

*Instructions and  
List of Parts for*

**SINGER**  
BUTTONHOLE  
ATTACHMENT

No. 86718

*for* **SINGER Lockstitch  
Family Sewing Machines**

THE SINGER MANUFACTURING COMPANY

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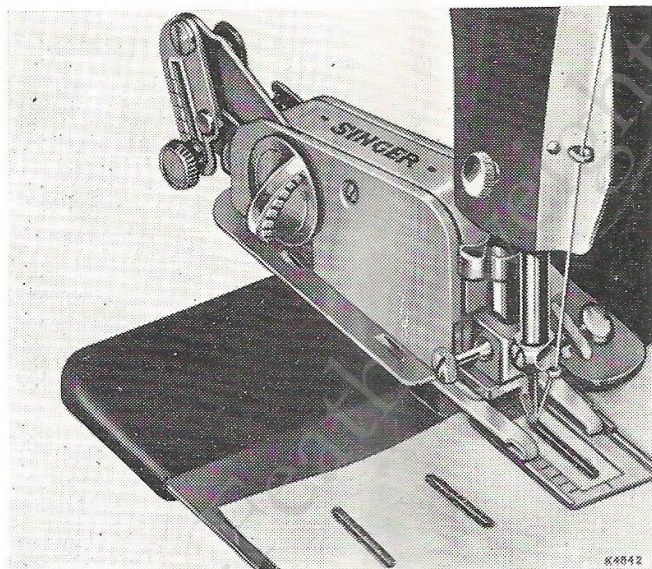
Today, SINGER Electric Machines are practically automatic. All you need do is guide the material. Quietly, smoothly, under perfect control, the machines sew forward or backward at the flick of a handy lever, do darning and embroidery work without special attachments, wind bobbins while you sew, create professional dressmaker effects without special skill on your part.

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*Instructions and List of Parts for*  
**SINGER\***  
BUTTONHOLE ATTACHMENT No. 86718



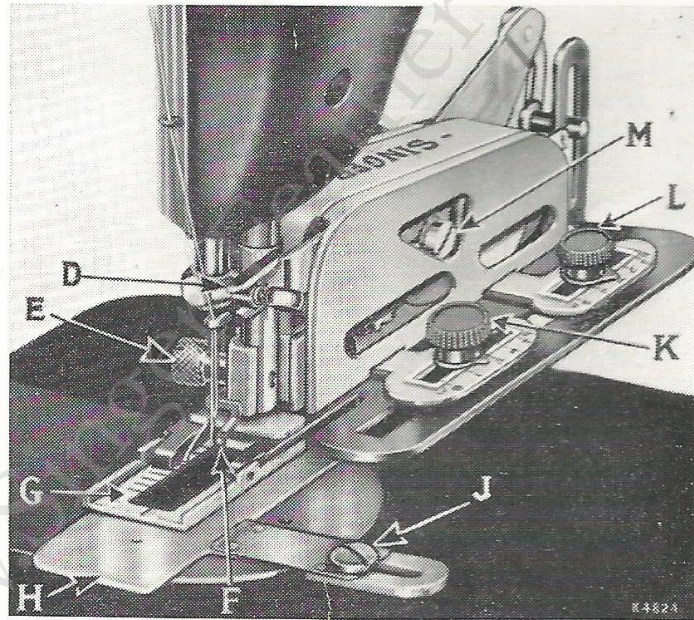
This attachment is intended for use on SINGER Lock Stitch Family Sewing Machines and produces neat and durable buttonholes in a great variety of fabrics without any special skill on the part of the operator. The buttonholes are produced in a fraction of the time required for hand work and they are firmer and more even than those made by hand.

The attachment can be adjusted to make buttonholes from  $\frac{3}{8}$  to one inch long and the spacing of stitches, width of stitch and amount of cutting space can also be changed at will. When desired, buttonholes longer than one inch can also be made by following the instructions given on pages 6 and 7.

## TO FASTEN ATTACHMENT TO MACHINE

**Note :** On Machines 99, 185, 221 and 222 it is necessary to remove the Thread Cutter (C) before fitting the Buttonhole Attachment. On Machines 15, 128 and 191 it is sufficient to move the Thread Cutter up the presser bar to clear the attachment.

1. Remove the presser foot and presser foot screw from the machine.
2. Place the feed cover plate (H) in position as shown in Fig. 2.



*Fig. 2. Right Side, Showing Feed Cover Plate.*

3. Fasten feed cover plate to the bed of the machine with the screw (J), making sure that the needle passes through the centre of the needle hole in the plate.



This feed cover plate must be used with the button-hole attachment at all times. Do not lower the feed.

4. Guide the attachment into position from the rear of the machine so that the fork (D) straddles the hub of the needle clamp, and securely fasten the attachment to the presser bar with the slotted clamping screw (E).
5. Slightly increase the pressure on the presser bar so that it is just sufficient to hold the cloth firmly.
6. Thread the machine as for ordinary sewing and draw the bobbin thread up through the needle hole of the feed cover plate.

The machine and attachment are now ready for making buttonholes.

It is suggested that before making buttonholes on finished garments, the user should make a number of sample buttonholes so as to become familiar with the operation of the attachment and with the various possible adjustments.

**IMPORTANT. Needles above size 18 are unsuitable for use with this attachment.**

## MAKING OF BUTTONHOLES AND ADJUSTMENTS

### Use of Backing with Medium or Light-Weight Materials

For best results in medium or light-weight materials, insert a piece of organdie or lawn, or light-weight bond or writing paper between the facing and the garment for reinforcement.

If it is not possible to insert the paper between the facing and the garment, the same result may be obtained by placing the backing on the underside of the material.

## TO START THE BUTTONHOLE

1. Mark the size and position of the buttonhole on the garment with a soft pencil or with basting stitches.
2. Turn the thumb nut (B) toward you until the feeding foot (G) is in its farthest forward position, *i.e.*, closest to you.

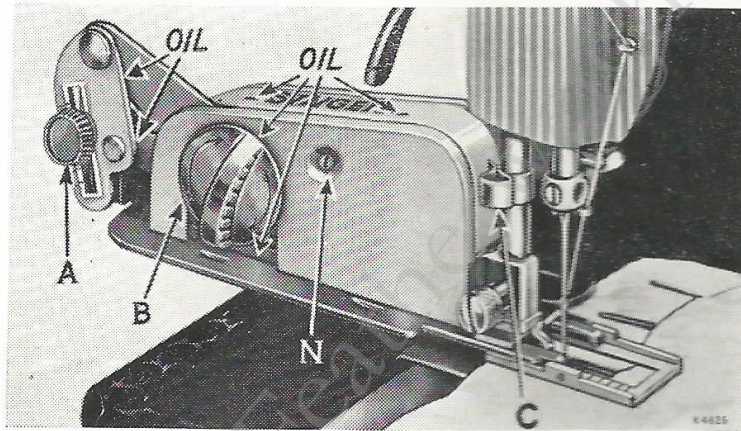


Fig. 3. Left Side, Showing Adjustments and Oiling Points.

3. Lower the needle into the end of the buttonhole you have marked out nearest to the edge of the garment.
4. Lower the presser bar *quickly* so as to sink the teeth of the foot into the goods.

**NOTE :** The stitching can be started at any point on the circumference of the buttonhole, but the neatest and strongest buttonholes will result from starting and finishing at the end closest to the edge of the garment, which is accomplished by following the instructions given above.

## SPEED OF MACHINE

Best results will be obtained by running the machine slowly. Allow the attachment to feed the material freely to right and left and forward and back.



## THREADS AND TENSION

### Whipstitch Buttonholes

For whipstitch buttonholes use ordinary or heavy bobbin thread tension, and lighter top tension to draw lock of stitch to underside of buttonhole. Fine upper thread makes the prettiest whipstitch buttonholes. The bobbin thread need not be so fine. Mercerized upper and lower threads give very good results.

### Purl Buttonholes

For purl buttonholes, resembling hand-made buttonholes, have the bobbin thread tension very light and adjust the needle thread tension according to the material being used, so as to draw the lock of the stitch to the top of the material. It may not be necessary to alter the adjustment of the bobbin thread tension if fine thread or silk is used on the bobbin. Either No. 50 or No. 60 Mercerized, or No. 40 to No. 60 cotton thread, or "A" silk should be used on the bobbin for best results, with the same colour of No. 40 to No. 60 cotton thread or heavy duty Mercerized thread in the needle.

## TO SECURE EXTRA STRENGTH

The buttonhole can be stitched over twice or more before stopping the machine, if extra strength is desired.

## LENGTH OF BUTTONHOLE

### To Adjust Length of Buttonholes

#### From $\frac{3}{8}$ Inch to 1 Inch Long

Loosen the thumb nut (A). Move it down in the slot for longer buttonholes, or upward for shorter buttonholes. Using a scrap of material, adjust the spacing of stitches, the bight and the cutting space, as desired.

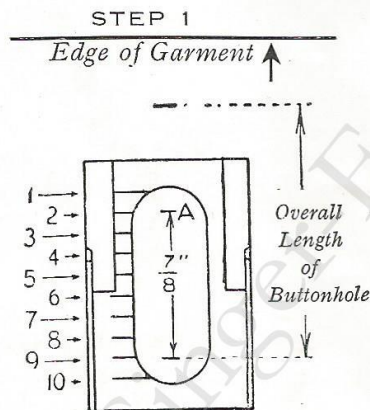
## TO MAKE BUTTONHOLES LONGER THAN 1 INCH BUT NOT EXCEEDING $1\frac{7}{8}$ INCHES

Loosen the thumb nut (A) and move it all the way down in the slot to make a one-inch buttonhole, then tighten thumb nut.

Adjust the pointer (M) for the desired number of stitches per inch, as it is not possible to stitch the buttonhole a second time. (See spacing of stitches on page 8).

It is advisable to increase slightly the cutting space for extended buttonholes. (See cutting space on page 8).

Mark length and position of buttonholes on the garment, adding a mark  $\frac{7}{8}$ " from the inner end of the buttonhole, as shown at A in Step 1.



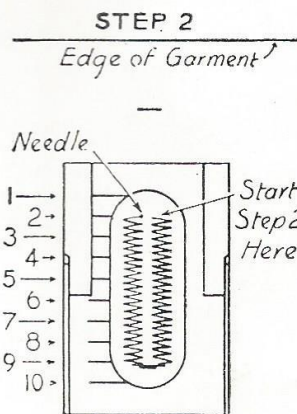
### STEP 2

Stitch as for the average buttonhole, stopping with the needle directly opposite the first stitch taken, and leaving the needle in the material, on the inside of the buttonhole.

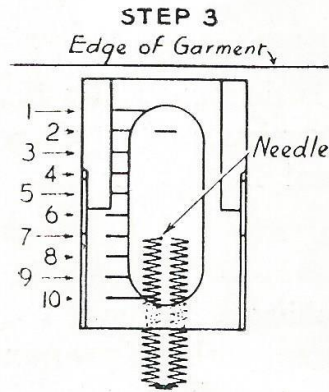
### STEP 1

Turn thumb nut (B) to bring the feeding foot all the way forward toward you and around the turn until line 2 at top of the indicator plate is opposite the needle.

Place garment under feeding foot, with the point (A) marking  $\frac{7}{8}$ " from inner end of buttonhole, directly under the needle, as shown, then lower the attachment.





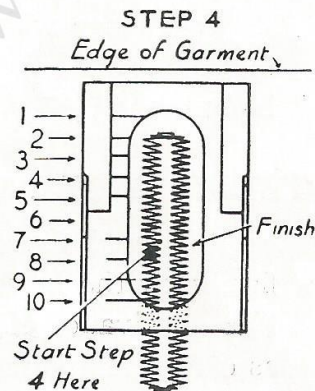


**STEP 3**

Holding the fabric firmly in position with the right hand, raise the attachment gently with the left hand and, with the left hand, turn the thumb nut (B) so as to bring the feeding foot around the first turn, around the second turn and up until the line indicating the length of the buttonhole desired is opposite the needle.

**STEP 4**

Lower the attachment and, without further adjustment, finish the buttonhole, stopping when the last stitch overlaps the first.



**NOTE**—Each line on the indicator plate of the feeding foot represents  $\frac{1}{8}$ ".

When after the second turning in Step 3, the feeding foot is moved until line 10 at bottom of indicator plate is opposite the needle, the extended buttonhole will measure  $1\frac{7}{8}$  inches.

10th line indicates	$1\frac{7}{8}$	inches
9th " "	$1\frac{3}{4}$	" "
8th " "	$1\frac{5}{8}$	" "
7th " "	$1\frac{1}{2}$	" "
6th " "	$1\frac{3}{8}$	" "
5th " "	$1\frac{1}{4}$	" "
4th " "	$1\frac{1}{8}$	" "

### **SPACING OF STITCHES**

The space between the stitches is determined by the position of the pointer (M). For larger space turn pointer toward L, and for smaller space toward S.

### **WIDTH OF BIGHT**

The width of stitch used for making a buttonhole is called the bight. More bight is necessary for loosely woven or thin material than for tightly woven or thick material.

To change width of bight, loosen thumb nut (K) and move it toward W for wider bight, or toward N for narrower bight.

### **THE STRIPPER FOOT**

A curved finger, called the Stripper Foot (F) presses firmly on the fabric before each plunge of the needle and lifts in advance of the movement of the Feeding Foot (G) as each stitch is made, acting exactly as your finger would do in working fine hand-made buttonholes, and so prevents skipped or broken stitches.

### **CUTTING SPACE**

There should be just enough cutting space to permit cutting the buttonhole without cutting the stitches. Too much cutting space will make a ragged-looking buttonhole.

To change the width of the cutting space, loosen the thumb nut (L) and move it toward W for wider space, or toward N for narrower space.



## PROPORTIONS OF BUTTONHOLE

Whenever an adjustment is made in length of the buttonhole, a corresponding adjustment may be required in the spacing of stitches, the bight of the stitch and the cutting space so as to produce a well-proportioned buttonhole. If the bight of the stitch is increased or decreased, this naturally affects the cutting space and it is necessary to adjust this accordingly.

## CUTTING THE BUTTONHOLE

When buttonhole is completed, cut opening with sharp pointed or embroidery scissors. Start in centre of buttonhole first, cutting toward one end ; then cut toward other end of buttonhole until opening is complete. Care should be exercised, of course, not to cut any of the stitches making the buttonhole.

## TACKING

When it is desirable to make tacking for reinforcement on various parts of a garment, the buttonhole attachment can be used. The result is a strong row of double stitching, stitched twice over, which can be adjusted as to width and length. Tacking is used to strengthen the ends of plackets and other openings or seam joinings where special strain is placed. It lengthens the life of clothing and is especially effective on children's garments. It makes a neat, professional finish that will not tear out.

To make a tack, move the nut (L) all the way back to N.

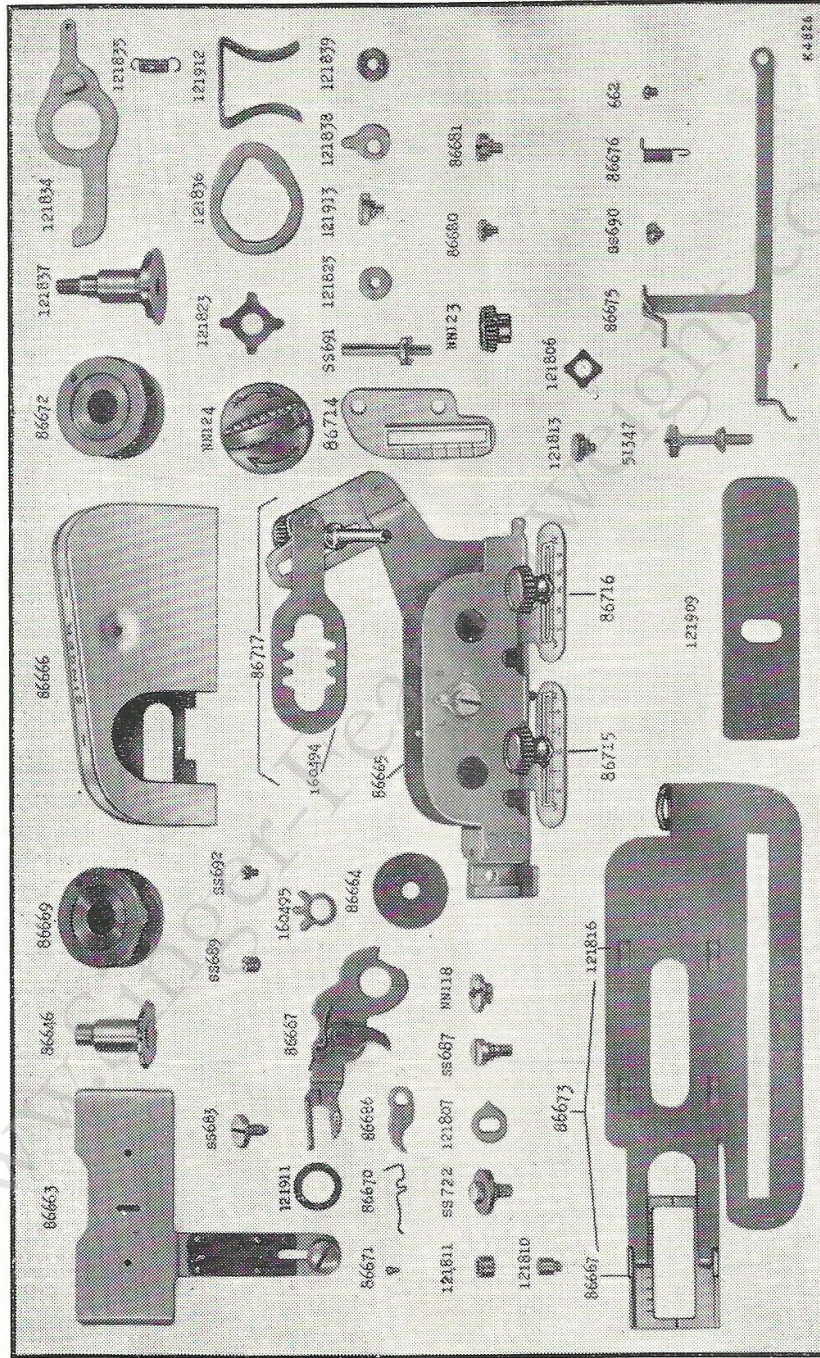
This eliminates the cutting space so that the two rows of stitching overlap to form a single tack, the length, width and stitch-spacing of which can be regulated in the same manner as in making buttonholes.

### LUBRICATING THE ATTACHMENT

Occasionally apply a drop of SINGER\* oil to the points indicated in Fig. 3, then wipe dry so that the work may not be stained. It is also advisable to remove screw N, take off the cover and give a touch of SINGER\* Lubricant for Electric Motors to all moving parts in contact. SINGER Lubricant is supplied in small tubes.



# ILLUSTRATIONS OF PARTS





**PARTS FOR BUTTONHOLE ATTACHMENT**  
**No. 86718**

No.	DESCRIPTION
86715	Bell Crank (front) with NN123, SS722, 121807 and 121810
SS687	" " ( " ) Hinge Screw
NN118	" " ( " ) " " Nut
86716	Bell Crank (rear) with NN123, SS722, 121807 and 121810
121813	" " ( " ) Hinge Stud
121806	Bell Crank (front or rear) Friction Washer (2)
121807	" " ( " " " ) Indicator
SS722	" " ( " " " ) Screw Stud
NN123	" " ( " " " ) " " Thumb Nut
121810	" " ( " " " ) Stud
121811	" " ( " " " ) " Roller (2)
86669	Cam (front) with SS689c
86646	" ( " ) Shaft
86686	" ( " ) " Ratchet Wheel Pawl
86680	" ( " ) " " " Stud
86670	" ( " ) " " " Spring
86671	" ( " ) " " " Rivet

(Continued)



No.	DESCRIPTION
86672	Cam (rear) with SS689c
121834	" ( " ) Clutch Lever
121835	" ( " ) " " Spring
121836	" ( " ) " Retaining Ring
121837	" ( " ) Shaft
NN124	" ( " ) " Thumb Nut
121912	Cam (front or rear) Brake
121823	" ( " " " ) Friction Washer (2)
SS689c	" ( " " " ) Set Screw (2)
86687	Driving Lever, with 86670, 86671, 86680 and 86686
121911	" " Friction Washer
121816	Feed Blade
86673	" " 121816 with 86667
121909	" " Retainer
86663	Feed Cover Plate with SS683w
SS683w	" " " Screw
86667	Feeding Foot
86665	Frame
86717	Frame assembly, Nos. NN123, SS687, SS691, 86665, 86680, 86683, 86714 to 86716, 121813, 121825, 121839, 121913, 160494 and two 121806

(Continued)

No.	DESCRIPTION					
86666	Frame Dust Cover					
SS692	"	"	"	"	"	Screw
86714	Length Adjusting Arm					
SS691	"	"	"	"	"	Position Pin (screwed)
NN123	"	"	"	"	"	Thumb Nut
121825	"	"	"	"	"	"
						Washer
121913	"	"	"	"	"	Stud (large)
86680	"	"	"	"	"	(small)
160494	Rack					
160495	"	Segment				
86664	"	"	Washer			
51347	Screw (for attaching to machine)					
121838	Stitch Adjusting Pointer					
86683	"	"	"	"	"	121838 with 86681
121839	"	"	"	"	"	Friction Washer
86681	"	"	"	"	"	Stud
86675	Stripper Foot					
SS690	"	"	Hinge Screw			
86676	"	"	Spring			
662	"	"	"	"	"	Anchor Screw



**I M P O R T A N T**

**To obtain the best results from your Sewing Machine it is necessary to use the Best Quality of Oil and Good Needles.**

**SINGER OIL**, specially prepared for sewing machines, is supplied in tins, which have the well-known **SINGER Red "S"** printed thereon.

**SINGER NEEDLES** are stamped with the Company's Trade Mark **SIMANCO\*** and are sold in green packets which also bear the **SINGER Red Letter "S."**

**To avoid trouble, be sure to purchase your Oil and Needles from a SINGER Shop or SINGER Salesman.**

# SINGER\* SERVICE

Wherever you go you will find expert, dependable SINGER Service nearby. SINGER is interested in helping you keep your SINGER Sewing Machine in top condition. That is why it makes sense to call your SINGER representative if your machine ever requires attention. He will submit a written estimate for your approval. Look for the familiar Red "S" on your SINGER SEWING CENTRE.



## EVERYTHING FOR THE WOMAN WHO SEWS

The answer to your sewing needs is at your SINGER SEWING CENTRE. There you will find a wide choice of buttons and thread, as well as Finishing Services such as covering buttons, hemstitching, making belts and buckles, to mention a few. Look under Singer Sewing Machine Company in your telephone directory for the SINGER SEWING CENTRE nearest you.

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