Sept. 10, 1929. W. K. JOHNSON 1,727,776

BUTTONHOLE MAKING GUIDE

Filed July 11, 1927

Fig.1

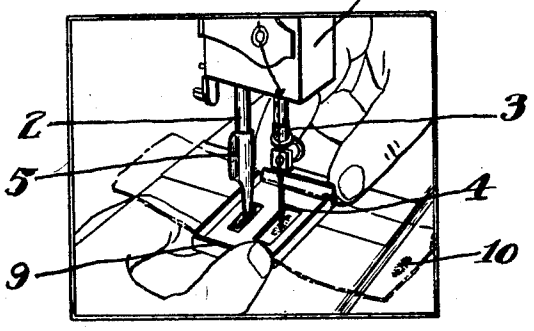


Fig.2

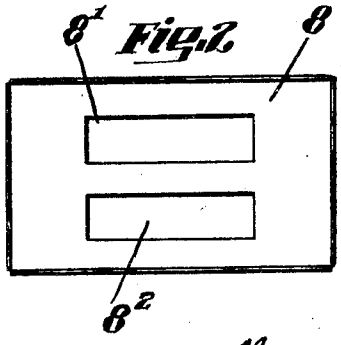


Fig.3

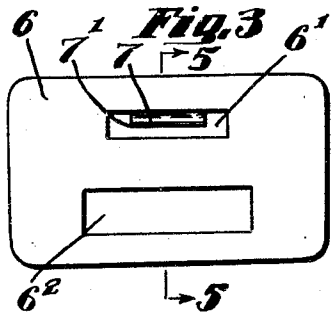


Fig.4

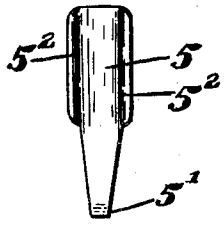


Fig.5

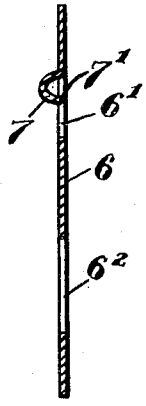
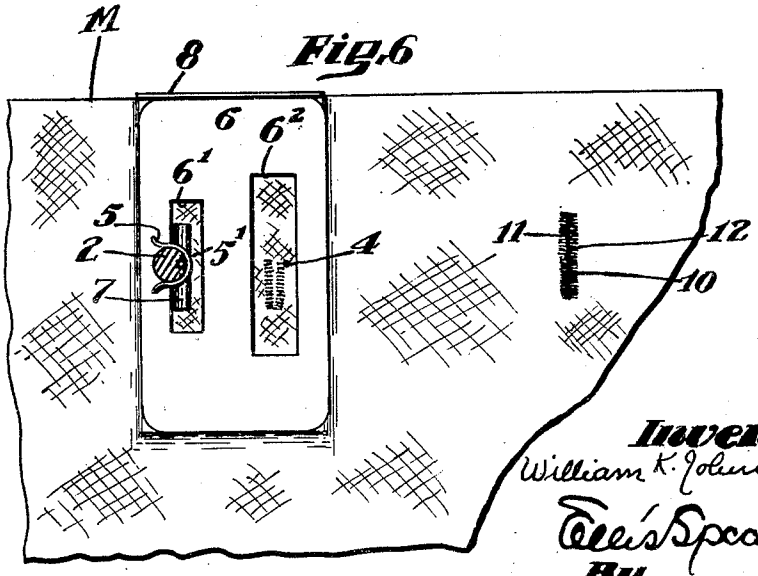


Fig.6



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UNITED STATES PATENT OFFICE.

WILLIAM K. JOHNSON, OF WICHITA, KANSAS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE BURBROOK COMPANY, A CORPORATION OF MASSACHUSETTS.

BUTTONHOLE-MAKING GUIDE.

Application filed July 11, 1927. Serial No. 204,754.

This invention relates to the art of button-hole making and particularly to means whereby a button-hole can be made by the usual sewing machine, equipped with the ordinary sewing machine needle. Various devices adapted to be attached to sewing machines, whereby the machine may be used to make button-holes, have been produced in the past, but so far as I am aware these have all involved complicated and relatively expensive mechanisms. In the present case I provide a simple article adapted to be used in combination with a sewing machine and which involves a minimum of parts and is extremely economical to manufacture.

My button-hole working guide may be used with any standard type of sewing machine and may be provided in graded sizes so that button-holes can be produced in any desired size or kind.

In the specification I have described and in the drawings illustrated an embodiment of my invention which I have found satisfactory in practical use.

Throughout the specification and drawings like reference numerals are employed to indicate corresponding parts and in the drawings:

Fig. 1 is a general perspective showing my button-hole guide in place and in use with a sewing machine.

Figure 2 is an inside plan view of the lower plate of my button-hole guide.

Fig. 3 is a view of the upper plate of my button-hole guide showing the guide groove which determines the size of the button-hole.

Fig. 4 is a view of the guiding piece adapted to be attached to the presser foot post.

Fig. 5 is a section on the line 5—5, Fig. 3, and

Fig. 6 is a plan partly in section showing a piece of material in which a button-hole is in process of being worked.

In the drawings I have shown at 1 the operating end of a sewing machine of usual construction. This includes a presser foot post 2, and the usual needle receiving and holding device 3 in which I have shown held the usual needle 4.

As shown in Fig. 1, the presser foot has been removed from the presser foot post 2 and the presser foot post cleared from all obstructions. On the presser foot post 2, in the place usually occupied by the presser foot, (Fig. 1) I show clamped the piece 5 which has a tapered point 5′ as shown in Fig. 4. This piece 5 is constructed from sheet metal and is provided with flanges 5^2 adapted to engage the presser foot post 2.

The plate 6 is the guide that regulates the size of the button-hole. It is slotted at 6′ and is provided with an integral grooved guide 7 having a knife-like edge 7′. It will be noted that the knife-like edge 7′ of this grooved guide 7 is placed just half-way across the slot 6′ so that the button-hole will be uniform in width throughout. This knife-like edge 7′ is the line which separates the two rows of stitching and the tapered point 5′ is maintained throughout the button-hole making operation in a fixed position, the plates and contained material being moved with relation thereto.

Below the slot 6′ in the plate 6 is a second slot 6^2 in which the button-hole is actually worked as the plate 6 is moved back and forth in a criss cross motion during the travel of the needle 4 to produce a button-hole stitch effect.

The piece 8 is a framework having upturned edges into which the plate 6 fits, the material M to be worked upon being placed between the plates 6 and 8 with the plate 6 on top and forced firmly down into the plate 8. The plate 8 is provided with a pair of slots 8′ and 8^2 which correspond to the slots 6′ and 6^2 of the plate 6. The groove guide 7 protrudes through the slot 8′; and the machine needle 4 operates through the slot 8^2 as it works the button-hole, according as the guide 7 is directed about the piece 5 attached to the presser foot post 2. In order to secure a tight fit of the parts, I have caused the end members 9 of the plate 8 to be formed as a bead, which permits the guide to be used with varying thicknesses and weights of material.

In operation my attachment is utilized as follows:

I place the plate 8 in the position shown in Fig. 2 and spread across the same a double fold of the material M in which the button-hole is to be worked. Plate 6, which guides the button-hole making operation is fitted into the plate 8 over the material M with its knife-like edge 7′ upturned. (Figs. 1 and 6). By this means the material is held tightly within the framework. I now slide the plates and enclosed material under the machine needle 3 as shown in Fig. 1. Next I lower the presser foot post 2 and clamp the tapered guide 5 on to the side of the presser foot facing the operator so that the tapered point 5′ rests in the groove guide 7. Care should be taken that there is sufficient space left between the bottom of the tapered guide 5′ and the groove guide 7 so that the point 5′ may move back and forth therein without any contact.

With the tapered point 5′ in position in the groove guide 7, the operative starts the sewing machine and with her hands moves the tightly engaged plates 6 and 8 and the enclosed material M back and forth in criss cross fashion as far as the walls of the slot 6′ and the tapered piece 5 will permit on either side of the knife-like edge 7′, making one back and forth movement for each thrust of the machine needle. This back and forth movement determines the width of the finished button-hole and care should be taken to be sure that the needle enters the material as the tapered piece 5 contacts with the extreme edges of the slot 6′ and knife-like edge 7′ on each thrust of the needle. At each end of the knife-like edge 7′ a back and forth movement the entire width of the slot 6′ is necessary to reinforce the ends of the button-hole. Several such long stitches are desirable. A little practice in moving the joined plates 6 and 8 alternately to and fro with each thrust of the sewing machine needle as far as the tapered guide 5 and the walls of the slot 6′ and guide groove 7 will permit, makes it possible to very quickly produce a finished button-hole of uniform width and thickness. By the use of my guide all button-holes are necessarily produced of the same length, width and thickness.

When any single button-hole is finished the plates 6 and 8 may quickly be separated and the material M removed by a slight pulling action on any one of the four sides of the material, which may be again positioned in the frame for the production of other button-holes as desired. The finished button-hole may be cut between the rows of stitching with any sharp instrument, the knife-like edge 7′ causing a clear space 10 to extend between the rows of stitching 11 and 12 and on which line 10 the material may be cut without any injury to the stitching of the button-hole edge.

Plates of varying sizes may be furnished by which it will be possible to make button-holes of any desired size.

My device is very simple of construction and extremely economical to manufacture. It is endurable and capable of unlimited use. Therefore the necessary investment to the machine operator or owner is slight as compared with that of the usual button-hole attachment heretofore used. Results are extremely satisfactory, an experienced operator being able to produce extremely fine and finished work.

Various modifications in the form and construction of my device may obviously be resorted to without departing from the spirit of my invention if within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:

1. The combination with a sewing machine having a presser foot post and a needle, of holding and guiding means for material in which buttonholes are to be worked, said means comprising a pair of slotted plates, one of which is a framework having upturned edges upon which rests the material to be worked firmly held in place therein by said other plate, said plates being provided with corresponding slots through which said button-hole is guided and worked, said upper plate having a member adapted to define the dividing line between two rows of button-hole stitching, a guiding member having its tapered edge disposed in said guiding slot and being fastened at its other end to the presser foot post of said sewing machine, said cloth-holding and guiding means being movable relative to said tapered piece within the area defined by said stitch-defining member on one side and the walls of said slot on the other side, whereby to control the arrangement of the stitches of said sewing machine needle through said other slot with relation to the cloth being worked upon.

2. The combination with a sewing machine having a presser foot post and a needle, of holding and guiding means for material in which buttonholes are to be worked, said means comprising a pair of slotted plates one of which is a framework having upturned edges upon which rests the material to be worked firmly held in place therein by said other plate, said plates being provided with corresponding slots through which said button-hole is guided and worked, said upper plate having a member extending into one of said slots and adapted to define the dividing line between two rows of button-hole stitching and integrally connected to the body of said plate, a tapered guiding member having its lower edge disposed in said guiding slot and being fastened at its other end to the presser foot post of said sewing machine, said cloth-

holding and guiding means being movable relative to said tapered piece within the area defined by said stitch-defining member on one side and the walls of said slot on the other side, whereby to control the arrangement of the stitches of said sewing machine needle through said other slot with relation to the cloth being worked upon.

3. A button-hole making attachment for a sewing machine, comprising a pair of plates adapted to hold material to be worked upon, the bottom plate having end members formed as beads which permit materials of varying thicknesses and weights to be held in place by said upper plate, registering slots in said plates through which the button-hole is stitched and slots through which the making of said button-holes is guided, a tapered guide member adapted to have its tapered end lie within said guiding slot and having its other end adapted to be attached directly to the presser foot post of a sewing machine, said plates and contained material adapted to be moved about said machine-affixed member, whereby to control the arrangement of the stitches of said sewing machine needle with relation to the cloth being worked upon.

4. A button-hole making attachment for a sewing machine, comprising a pair of plates adapted to hold material to be worked upon, the bottom plate having end members formed as beads which permit materials of varying thicknesses and weights to be held in place by said upper plate, registering slots in said plates through which the button-hole is stitched and slots through which the making of said button-hole is guided, a tapered guide member adapted to have its lower end lie within said guiding slot and having its other end adapted to be attached directly to the presser foot post of a sewing machine, a grooved member integrally joined to said top plate and extending into said guide slot on either side of which said guide member is moved to determine the contour of said button-hole, said plates and contained material adapted to be moved about said machine-affixed member, whereby to control the arrangement of the stitches of said sewing machine needle with relation to the cloth being worked upon.

In testimony whereof I affix my signature.

WILLIAM K. JOHNSON.