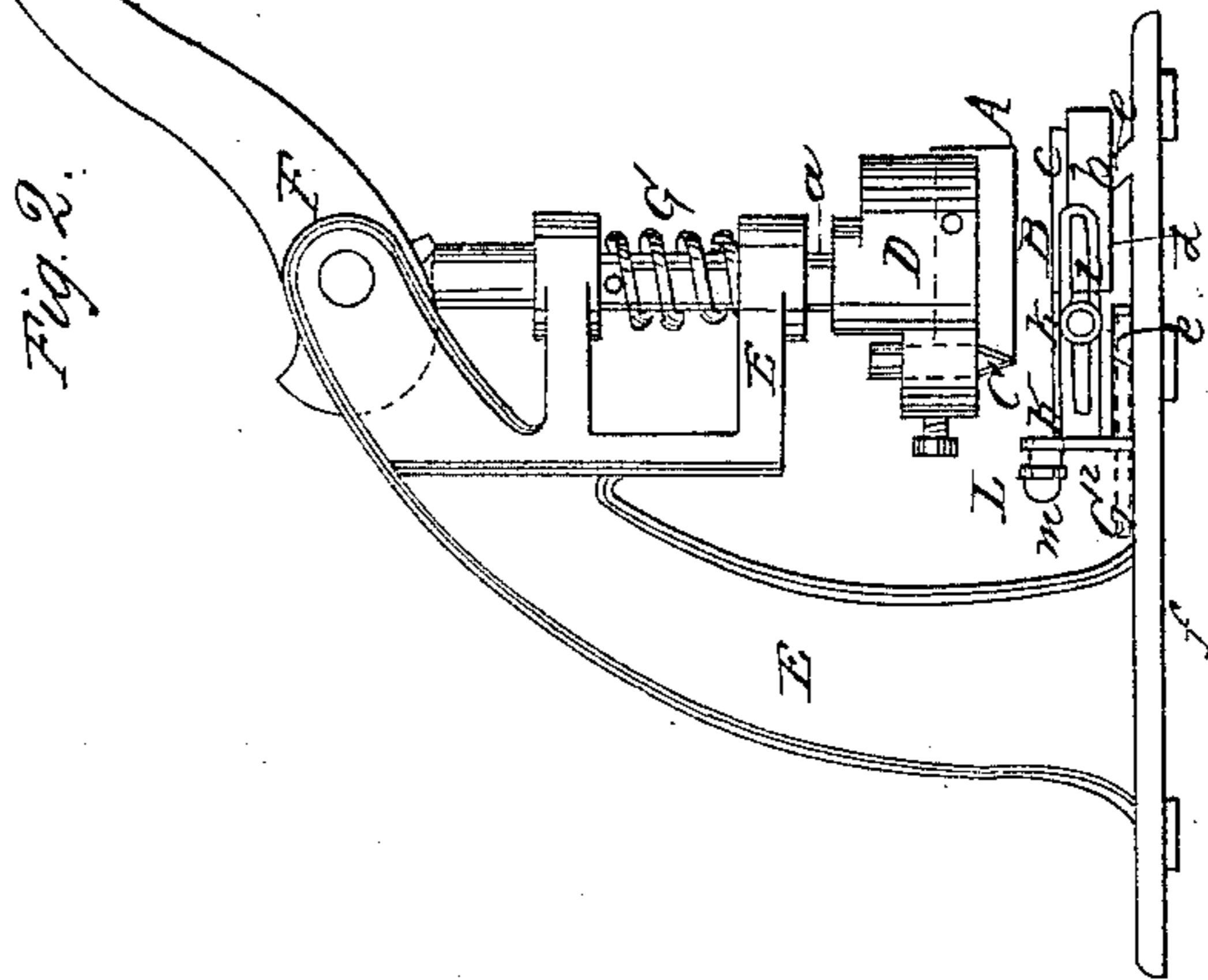
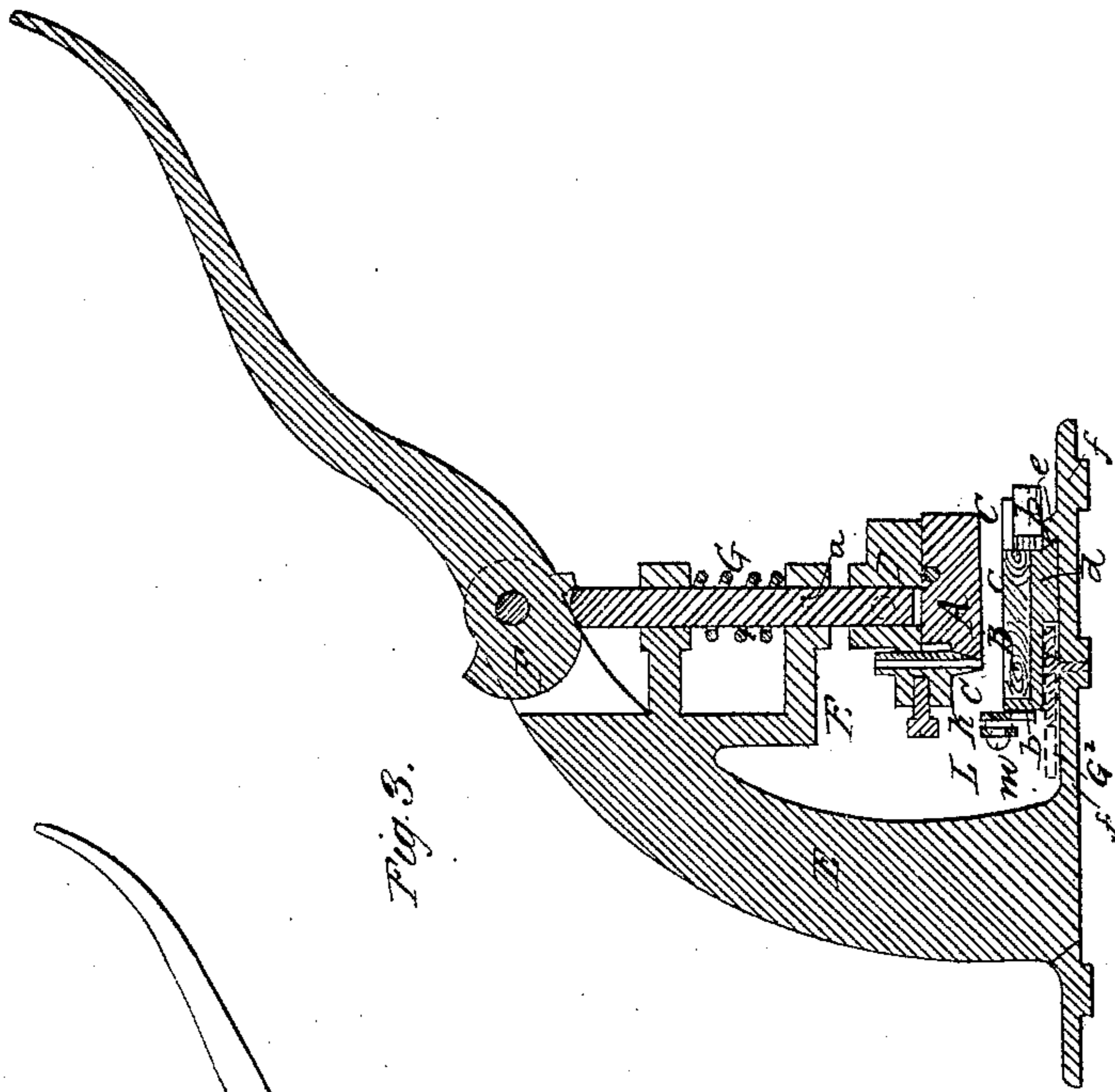
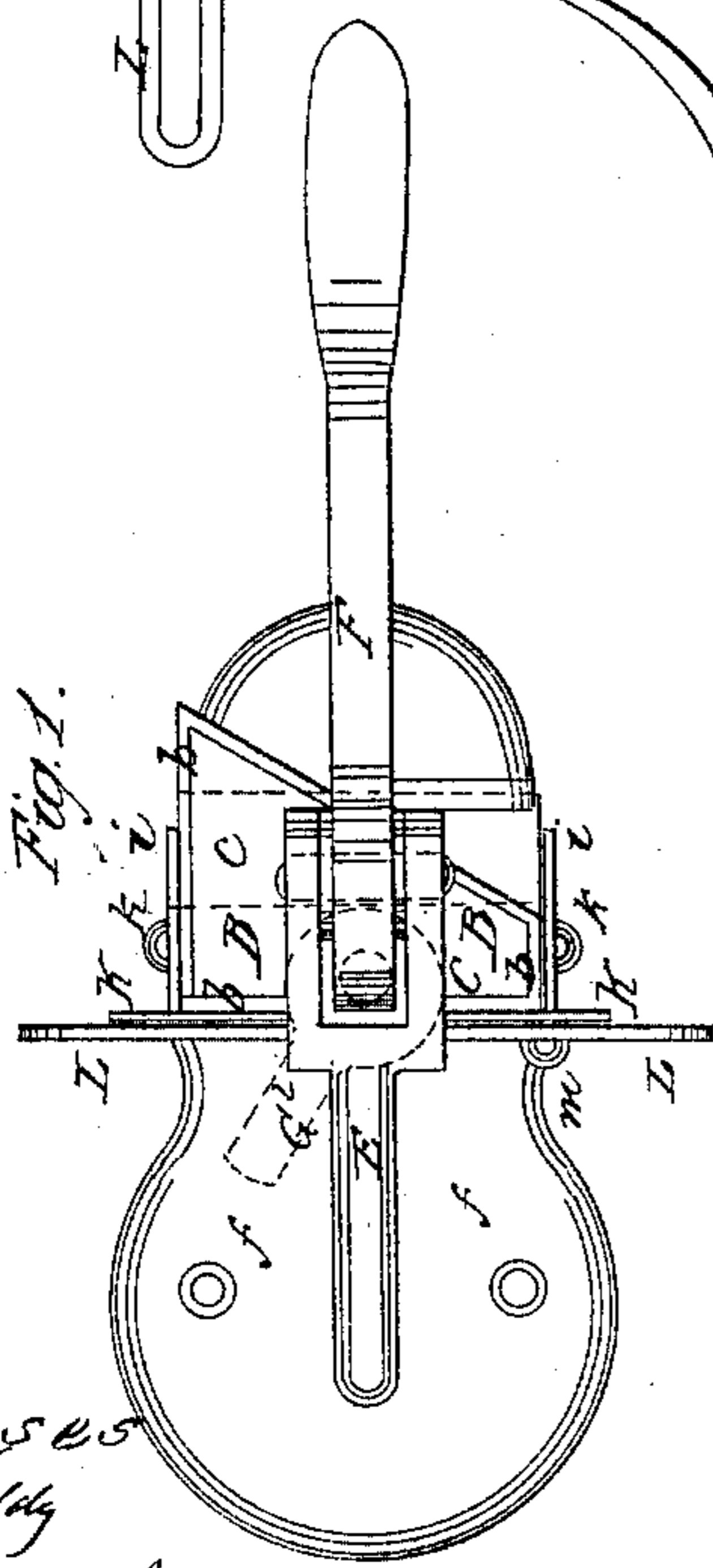
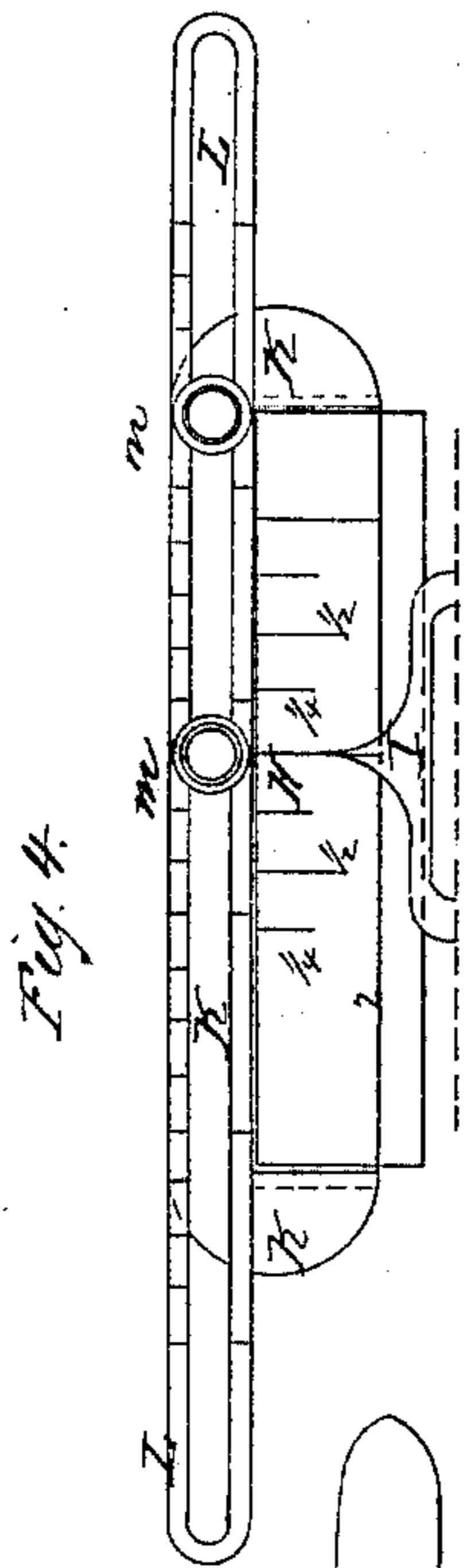


*Stern & Nerrell,
Button-Hole Cutter.*

N^o 37,115.

Patented Dec. 9, 1862.



Witnesses
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Inventors:

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UNITED STATES PATENT OFFICE.

EDWARD STERN, OF DORCHESTER, AND JAMES S. NEWELL, OF NEWTON,
MASSACHUSETTS.

IMPROVEMENT IN BUTTON-HOLE CUTTERS.

Specification forming part of Letters Patent No. 37,115, dated December 9, 1862.

To all whom it may concern:

Be it known that we, EDWARD STERN, of Dorchester, in the county of Norfolk, and JAMES S. NEWELL, of Newton, in the county of Middlesex, and State of Massachusetts, citizens of the United States of America, have invented an Improved Machine for Cutting Button-Holes or Slits in Cloth or Other Material; and we do hereby declare the same to be fully described in the following specification, of which the accompanying drawings and their letters of reference and figures constitute a part.

Of the said drawings, Figure 1 denotes a top view, Fig. 2 a side elevation, and Fig. 3 a vertical section, of the said machine. Fig. 4 is a rear elevation of the adjustable bed and its appliances, to be hereinafter described.

The nature of our invention consists in a button-hole cutting-machine made with a triangular or trapezoidal bed, so arranged and applied with respect to the cutter as to be capable of being moved in one plane, and transversely of such cutter; also, in an adjustable gage, in combination with the bed and the cutter, arranged in manner and so as to operate together substantially as hereinafter described, the object of such gage being to preserve the cutter at a like distance from the edge of the cloth while cutting each of several button-holes; also, in a secondary gage, in combination with the cutter and bed, the latter being made in manner and so as to be adjustable with reference to the cutter as hereinafter described.

In the drawings, A denotes the knife, and B the bed of the machine. The knife, with a punch, C, is attached to a carrier, D, the shank *a* of which is so supported within the frame E as to be capable of having vertical movements imparted to it within the frame, and with respect to the upper surface of the bed. A cam-lever, F, is employed to depress the cutter-stock, a spring, G, also being used to raise it, they being arranged as shown in the drawings. The bed B consists of a metallic frame, *b*, and a block, *c*, of wood fitted therein, the whole having a trapezoidal form on its upper surface, or having its two longer opposite edges out of parallelism with each other. The longer of these edges is disposed in a vertical plane at acute angles to the knife-edge. The

lower part of the bed is provided with a straight rib, *d*, which is dovetailed in cross-section and rests between two parallel guides, *e e*, which project upward from the base-plate *f* of the frame E. The rib and its guides are so arranged as to cause the bed, while being moved, to move at right angles to the knife-edge.

The object of the punch or tubular cutter C is to cut a round hole, in connection with the incision made by the straight knife or cutter A, and this it will perform at the same time the incision of the knife A may be in the act of being made. Another cam-lever, *G*², arranged on the base-plate *f*, serves to lock or confine the adjustable bed B in any desirable position. On the inner edge of the bed there is a graduated scale, H, which moves against an index or pointer, I, the two enabling the bed to be adjusted so as to cause the knife to make an incision of any desirable length in cloth when placed on the bed, the length of such incision under such circumstances being equal to the distance which the knife edge at the time of cutting through the cloth may be in contact with the bed. This distance may be either increased or diminished by moving the bed either in one or the opposite direction transversely of and relatively to the knife.

K is an adjustable gage, provided with two slotted arms, *i i*, which embrace the two parallel edges of the bed, and are respectively held in position by set-screws *k k*. The said arms and screws serve to enable the gage K to be moved parallel with the inner edge of the bed, and set at any desirable distance therefrom. The object of the gage has been hereinbefore stated. One edge of a piece of cloth is to rest against the gage while button-holes are being made in such cloth. There is also attached to the gage K another or secondary gage, L, which consists of a slotted bar held to the gage K by set-screws *m m*, the whole being arranged as shown in the drawings. This bar is graduated into inches and parts of inches, the division-marks being on opposite sides of the slot of the bar, as shown in Fig. 4. This bar serves as a scale to enable a person, while engaged in cutting slits for button-holes, to make them at equal distances apart, or at such other distances as under as may be desirable. As the gage L, in consequence of being attached to the gage K,

will move with the bed while the latter may be in motion for adjustment under the knife, it becomes necessary to make the said gage L adjustable lengthwise and with reference to the knife. The gage L may be stationary relatively to the knife A and the bed B, in which case it would require it to be supported directly by the frame E, and need not be adjustable lengthwise.

The bed B, made in manner and to operate with respect to the knife or cutter A as above specified, is far preferable to a narrow bed, arranged either to be adjustable in the direction of the length of the cutter or to rotate and be adjustable transversely thereto, for with our improved bed we obtain a longer surface for the support of the cloth, one on which it may be stretched to advantage, so as to prevent it from wrinkling or curling, and thus causing the button-hole slit to be imperfectly cut. Furthermore, we have the privilege of applying an adjustable gage to maintain the button-hole cuts at like distances from the edge of the cloth.

We make no claim to a cutter and a bed having mechanism or contrivances whereby the said bed may be adjustable under the cut-

ter and in the direction of the length of the latter; nor do we claim a rotary bed having one or more trapezoidal or other suitably formed faces, and arranged so as to rotate under the cutter and in a direction transversely thereto.

We claim—

1. A button hole cutter as made with a triangular or trapezoidal bed, B, so arranged and applied with respect to the cutter A as to be capable of being moved in one plane and transversely of such cutter, substantially as described.

2. The adjustable gage K, in combination with the bed B and the cutter A, arranged in manner and so as to operate together substantially as specified.

3. The auxiliary or secondary gage L, in combination with the cutter A and the bed B, the latter being constructed and arranged so as to operate substantially as specified.

EDWARD STERN.
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Witnesses:

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