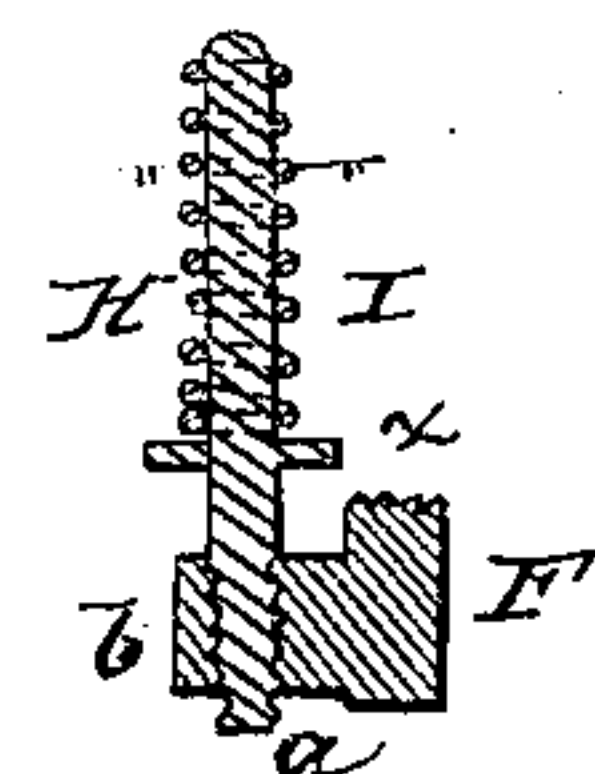
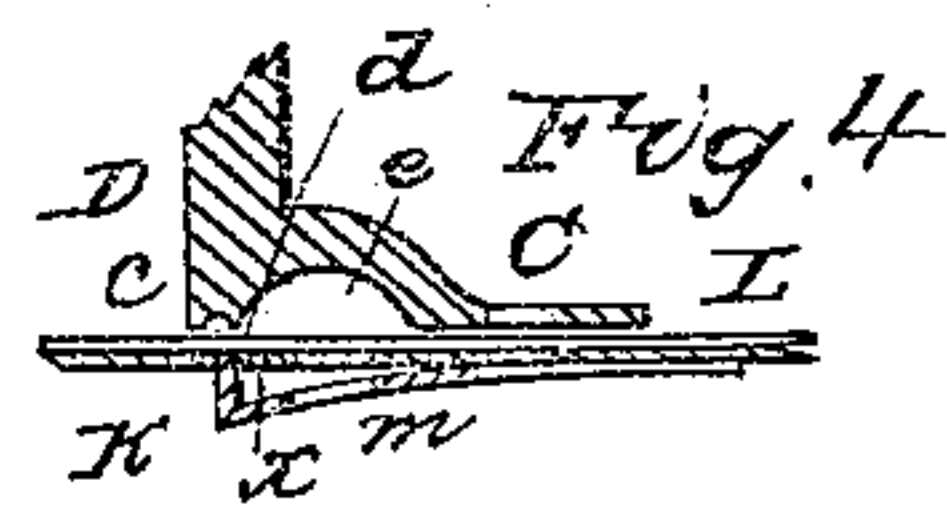
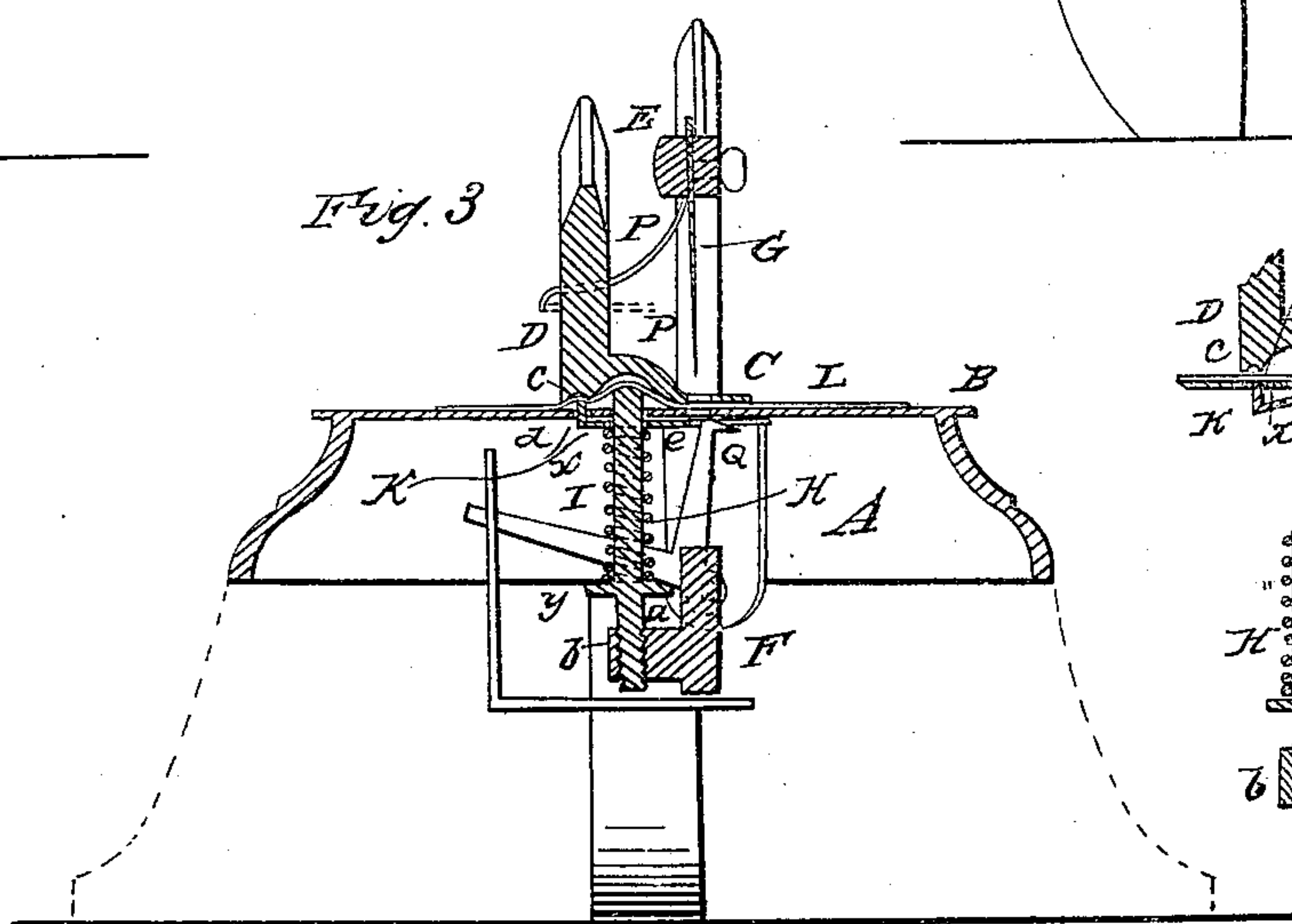
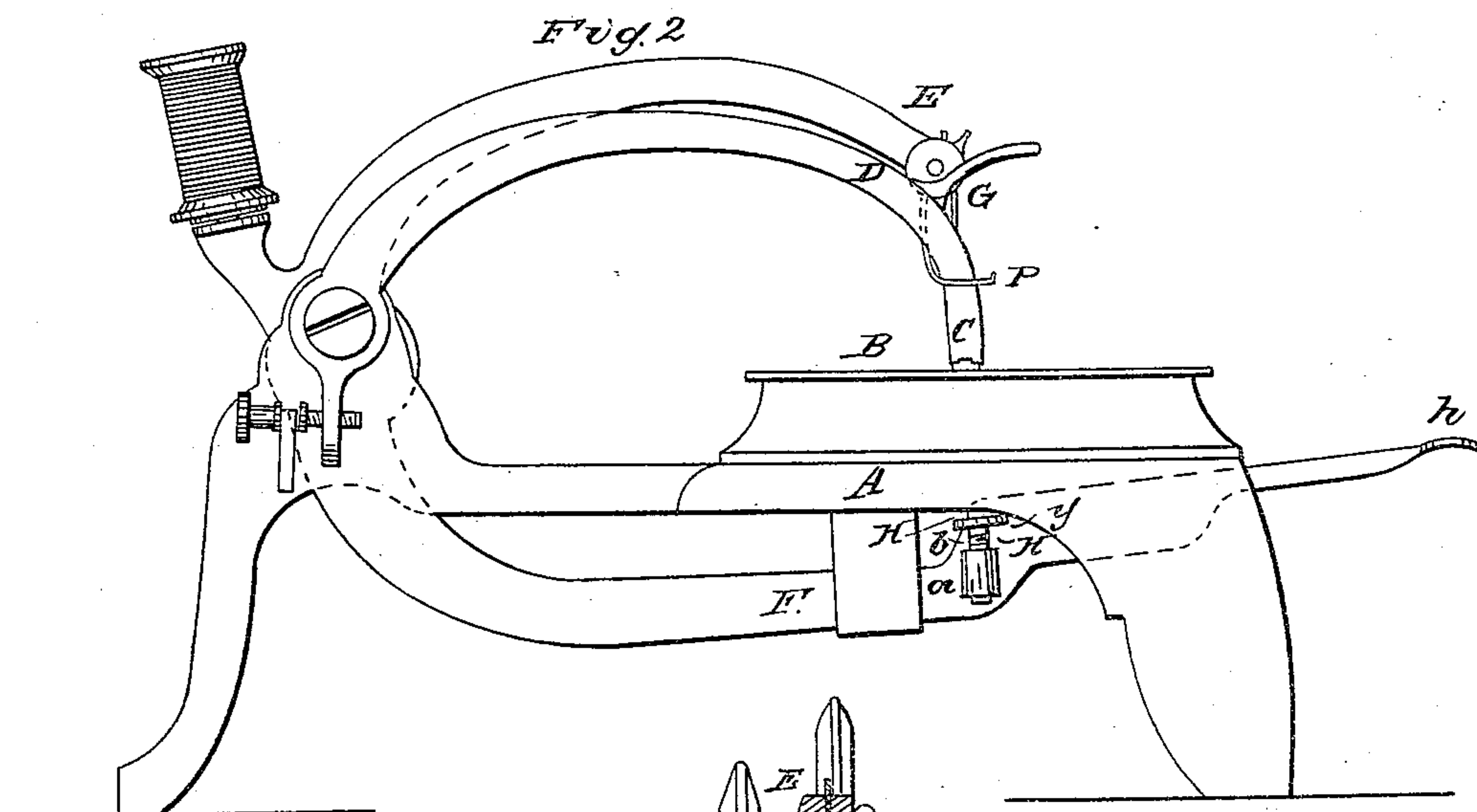
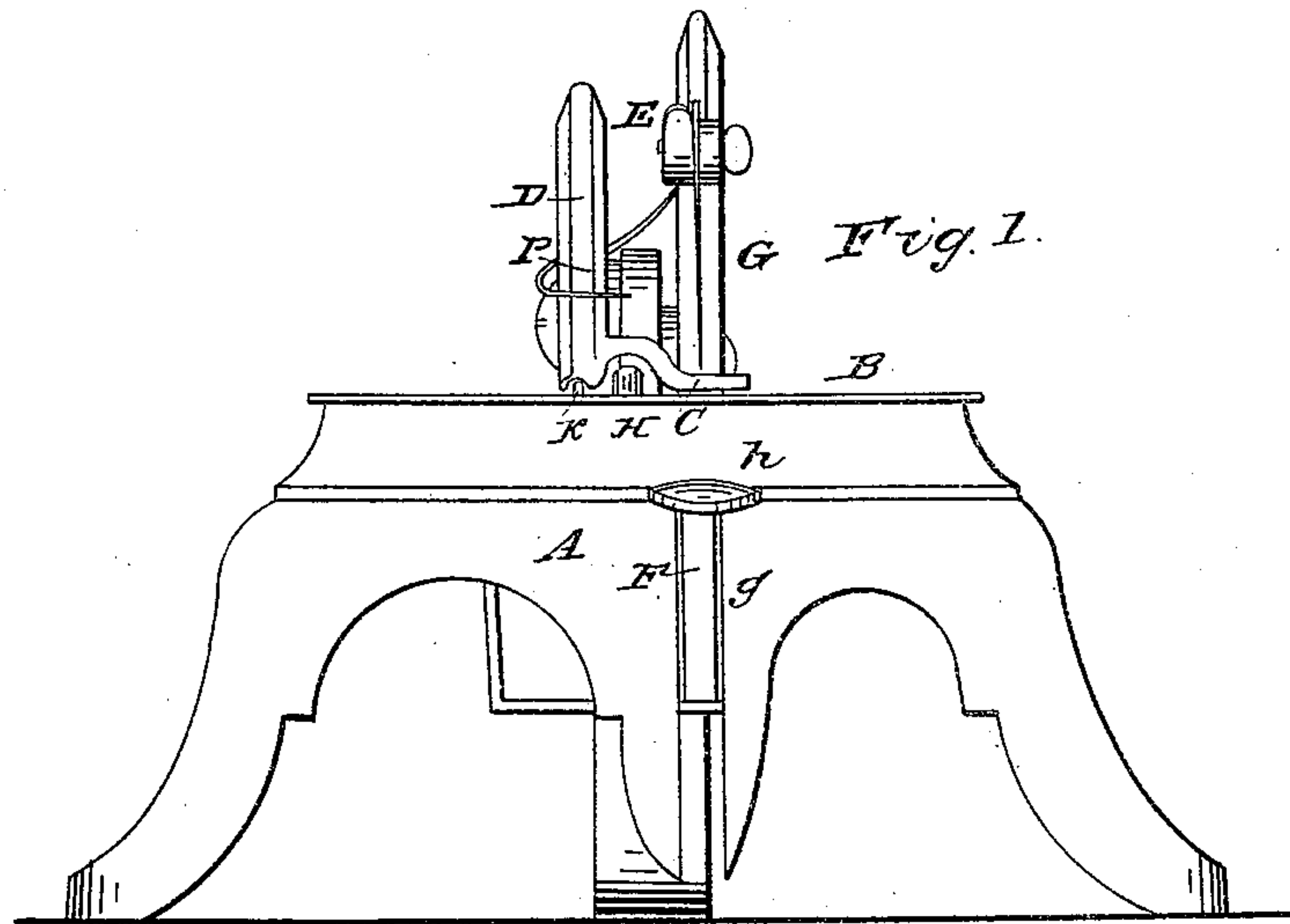


S. F. PRATT.
Sewing Machine.

No. 16,745.

Patented March 3, 1857.



UNITED STATES PATENT OFFICE.

S. F. PRATT, OF ROXBURY, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 16,745, dated March 3, 1857.

To all whom it may concern:

Be it known that I, SAMUEL F. PRATT, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented a new and useful or Improved Sewing-Machine; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings.

Figure 1 of the drawings represents a front view of my machine. Fig. 2 is a side elevation of it. Fig. 3 is a vertical and longitudinal section of the feeding mechanism of the machine.

The principal improvement in my machine consists in a new manner of producing the feed or movement of the cloth in order that the needle and thread may make their successive stitches, the cloth being moved forward each time the needle rises out of it the length of a stitch.

In former methods of feeding, where the cloth is laid upon and moved over the top of a table, it has been customary to move the cloth in a flat state over the table, and this by means of pressure on its upper or lower surface in a horizontal and forward direction. By my method the pressure to produce the forward movement or feed of the cloth is in an opposite direction or a direction at right angles to the general movement of the cloth, in manner as I will now proceed to describe.

A in the drawings represents the frame of the machine, B the table, C the pressure pad or bar, D the arm of said bar, G the needle, E the needle carrier or arm, Q the hook, and F the arm which operates the machine, these several parts in their construction and operation corresponding to those of a similar machine for which I have already made application for a patent.

From the arm F, or from a projection, *a*, of said arm, a screw pin or rod, H, rises, it being made adjustable by a screw, *b*, at its bottom, so that it may be set at any required height. A spiral spring, I, surrounds this rod, said spring resting at bottom on a plate, *y*, and being made, when raised, to strike against and impel upward a nipper-spring, K. This spring K is fastened at its rear end to the machine, and has its other end bent upward, as seen at *x*.

The cloth to be sewed is represented at L by a red line. When first placed on the table,

the part adjacent to where the sewing is to commence is drawn under the pressure-pad until it comes under a notch, *c*, in the bottom of the arm of said pad. This is done when the needle is out of the cloth and the arms F and E are raised. When they have then descended and again commenced to rise, (and at each successive rise,) the top of the spiral spring I strikes against the nipper-spring in such manner as to cause its end *x* to press up through a slot, *d*, of the table and against the cloth, and this with force sufficient to bite or fasten the cloth into or against the notch *c* of the feed-arm. When this has taken place and the arm F continues to rise, the rod H will be borne upward, so that its top shall penetrate through a hole, *m*, of the nipper-spring and a similar hole, *e*, in the table, and, continuing its rise, shall push up the cloth in such manner as to produce in it a fold or corrugation, as seen at *s*. As the cloth is fastened at the point *c*, such action of the rod H will draw the cloth forward from under the pressure-bar the length of a stitch, such movement and length being regulated at will by screwing up or down the rod H. The next movement of the arm F downward carries the nipper-spring and rod H downward also, thus freeing the cloth from their action, and the operation of the feed is completed by a horizontal wire or spring, P, or its equivalent descending upon and pressing out the corrugation, and moving the front of the cloth forward, it being prevented from going in the opposite direction by the position of the needle, as will all be readily understood from Figs. 3 and 4, the latter figure representing the position of the cloth and feed when the arm F is at its lowest position. Thus by confining the cloth at a forward point, then "puckering" or corrugating it in rear of such point, or between it and the needle, then confining it in rear of such corrugation, (at the same time releasing it where confined before,) and finally pressing out the corrugation, the cloth will be regularly and evenly fed forward successively the length of stitches required.

I would remark that though I have particularly described the method I here use for producing the corrugations and making such corrugations produce the feed, I do not intend to confine myself to the said particular method, as various devices may be used to produce the

corrugations without altering the principle of my invention.

The lower arm, F, of the machine I elongate and extend through a slot, *g*, in the front of the frame A, said slot being made just wide enough to enable the arm to work up and down, and I place on the end of the arm a finger-piece, *h*. By this construction of the arm I am enabled to work the needle by means of the hand moving up and down when applied to the said finger-piece, many persons preferring this method of operating the machine to turning a crank. By working the arm through a narrow vertical slot I prevent any horizontal vibration being given to the needle, which would have a tendency to produce irregularity or unevenness in the stitches. This arrangement of the operating-arm I do not, however, mean herein to claim.

What I claim is as follows:

1. Producing successive corrugations or folds in the cloth, substantially in the manner described, for the purpose of feeding the cloth for the production of the stitches.

2. The combination of the lifter-spring I, the nipper-spring K, the rod H, and the flattening-spring P, they operating together and upon the cloth essentially as above specified.

In testimony whereof I have hereto set my signature this 26th day of January, A D., 1857.

S. F. PRATT.

Witnesses:

FRANCIS GOULD,
FREDK. HILL.