

(No Model.)

F. E. SCHMIDT.

BUTTON HOLE CUTTING AND CLOTH CLAMP ATTACHMENT FOR
SEWING MACHINES.

No. 354,247.

Patented Dec. 14, 1886.

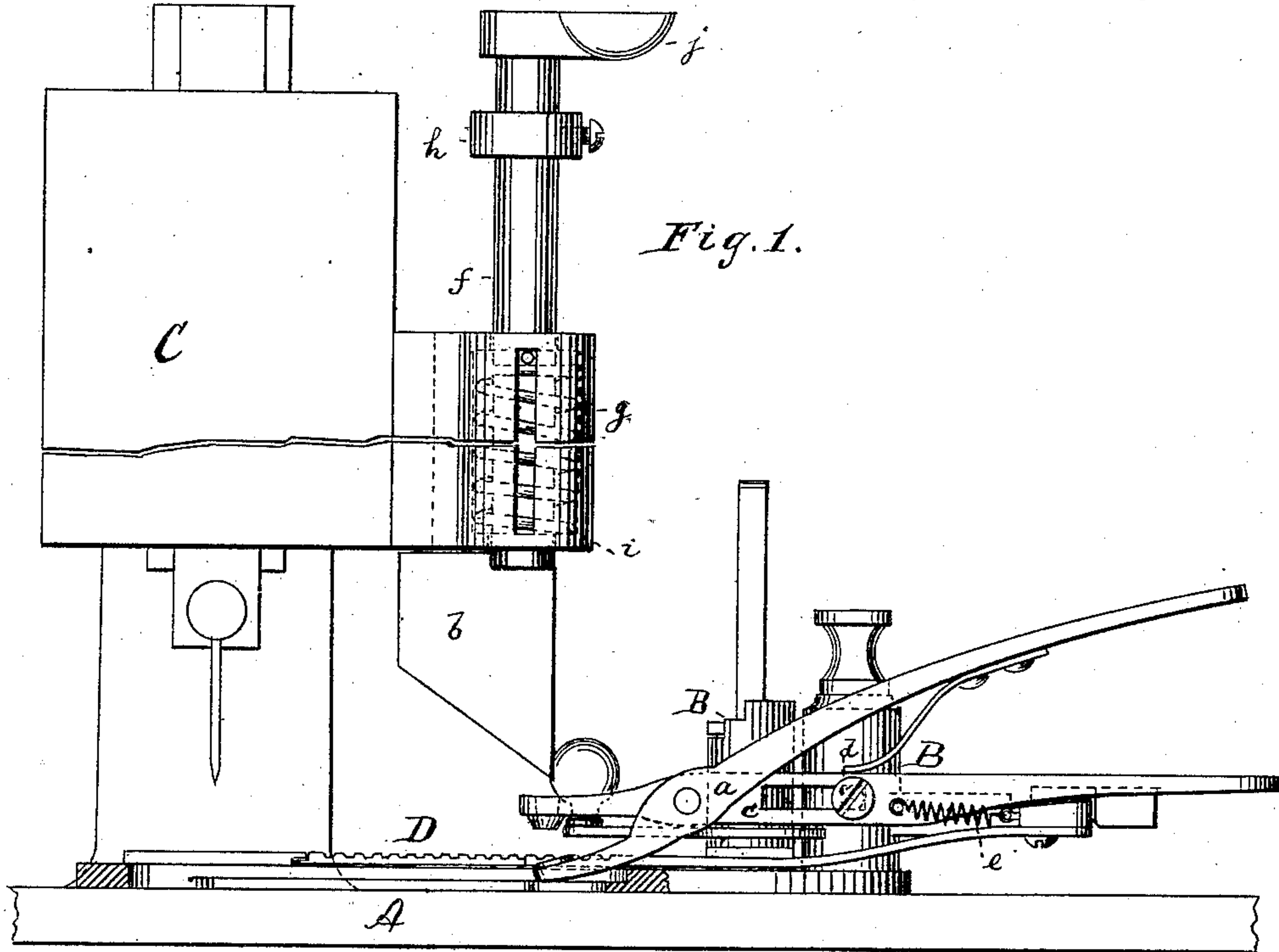
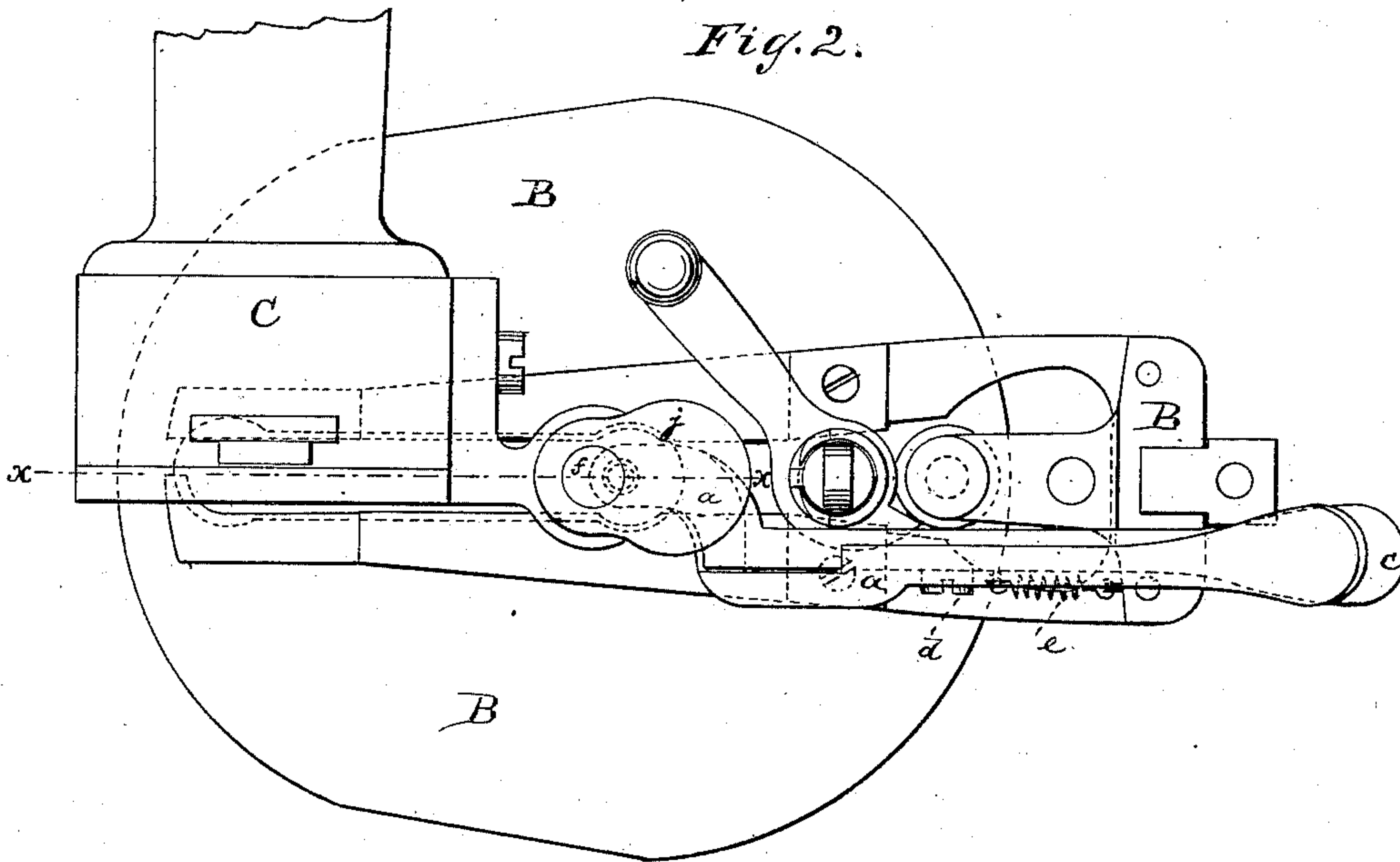


Fig. 2.



WITNESSES:

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FRIEDRICH E. SCHMIDT, OF BROOKLYN, NEW YORK.

BUTTON-HOLE-CUTTING AND CLOTH-CLAMP ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 354,247, dated December 14, 1886.

Application filed December 8, 1883. Serial No. 113,918. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH E. SCHMIDT, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Button-Hole-Cutting and Cloth-Clamp Attachment for Sewing-Machines, of which the following specification is a full, clear, and exact description.

This invention relates to certain improvements in the cutter of a button-hole sewing-machine, and has for its object to facilitate its operation and to reduce the amount of power heretofore required in its manipulation.

The invention consists in the elements of improvement hereinafter more fully pointed out in the claim.

In the accompanying drawings, Figure 1 is a side view, partly in section, on line *x x*, Fig. 2, of the cloth-clamp and head of a button-hole sewing-machine having my improved cutter. Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

The letter A represents the work-plate of a button hole sewing-machine.

B is the clamp, which travels on said plate in the customary manner, and which holds the cloth, exposing it to the action of the needle.

C is the head of the sewing-machine, in which the needle-bar moves.

After the cloth is placed in clamp B, and before exposure to the needle, the button-hole, consisting, as is well known, of an eye and a slit, must first be cut out by the cutter. This I propose to do by two instruments—a punch, *a*, for cutting out the eye, and a knife, *b*, for cutting out the slit of the button-hole. The punch *a*, which is attached to clamp B in manner hereinafter specified, I prefer to make in the form of punch-pliers, as shown. One of its arms, *c*, is slotted, the slot being entered into by a fixed pin, *d*, on clamp B. In this way the punch may be moved forward until its jaws reach and pass beyond the edge of cloth D, which is held in clamp B in the usual manner. The eye is then punched at the desired distance from the edge, and the punch is finally moved backward out of the way of the knife and needle. A spring, *e*, connecting punch *a* with clamp B, may be used to cause automatic

withdrawal of the punch after its employment. The knife or cutting-blade *b* is attached to a stem, *f*, which is free to move up and down in a case, *g*, attached to head C. The cutting-blade *b* is oblique, as shown, so that when the knife is pushed down to its greatest extent it will cut a larger hole than if pushed down to a less extent. In this way the length of slit to be cut into the cloth may be regulated by adjusting the length of vertical stroke of the knife. This I propose to do as follows: Around the stem *f*, I place an annular sleeve, *h*, which, by a set-screw, is made vertically adjustable; but any other stop may be employed. This stop, by striking the upper edge of case *g*, limits the downward motion of the knife. *i* is a spiral spring encircling stem *f* in case *g*, and throwing the knife up as soon as released. The knife is operated by pressing upon and releasing a knob, *j*, on stem *f*. When a large button-hole is to be cut, the sleeve *h* is moved upward, so as to increase the length of stroke of the knife. When a smaller slit is to be cut, the sleeve is moved downward.

The operation of my improved cutter is as follows: The cloth D is placed and secured in clamp B, and the eye is cut out by punch *a*, which then withdraws. The knife *b* is then made to descend by pressure on knob *j*, the lowermost point of said knife entering the newly-made eye and the knife cutting the slit. The knob *j* being released, the knife withdraws. The button-hole is now ready cut and in proper condition for exposure to the needle.

Of course the details of construction of punch *a* and knife *b* may be varied without altering the invention.

I claim as my invention—

The combination of a movable plate carrying the cloth-clamp of a button-hole-sewing device with a button-hole cutter mounted upon the said plate and moving therewith, substantially as set forth.

FRIEDRICH E. SCHMIDT.

Witnesses:

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