

VIKING OWNER'S HANDBOOK FOR MODEL 6690

Viking Husqvarna Sewing Machine



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Education Department

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TABLE OF CONTENTS

Operating Preliminaries.....	1
Elements For Successful Stitching.....	2
Presser Foot Selection.....	3
Thread Tension Adjustment.....	4
Pressure.....	4
Built-In Stitches.....	6
Stitch Length Adjustment.....	6
Reverse Stitching.....	6
Needle Positions.....	6
Straight Stitch.....	7
Basic Straight and Reverse Stitching.....	7
Tension Basting.....	7
Stitch-In-The-Ditch.....	8
Zig-Zag.....	9
Stitch Width Adjustment.....	9
Gathering Over The Top And Bobbin Thread.....	10
Satin Stitch (Applique).....	11
Rolled Edge.....	12
Monogramming.....	13
Darning.....	14
Three-Step Zig-Zag.....	15
Overcasting.....	15
Mending.....	15
Bar Tacks.....	16
What Is A Computerized Sewing Machine?.....	17
Buttonholes.....	18-21
Sewing On Buttons.....	22-23
Utility Stitches.....	24
Trimotion® Stitches.....	25
Blindstitch.....	26
Bridging Stitch.....	27
Joining.....	27
Shirring.....	28
Flatlock.....	29
Lapped Seam.....	29
Overcast Or Lingerie Stitch.....	30
Seaming.....	30
Shell Edge.....	31
Double Overlock.....	32
Overlock Stitch.....	33
Reinforced Straight Stitch.....	34
Feather Stitch.....	35
Arch Stitch.....	36
Edge Finish.....	36
Crowfoot Stitch.....	37
Hemstitching.....	37

Serpentine Stitch.....	38
Attaching Elastic.....	38
Blind Hem Stitch.....	39
Hemming.....	39
Shell Edge.....	40
Double Action Stitch.....	41
Rolled Seam.....	41
Casing Elastic.....	42
Point De Paris.....	43
Applique.....	43
Ric-Rac Stitch.....	44
Lapped Seam.....	44
Ric-Rac Buttonhole.....	45
Edge Guide And Attachment Screw.....	46
Parallel Top Stitching.....	46
Double Needle.....	47
Raised Seam Presser Foot And Attachment.....	48
Decorative Stitching with Double Needle.....	49
Zipper Foot.....	50
Glide Plate.....	50
Decorative Stitches.....	51
Finishing Button.....	51
Waves.....	51
Mirroring.....	52
Programming.....	53
Combining Mirrored and Unmirrored Stitches.....	53
Stitch Sequence.....	53
Finishing Button.....	54
Lettering.....	55
Width Adjustments.....	55
Sentence and Locking Letters.....	56
Stop Function.....	56
Correcting An Error.....	57
Interchanging Cassettes.....	58
Extra Accessories.....	59
Shanked Accessories.....	59
Braiding Foot.....	59
Bias Binder.....	60
Buttonhole Attachment.....	62
Gathering Foot.....	63
Ruffler.....	64
Snap-On Presser Feet.....	66
Dual Feeder.....	66
5-Hole Cord Or Braid Foot.....	67
Overcast Foot.....	68
Piping Foot.....	69
Narrow Hemmers.....	70
Rolled Hemmers.....	72
Roller Foot.....	74
Special Marker Foot.....	75-78
Special Accessories.....	79
Circular Sewing Attachment.....	79
Eyelet Plates.....	80
Hem Stitch Fork And Rug Foot.....	81
Weaver's Reed And Rug Foot.....	82
Triple Needle.....	84
Wing Needle.....	85-86

OPERATING PRELIMINARIES

"When You're Ready For The Best"

The following features, in combination, make Viking a high quality, versatile sewing machine. It's important to understand how these features work.

NON-OILING

The Viking never needs oiling because it lubricates itself as it is being used. The bearings inside of the machine are made of Swedish iron powder granules which have been fused into porous but extremely strong parts. Self-lubrication occurs because these porous bearings are filled with oil.

100% JAM FREE

Threads will never jam a Viking. The machine is designed with a bobbin case that "floats" when placed inside the shuttle. Because there are no tight places, any threads which may wind around the bobbin case will automatically surface to the top -- never jamming!

REDUCTION GEAR

An exclusive Viking feature is the reduction gear which gives the machine five times more needle piercing power. Not only does it slow the machine down for stitch-by-stitch control, but it also enables one to sew through heavy layers of denim, thick leathers, canvas, upholstery ... things which normally must be sewn on an industrial machine. The combination of the reduction gear and electronics makes Viking the most powerful home sewing machine.

ONE-PIECE CASTING

The Viking 6690 is made of one-piece cast aluminum. Continuous casting gives the machine much more strength, enabling it to endure wear and tear without affecting the working parts. The aluminum is light in weight and makes carrying the machine easier.

PUSH-BUTTON OPERATION

At the touch of a button, the extensive capabilities of the Viking 6690 come to life. Press a button, and a red light indicates which stitch is programmed into the machine. Straight stitch, zig-zag, and three-step zig-zag are built into the machine. All stitches are coded with pictures to make selection of stitches extremely easy. Snap-in cassettes provide 36 utility and decorative stitches. One cassette makes formation of letters possible by providing the entire alphabet. There is also a "memory" feature that can be used when programming stitches.

TIME-SAVERS

Presser feet that snap on and off, a throat plate that pops up at the touch of a button, one-motion threading, and automatic bobbin thread pick-up are time-saving features of the Viking. Graduated tension and pressure controls, and drop feed dog button make the Viking simple to operate.

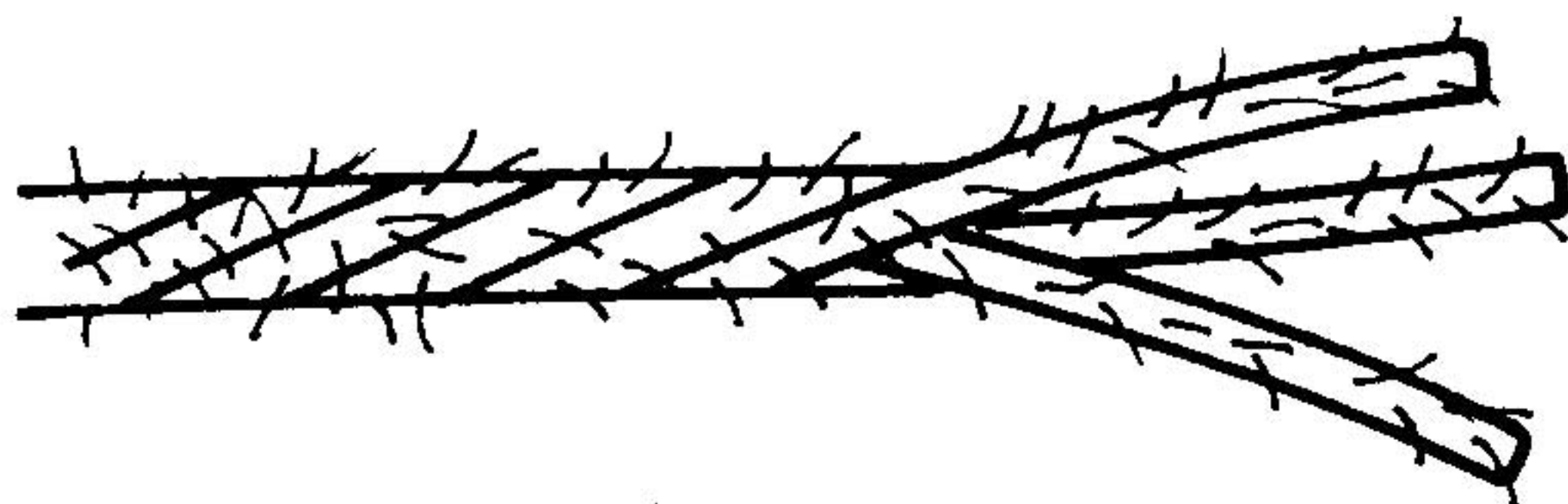
ELEMENTS FOR SUCCESSFUL STITCHING

An understanding of the following variables will aid the seamstress in correctly setting up the machine before actual garment construction is begun. The most important thing being stressed here is that if the seamstress is not sure about something, the safest, least frustrating thing to do is to test the compatibility of the thread, fabric, needle pressure and tension.

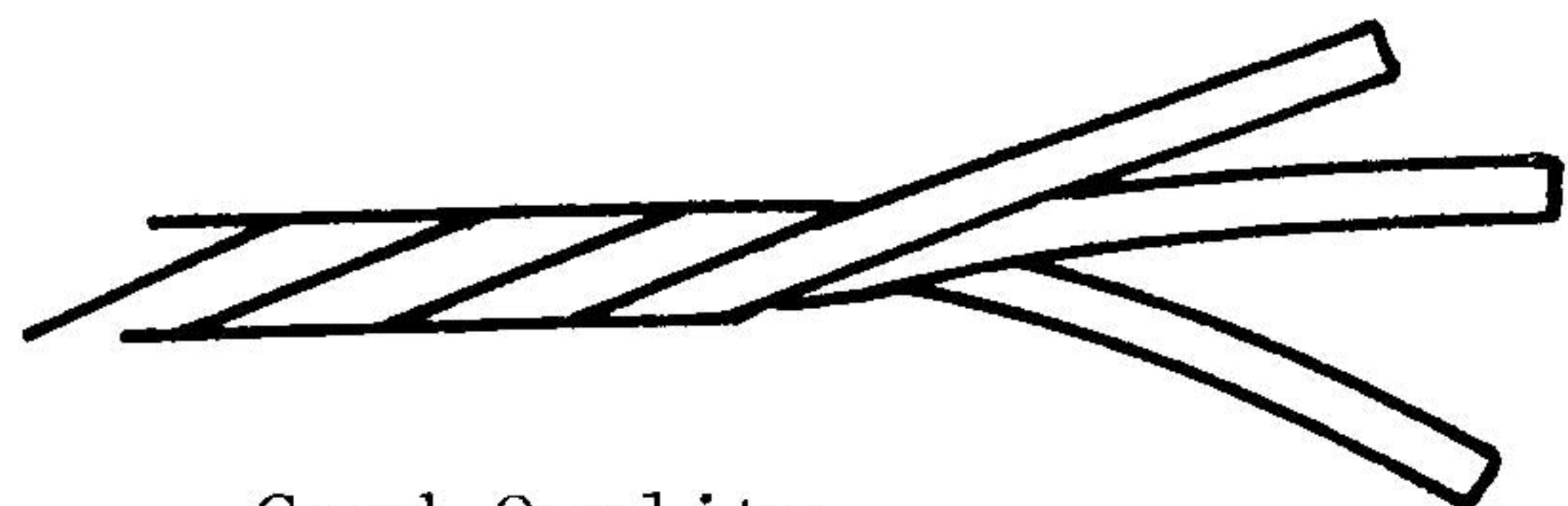
THREAD SELECTION

When selecting the proper thread, choose one that is compatible with the fashion fabric. Generally, finer fabrics require a lighter weight thread, and heavier fabrics require a coarser thread. Polyester threads (or polyester based) are most commonly used for general sewing purposes. Threads of different fibers (cotton, rayon, silk, etc.) are available for special sewing.

Quality is a very important consideration when selecting a thread. A thread of poor quality will result in operating and stitching problems on any type of sewing machine. Synthetic threads are made by twisting filaments together. Filaments are formed when the liquid synthetic is forced, under high pressure, through a series of pin-sized holes, and cooled. Lower quality synthetic threads are made by twisting short, leftover filaments of polyester together. The result is a "hairy" appearance, and a weaker thread. Better quality threads are made by twisting long continuous filaments together. This thread is stronger and smoother, thus fewer operating problems will occur. Brand name and price do not necessarily represent quality in a thread. The only true test of thread quality is close examination.



Poor Quality



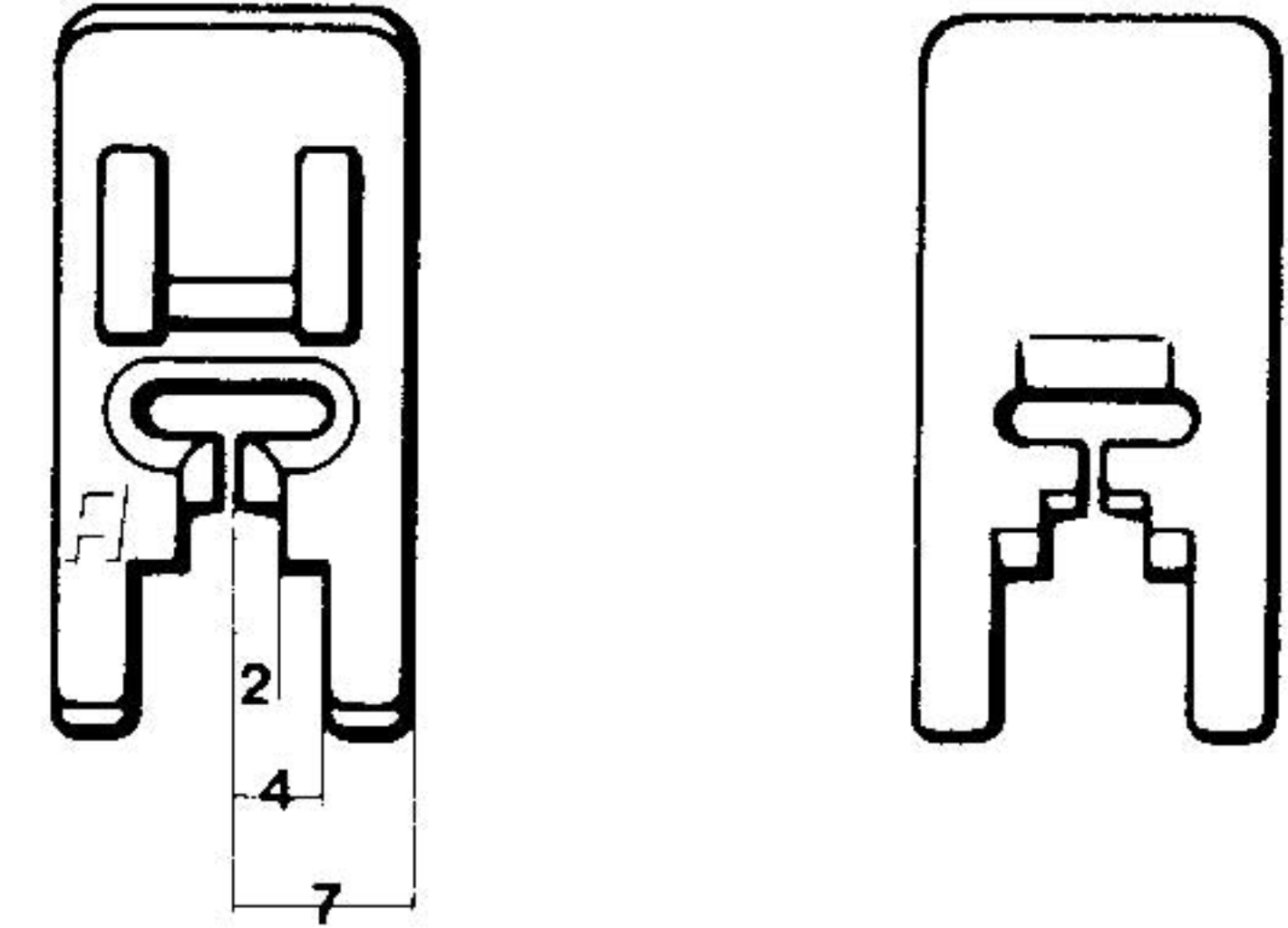
Good Quality

PRESSER FOOT SELECTION

To ensure quality stitching, Viking has made available three basic presser feet for most sewing. The proper foot is chosen with regard to the type of fabric being sewn, and the particular stitch being used. The differences can be determined by examining the shape and underside of each foot. The three basic feet are:

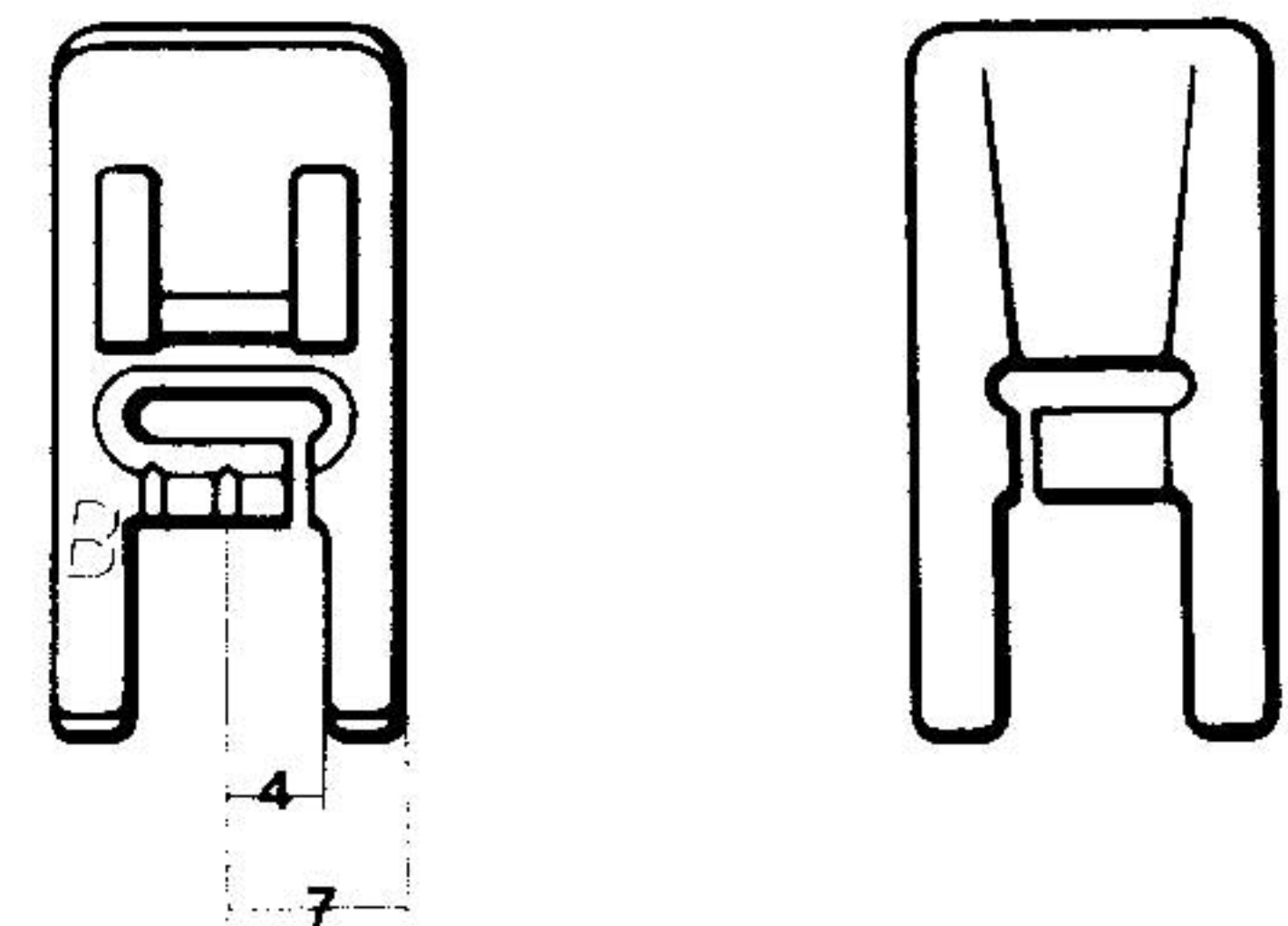
STANDARD FOOT A 411 73 86 01

This foot is used for normal straight stitching, zig-zag stitching and other utility stitches. It is generally suited for medium weight fabric. Behind the needle opening on the underside, a wedged-out section allows the foot to ride smoothly over stitched threads. Note the spaced notches on the top of the foot. These 2, 4 and 7 mm markings serve as stitching and spacing guides.



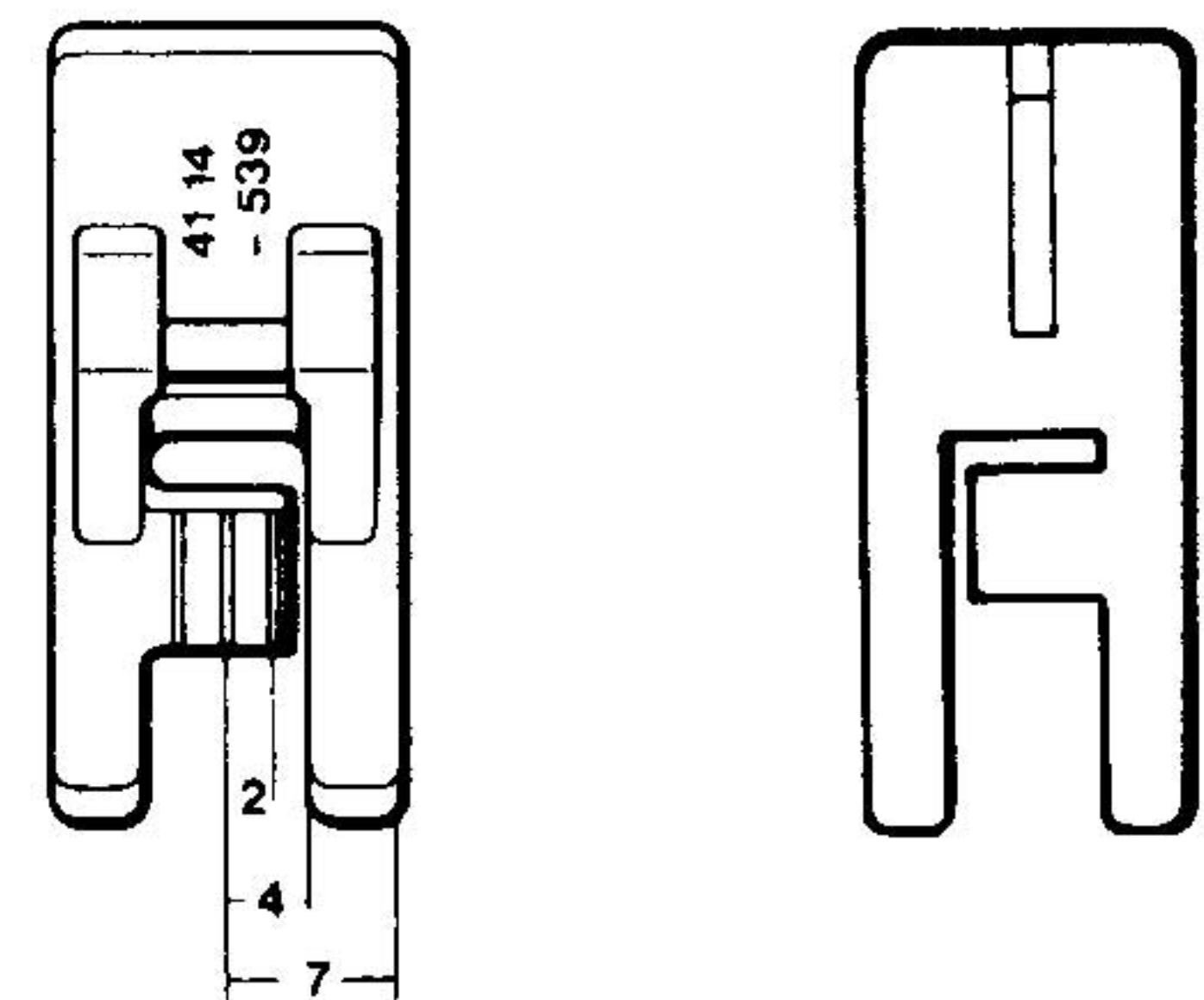
UTILITY FOOT B, 411 73 88 01

This foot is especially suitable for sewing situations where there is excessive bulk, napped fabrics or decorative stitching with less than 1 mm stitch length. On the underside, this foot has a recessed wedge which allows it to ride over heavy threads and dense, satin-like stitches. Note the 4 and 7 mm markings to be used as stitching guides.



PRESSER FOOT FOR LIGHTWEIGHT FABRICS 411 45 39 01

This transparent foot with red lines is especially designed to reduce puckering of seams when sewing fine fabrics. The underside of this foot has a small projection. This helps keep even fabric tension under the presser foot which in turn prevents the fabric from puckering and prevents skipped stitches.



THREAD TENSION ADJUSTMENT

Every sewing machine is adjusted with the top and bottom thread tensions synchronized for normal sewing. The red dot on the upper thread tension dial marks the normal tension setting. Seldom will the dial be moved from this position. In general, there are two cases where the normal tension setting should be changed: specialty sewing and decorative work. It is recommended that adjustments be made by means of the upper thread tension dial alone.

The tension dial has graduated markings from 0 to 10. The red dot indicates the correct tension for most sewing projects. A buttonhole symbol has been placed on the tension dial indicating the tension setting for buttonholes. This setting is also used when doing decorative work to give a smoother appearance to the stitches. Decorative work includes any decorative stitching, topstitching, applique, monogramming and machine embroidery.

Use of heavier or lighter weight thread in specialty sewing will require an adjustment to accommodate the difference in thread thickness, since normal sewing (red dot) is initially set for average-weight sewing thread. If using a heavier or lighter weight thread, test for correct tension on a scrap of the fabric you will be sewing. A zig-zag stitch with stitch length 2 and stitch width 4 is the best way to check the tension. The knots should tie at the points of the zig-zag on the bottom side of the fabric, or in the middle of the fabric.

If the knots of the stitch are tying or railroading on the bottom side of the fabric, the upper tension is too loose. You will need to tighten the tension by turning the tension dial to a larger number.

When the threads are knotting on the top of the fabric, this indicates the top tension is too tight. A turn of the tension dial below the red dot or toward the smaller numbers should correct this.

If it seems that the top and bottom thread tensions are incorrectly synchronized, it is recommended that corrections be made by an authorized Viking dealer.

PRESSURE

The presser foot pressure is a necessary adjustment on any machine. The pressure dial regulates the amount of pressure the foot puts on the fabric. Incorrect pressure will often cause problems such as shifting and "creeping" of layers, puckering and irregular stitches.

It is impossible to state a general rule for changing pressure. Many variables influence this control: fabric weight, body, construction, fiber content, finish, yarn direction, etc. The best way to make a correct change is to test the pressure adjustment for the specific fabric to be sewn.

Normal sewing pressure is marked by the red dot on the pressure dial located on the top left side of the machine. This setting is for an average-weight woven fabric. To get the "feel" of this pressure, use a folded piece of medium-weight woven fabric and try the following test:

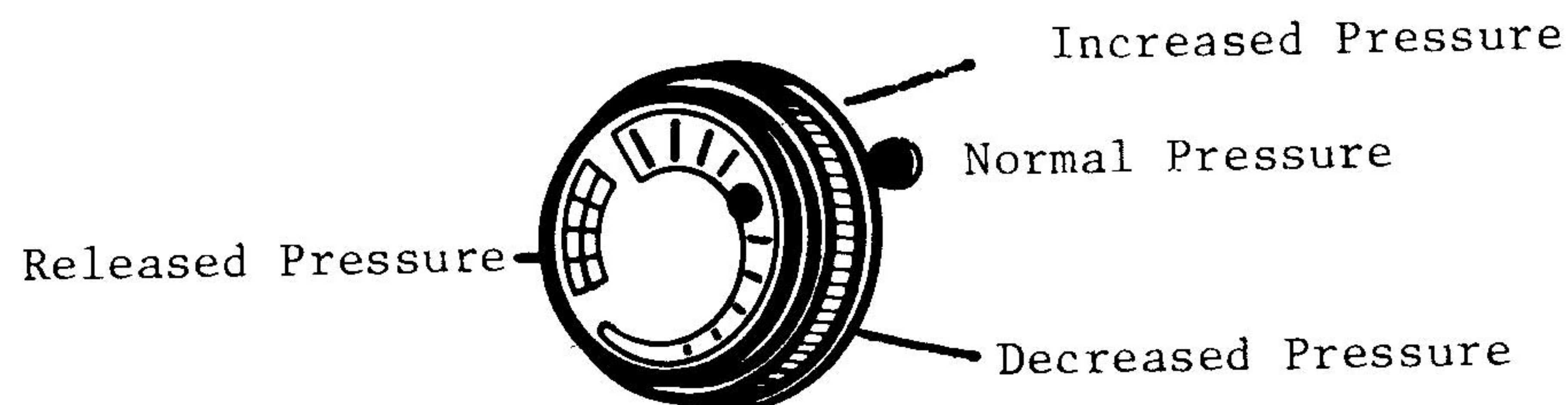
Drop the feed dog and lower the presser foot. Pull the fabric backward and forward under the foot. This is the "feel" of correct pressure. Now, using a folded sample of the fabric to be sewn, follow the same procedure, adjusting the pressure knob (see drawing) until this same "feel" is obtained.

When the pressure is too light, the fabric will seem to slide from side to side and the fabric feels as if it is not feeding through the machine smoothly. If the stitches skip or are not of uniform length, the pressure may be too light.

When the pressure is too heavy for the fabric, the fabric will stretch out and the ends of the seam will be uneven. A seam that puckers, or a path left by the presser foot, indicates that the pressure is too heavy.

The pressure will be correct when the fabric feeds evenly through the machine and both pieces of the fabric are even at the end of the seam.

This "feel" test gives a basis for pressure adjustments. After sewing a test sample with the proper stitch, it may be necessary to make additional adjustment.



Note: Always test the control fabric (medium-weight woven) with the standard presser foot. Test the fabric in question with the correct foot for that fabric. Example - test and sew velour with the Transparent Pattern Presser Foot.

By completely releasing the pressure (window pane symbol), it is possible to gain complete control of the fabric under the needle, enabling the operator to do such things as darning, embroidery, freehand quilting and monogramming.

BUILT-IN STITCHES

The symbols for straight stitching, zig-zag and three-step zig-zag are placed in the center of the control panel. The machine will sew these stitches independent of the cassette which is inserted. When you press the button under one of the symbols, the machine will automatically select a pre-programmed standard length and width for that stitch. Always test sew at this setting since various length and width adjustments are possible.

STITCH LENGTH ADJUSTMENT


The numbers in the window above the (-) and (+) buttons denote the stitch length. The buttons will decrease (-) or increase (+) the stitch length from 0.5 to 6 mm.

There are two small knobs above the window for fine adjustment of the stitch length between 0.75 mm and 0.25 mm. The right knob will light when pressing the (-) button to go below 0.5 (numbers will no longer appear in the window).

STITCH LENGTH EQUIVALENTS


1 millimeter stitch length =	24 stitches per inch
2 millimeter stitch length =	13 stitches per inch
3 millimeter stitch length =	9 stitches per inch
4 millimeter stitch length =	6 stitches per inch
5 millimeter stitch length =	5 stitches per inch
6 millimeter stitch length =	4 stitches per inch

REVERSE STITCHING

To stitch in reverse, press the  button on any cassette. As long as the button is pressed, the machine will sew the selected stitch in reverse at 3.5 mm.

NEEDLE POSITIONS

To set Left Needle Position, press straight stitch and press the zig-zag width button. The red light denotes the 4.6 mm width. This will move the needle to the left side.

If you press the button under the mirroring symbol , the needle will switch to Right Needle Position.

IMPORTANT NOTES FOR SEWING SAMPLES:

- Use normal tension and pressure unless otherwise stated.
- Pre-programmed standard stitch length and width are used unless changes are indicated.
- SS - indicates Stitch Symbol
- SL - indicates Stitch Length
- SW - indicates Stitch Width

STRAIGHT STITCH

This stitch is used for joining, applying zippers, basting and for professional top stitching.

BASIC STRAIGHT AND REVERSE STITCHING

MACHINE SETTING

SS - Straight Stitch Symbol

SL - Variable

FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

6" x 6" denim, folded in half

PROCEDURE

-Straight stitch down center, varying stitch length.

-Push reverse button to back stitch several stitches.

TENSION BASTING

MACHINE SETTING

TENSION - Bottom of Buttonhole Symbol

SS - Straight Stitch Symbol

SL - 4-6 mm

PRACTICE SAMPLE

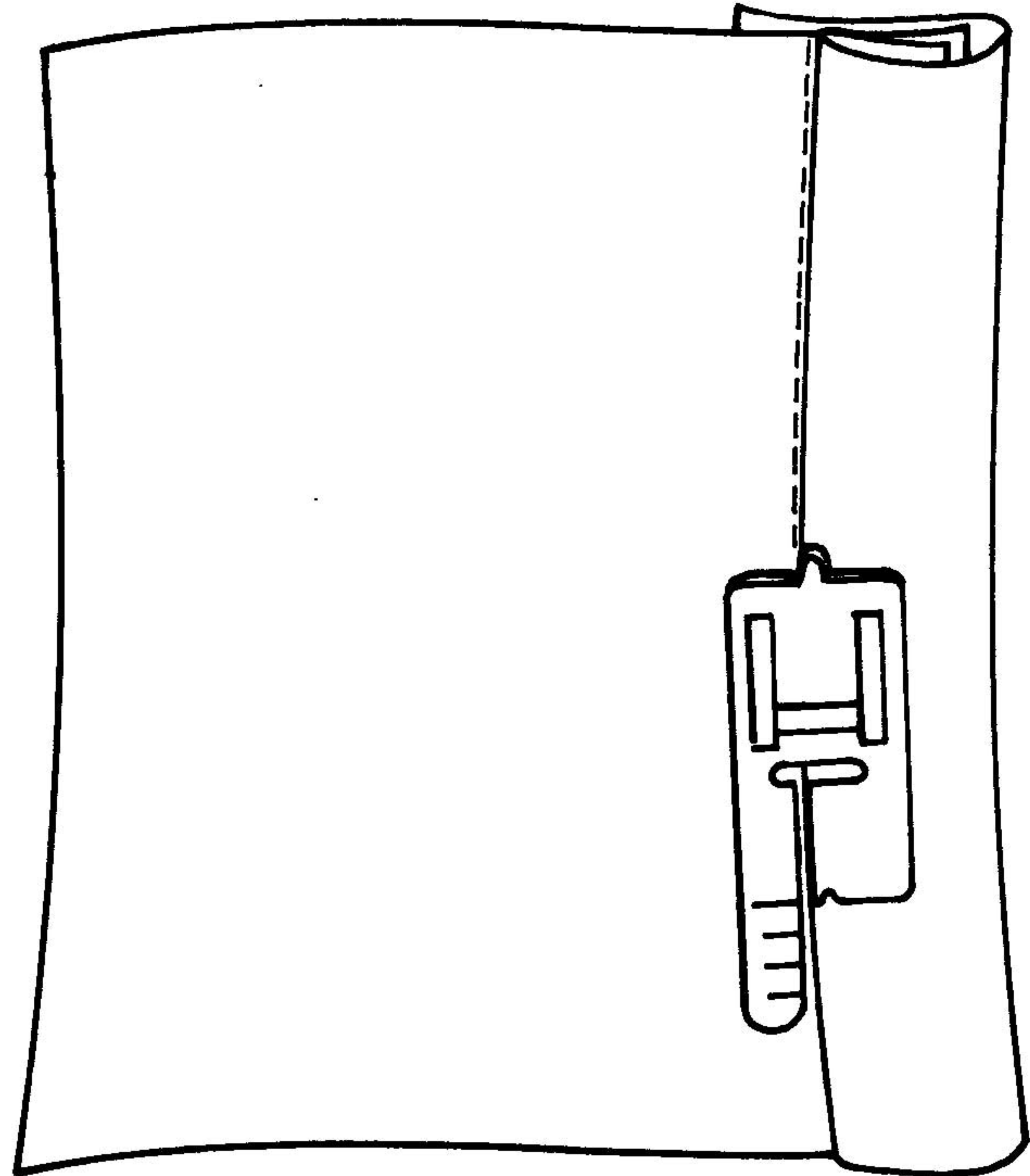
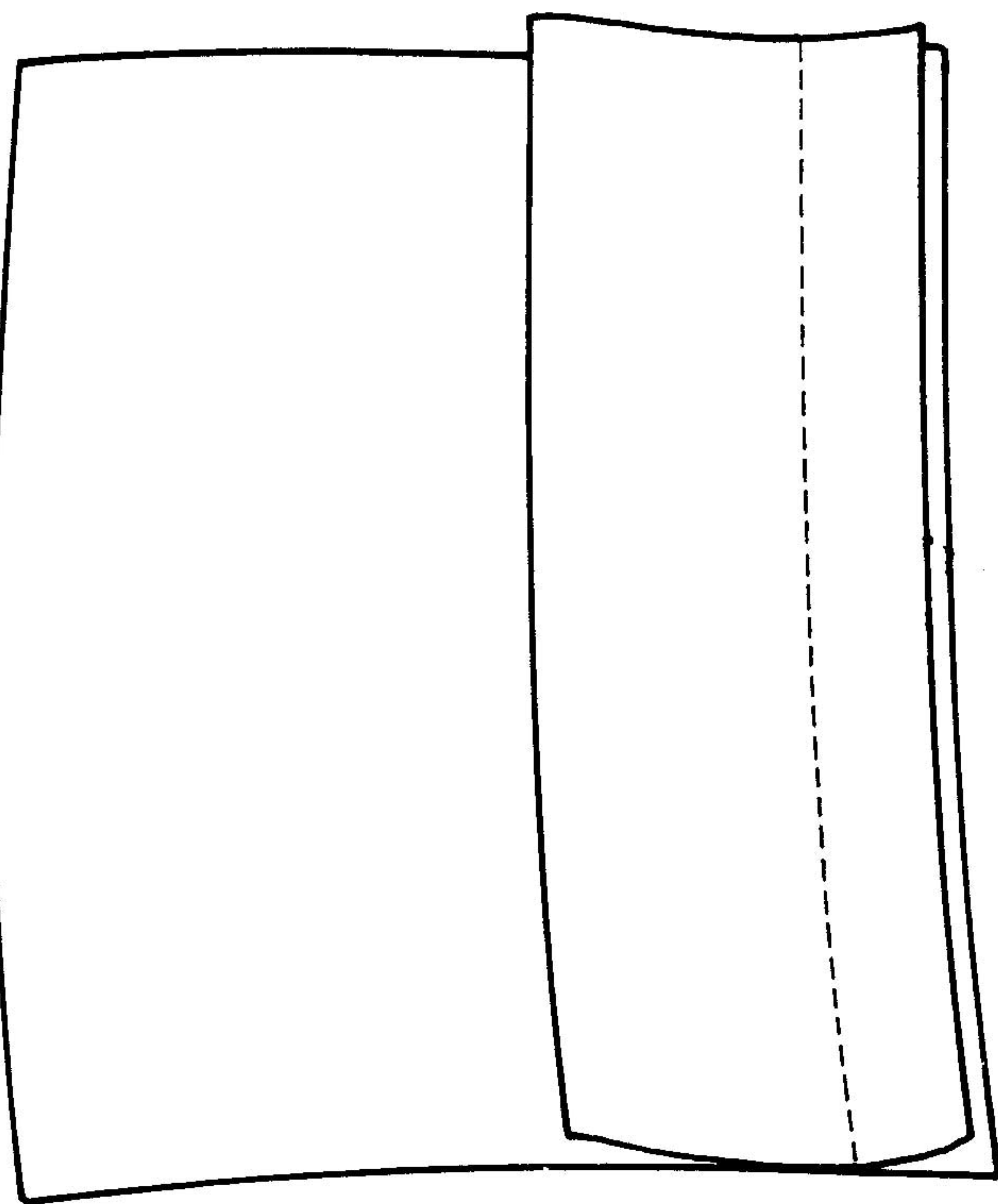
Use sample from previous exercise.

PROCEDURE

-Stitch one row on fabric sample.

-Pull bottom thread to remove basting stitch.

-Stitch a second row and leave as a reference sample.



STITCH-IN-THE-DITCH

This technique is used to sew down waistbands, to bind edges, and tack facings in seam lines.

MACHINE SETTING

PRESSURE - Increase 1 notch

SS - Straight Stitch, Left Needle Position

SL - 3.0 mm

FOOT - Buttonhole Foot C, 411 73 89 01

PRACTICE SAMPLE

6" x 6" medium-weight knit

6" x 6" medium-weight knit, cut in half (save unused portion)

PROCEDURE


- Right sides together, stitch smaller piece to larger piece with $\frac{1}{2}$ " seam allowance. Press seam allowance toward smaller piece.
- Fold trim around seam allowance, enclosing the raw edge. Do not turn under raw edge of trim.
- With the trim to the right, long leg of Buttonhole Foot should lie just to the left of the ditch and will serve as a guide. Stitch.


ZIG-ZAG


The zig-zag stitch is a versatile stitch used in general and craft sewing.

STITCH WIDTH ADJUSTMENT


The button furthest to the right is for altering the stitch width. The lights indicate which stitch width is programmed for stitching.


For regular zig-zag, 5 widths are possible. Pressing the zig-zag button will automatically set the width at 2.3 mm. 

1st press - reduces width to 1.5 mm. 

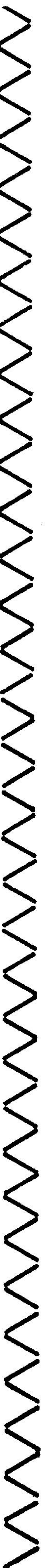
2nd press - increases width to maximum 4.6 mm. 

3rd press - reduces width to 3.8 mm. 

4th press - reduces width to 3.0 mm. 

5th press - returns to standard setting, 2.3 mm. 

The Twin Needle is a reminder to check the
Stitch Width setting when doing multiple
needle work.



GATHERING OVER THE TOP AND BOBBIN THREAD

MACHINE SETTING

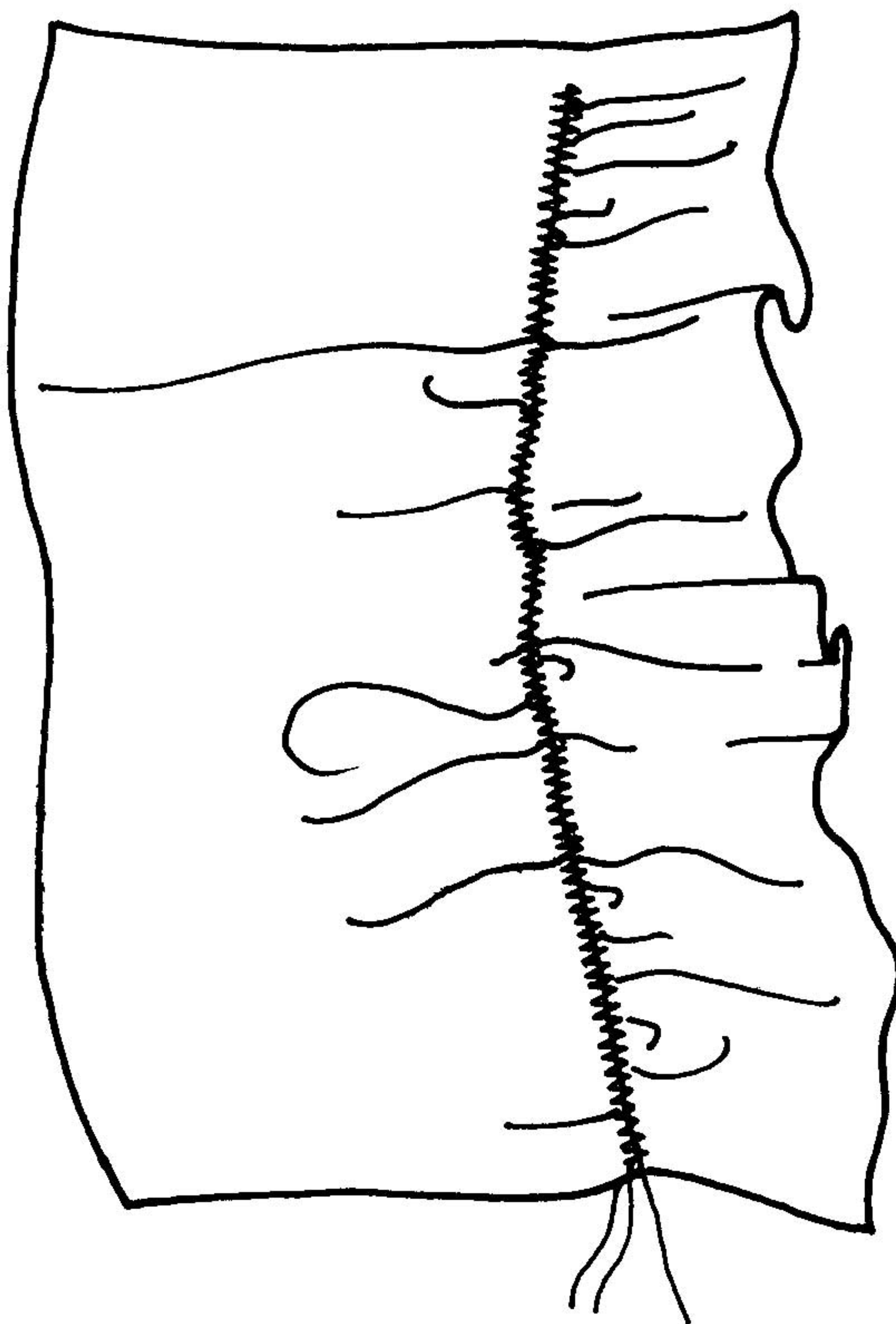
SS - Zig-zag
SL - 1.5 mm
SW - Standard Setting 2.3 mm
FOOT - Standard Foot A, 411 73 86 01

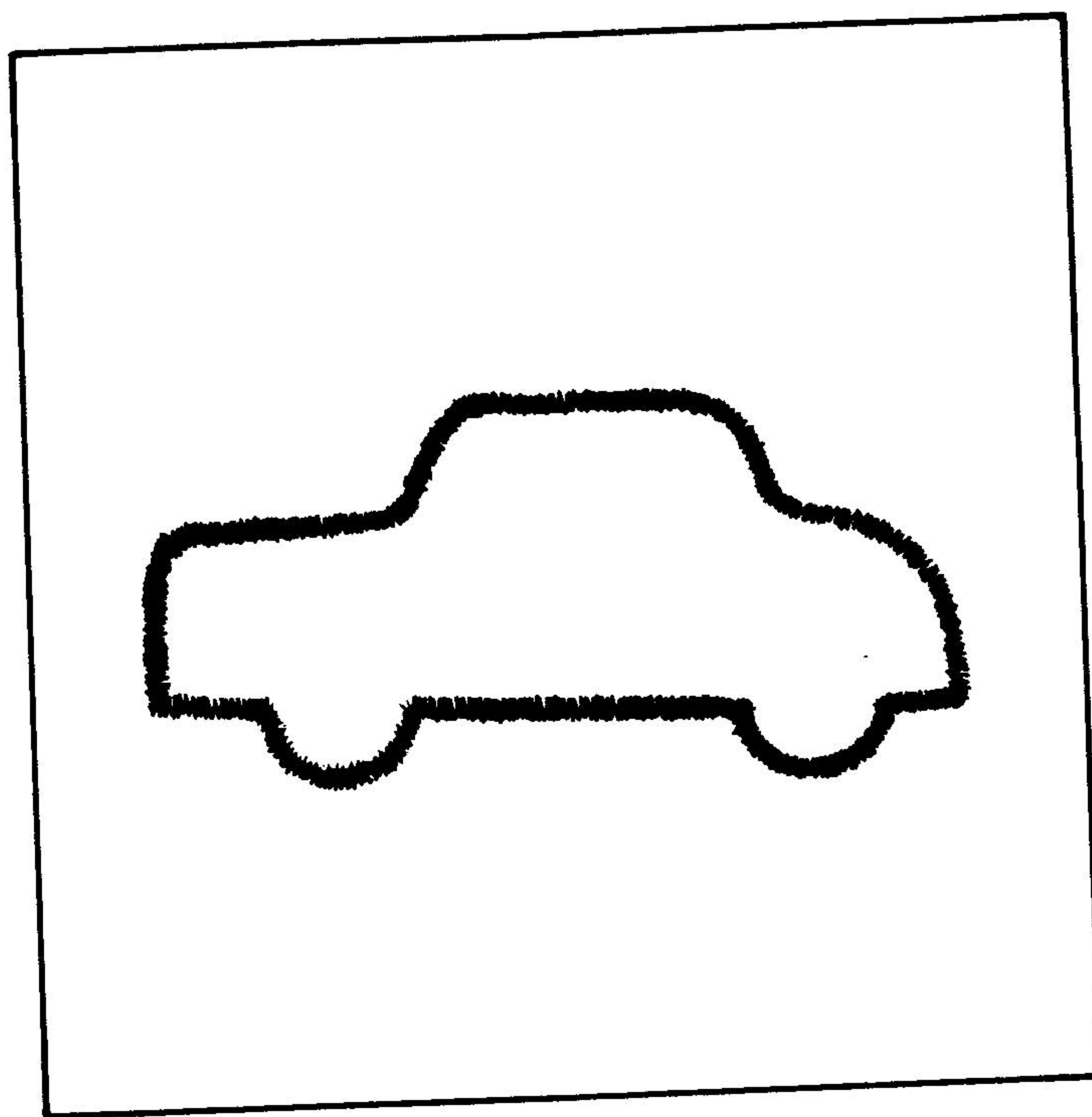
PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half (save unused portion)

PROCEDURE

- Take one stitch and draw up the bobbin thread. Pull top and bottom thread to be longer than finished gathered length.
- Sew a couple of stitches with the feed dog down to position the thread.
- Guide the threads on top of the presser foot while stitching over the threads.
- A gentle pull on the threads will make the fabric gather as you sew.
- Gathers can then be adjusted after the threads have been sewn in place.





SATIN STITCH (APPLIQUE)

MACHINE SETTING

PRESSURE - Decrease 2 notches
TENSION - Buttonhole Symbol
SS - Zig-Zag
SL - 0.5 or below
SW - 2.3 mm - 3.8 mm
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim
3" x 6" medium-weight woven from previous exercise

PROCEDURE

- Cut design from medium-weight woven.
- Position and secure design with fabric glue, tape or pins.
- Stitch around all sides of design, guiding it so that raw edge of design is aligned with the slit in the presser foot. Most of the stitch should be on applique.
- Secure stitch with finishing button.

NOTE: When using a stitch length less than 0.5, the Satin Stitch is made denser by turning the Right Fine Adjustment Knob to the left.

ROLLED EDGE

A professional finish for scarves, napkins, placemats, table linens, hems on children's clothes, ruffles or flounces is provided quickly by using the rolled edge technique.

MACHINE SETTING

SS - Zig-Zag
SL - 0.5 or below
SW - 4.6 mm
FOOT - Buttonhole Foot C, 411 73 89 01

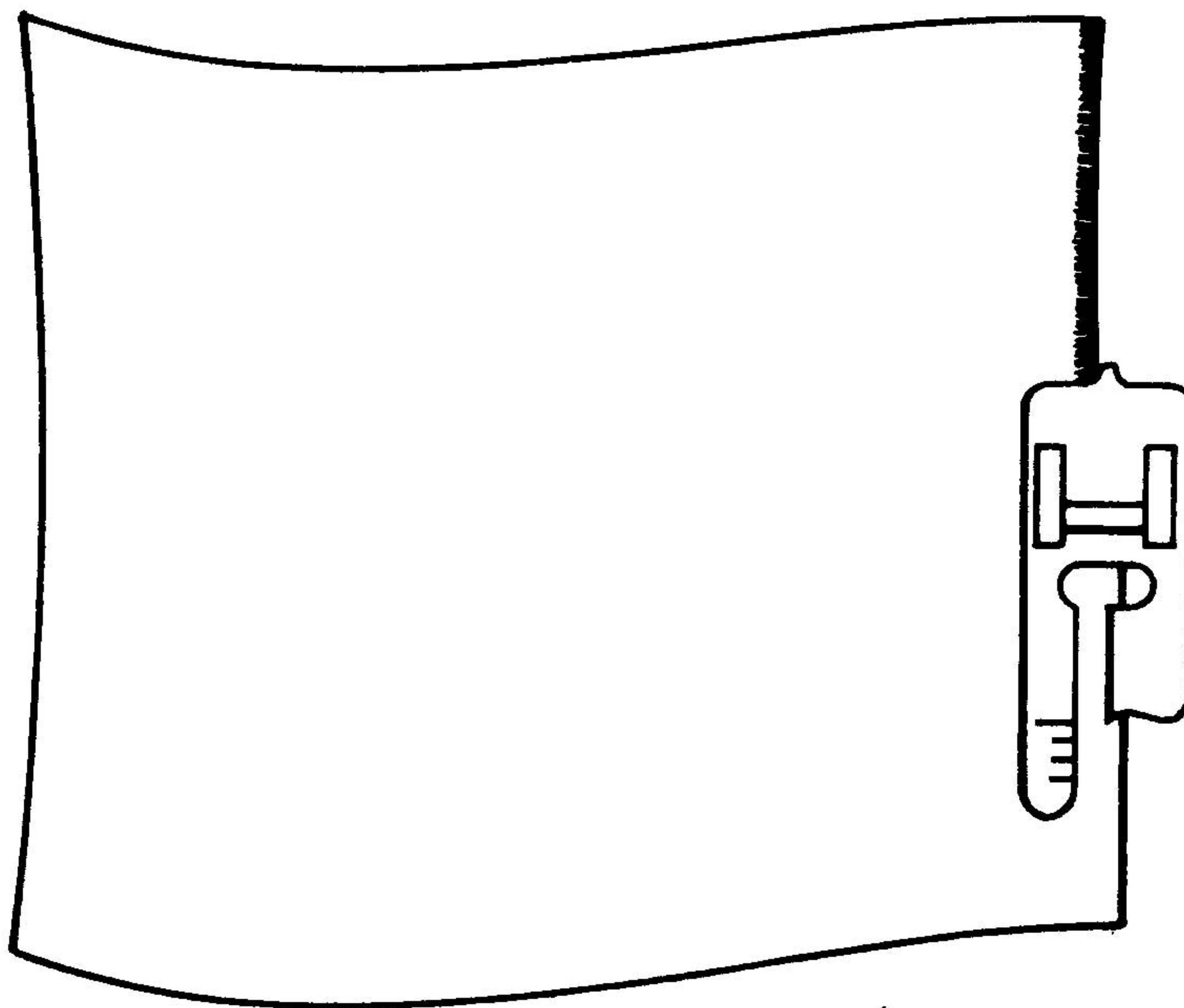
PRACTICE SAMPLE

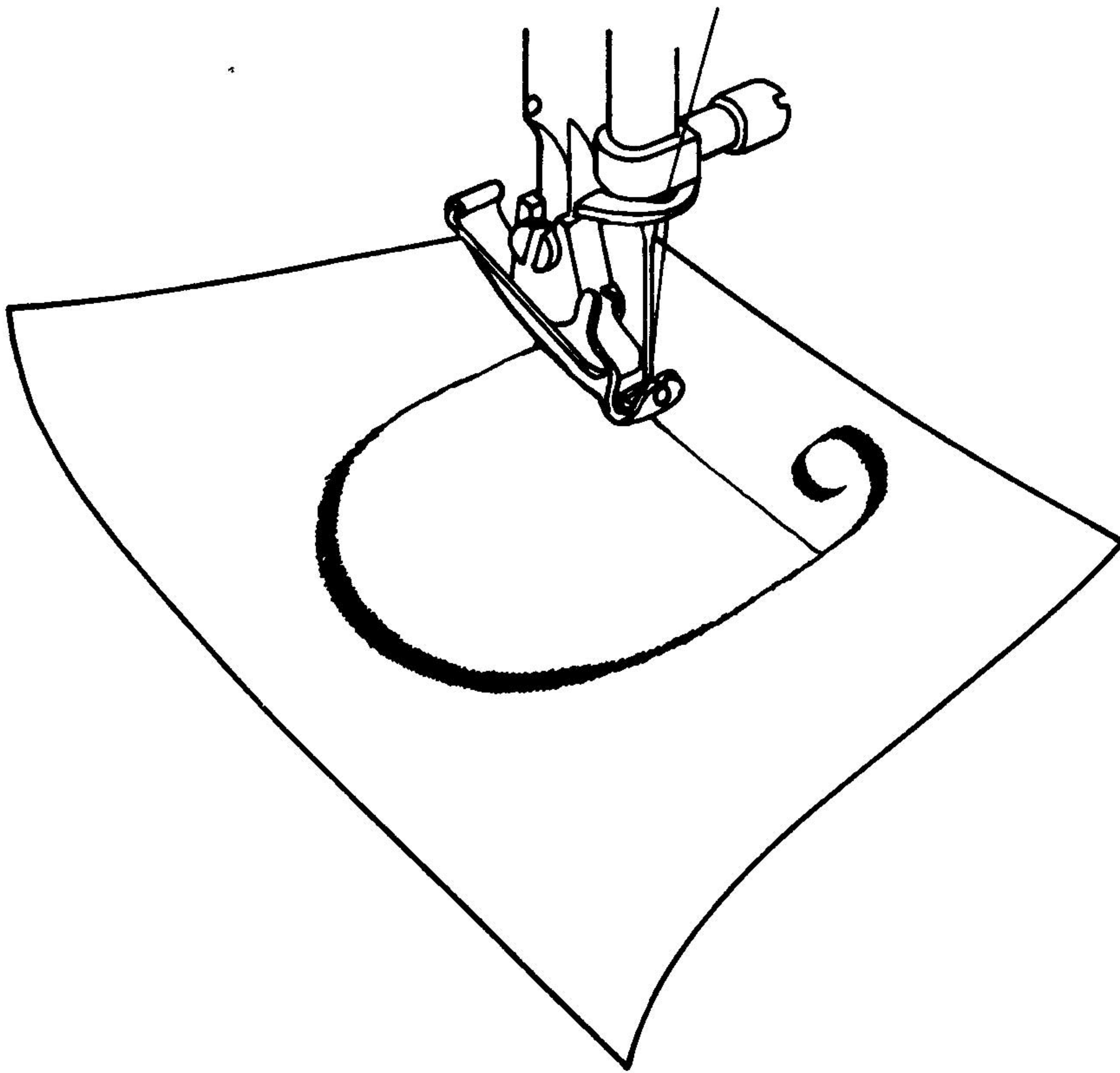
6" x 6" lightweight woven

PROCEDURE

- Sew on a smooth cut edge of the fabric, holding thread tails at the beginning. The edge of the fabric will be lined up with the groove on the right side of the Buttonhole Foot (as illustrated). When the needle swings left, it will penetrate the fabric, and when it swings right, it will be off the edge of the fabric. The tension on the thread will cause the fabric to roll, leaving a sturdy, satin edge.
- To finish a corner, start sewing in the middle of edge next to previously sewn edge. Sew toward finished edge and sew off corner.
- Repeat procedure to finish all corners.

NOTE: If a heavier effect is desired, go over stitching again.





MONOGRAMMING

MACHINE SETTING

PRESSURE - Darning Symbol
TENSION - Buttonhole Symbol
SS - Zig-Zag
SW - 3.0 mm
FEED DOG - Down
FOOT - Darning Foot, 411 28 97 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

- Draw design or letter on fabric.
- Bring bobbin thread up to top side of fabric.
- Lower the presser bar and begin stitching.
- Keep the letter facing you. DO NOT TURN THE FABRIC.
- Sew at high speed and move the fabric slowly so stitches will be close together.

DARNING

MACHINE SETTING

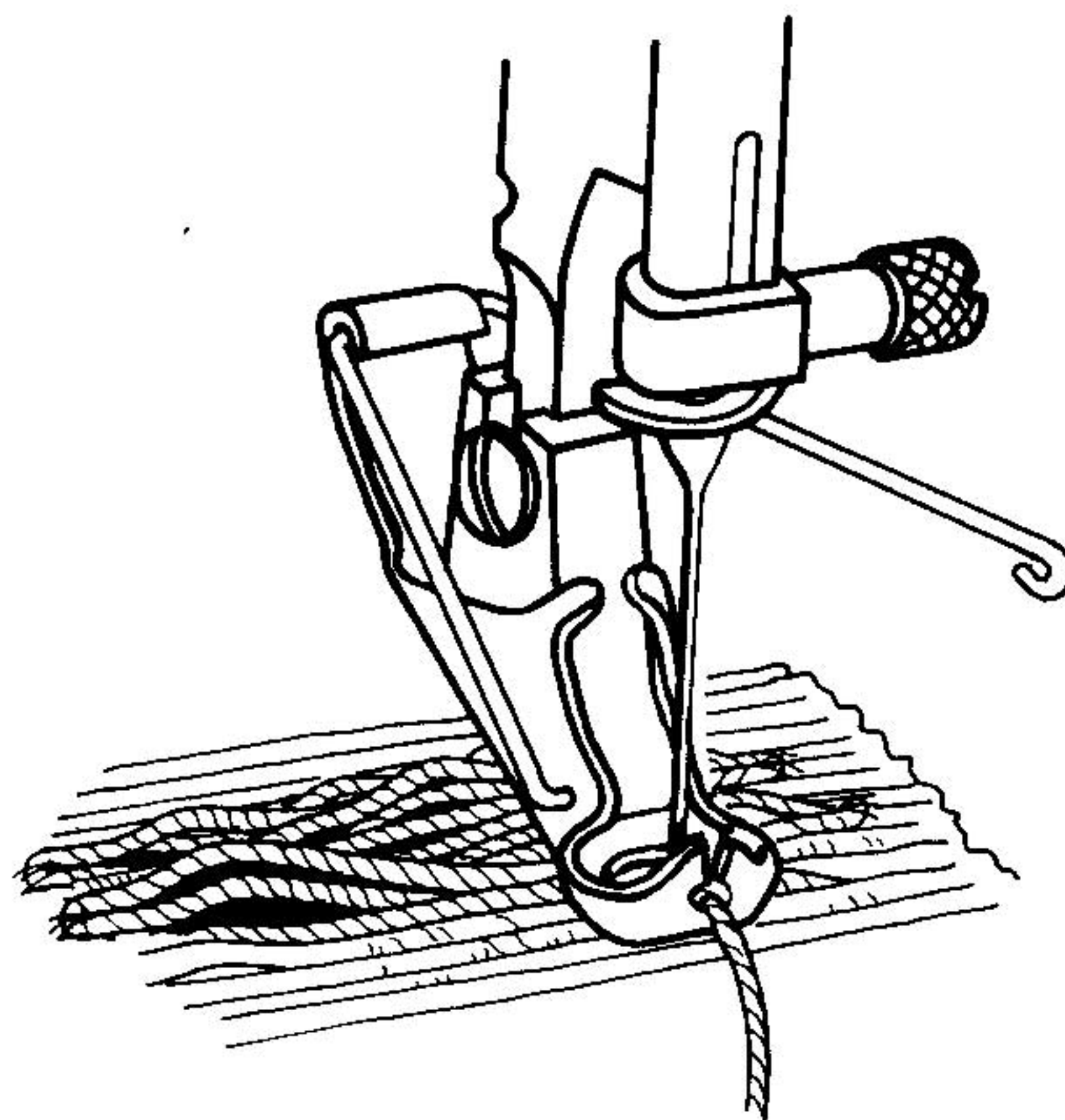
PRESSURE - Darning Symbol
SS - Zig-Zag
SW - 3.0 mm
FEED DOG - Down
FOOT - Darning Foot, 411 28 97 01

PRACTICE SAMPLE

Sock
Baby Yarn

PROCEDURE

- To keep hole or worn area from growing, stitch around the edge.
- Insert yarn into the center of the foot, being sure it fits into the groove. Move the fabric from side to side to tack yarn in place, filling in hole.
- Trim away excess yarn and secure it by sewing forward and backward. Sew just enough to hold the yarn in place without making the area stiff.



THREE-STEP ZIG-ZAG

This stitch is suitable for overcasting, mending and bar tacks.
For the three-step zig-zag, 3 widths are possible:

4.6 mm, 3.0 mm and 1.5 mm.



OVERCASTING

MACHINE SETTING

SS - Three-Step Zig-Zag

FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

-Overcast all edges with edge of fabric next to inside edge
of leg of presser foot.

MENDING

MACHINE SETTING

SS - Three-Step Zig-Zag

SL - 0.5 or less

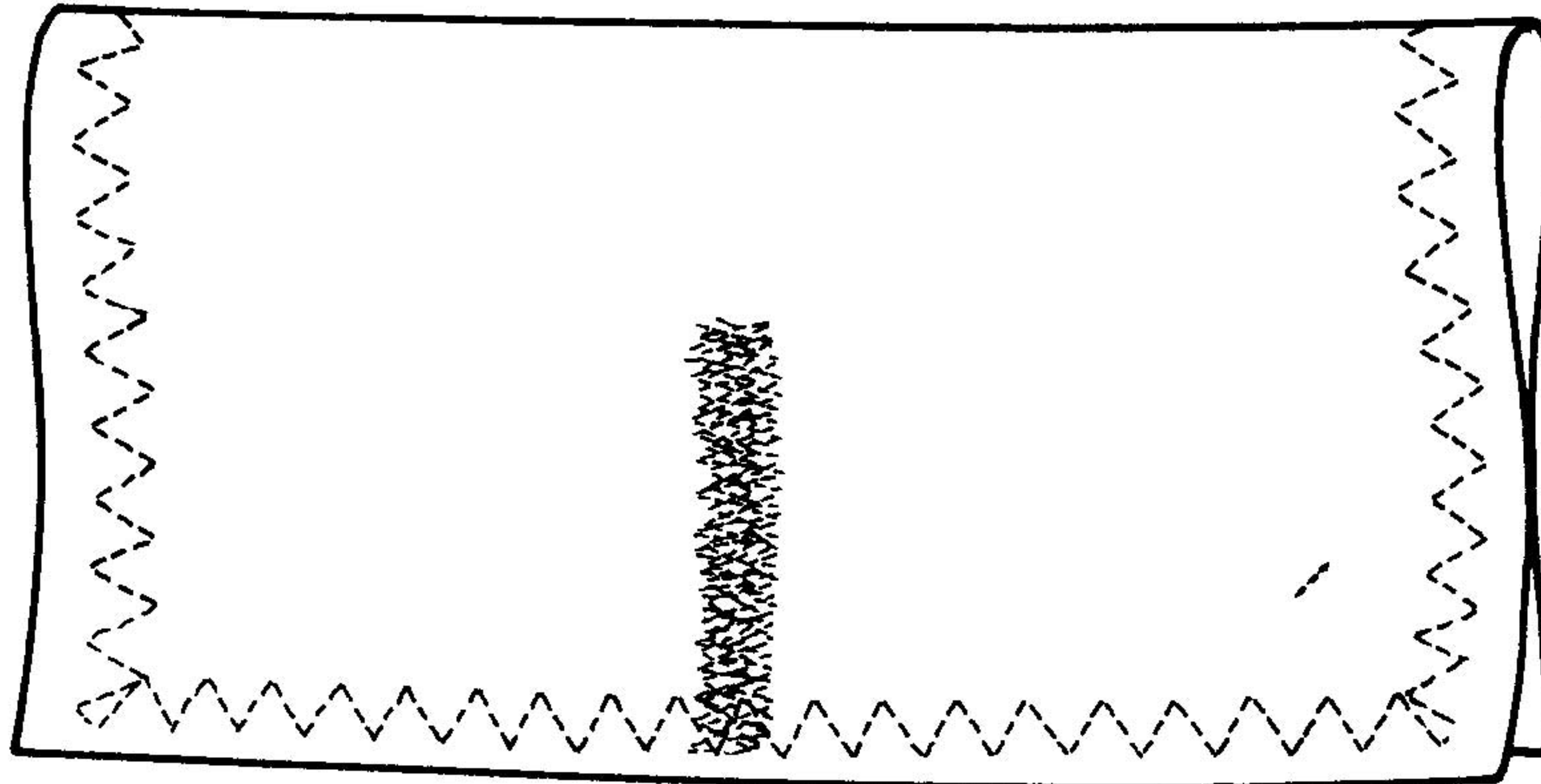
FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

-Cut a slit from outer edge toward center and fold sample
in half.
-Starting at inner edge of slit, stitch directly over the cut
opening. Sew in reverse to reinforce stitching.
-Notice how stitches simulate weave of fabric.



BAR TACKS

A strong method of securing elastic ends, drapery pleats and belt loops can be done with the three-step zig-zag when the feed dog is lowered.

MACHINE SETTING

SS - Three-Step Zig-Zag

FEED DOG - Down

FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

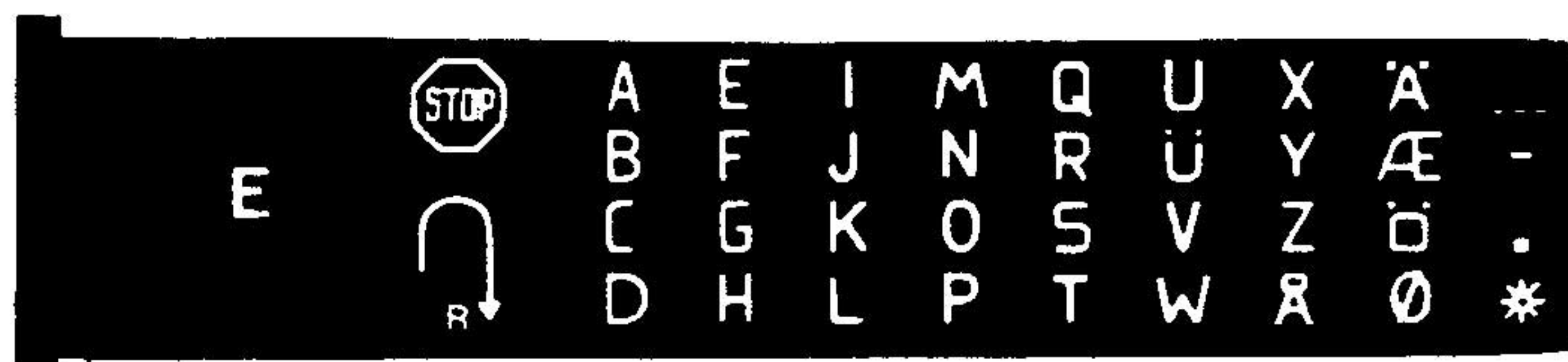
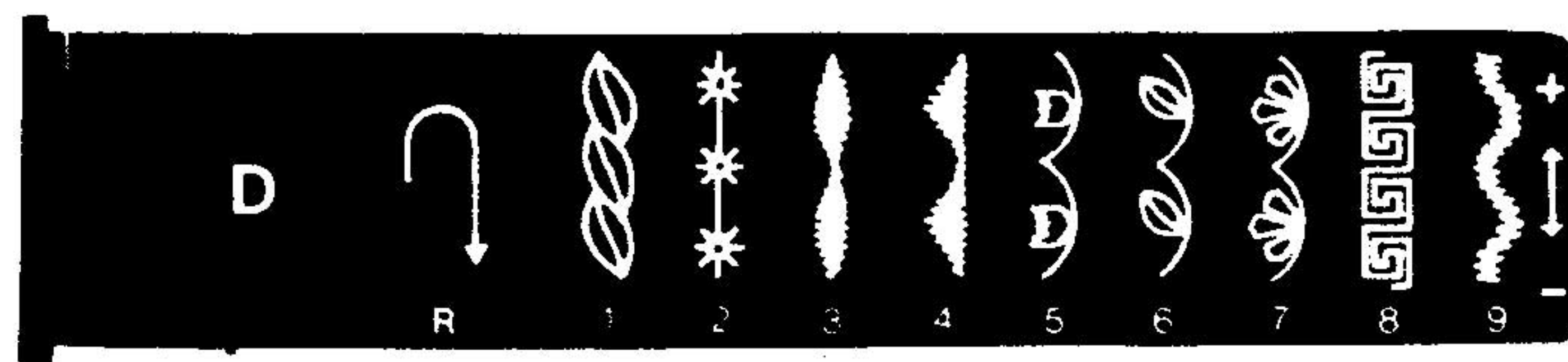
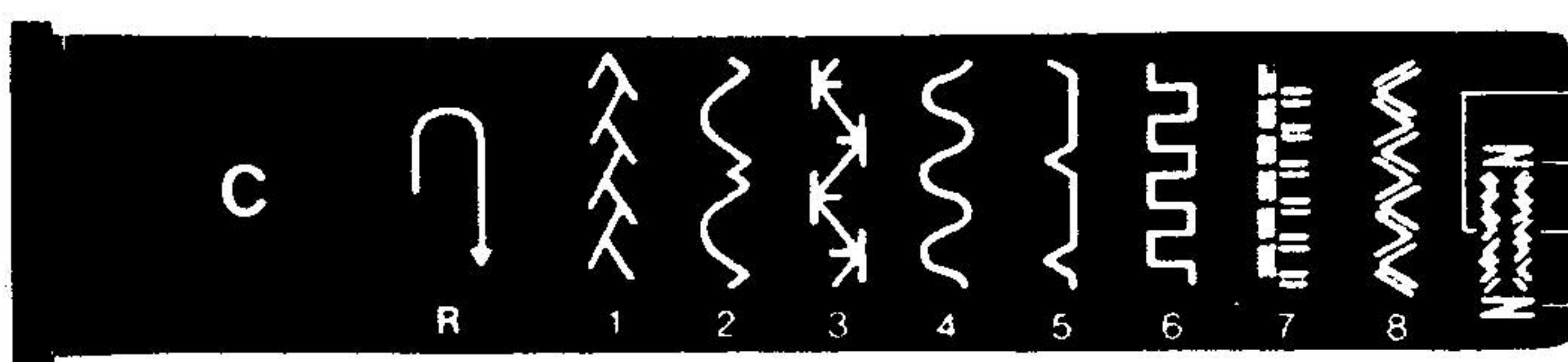
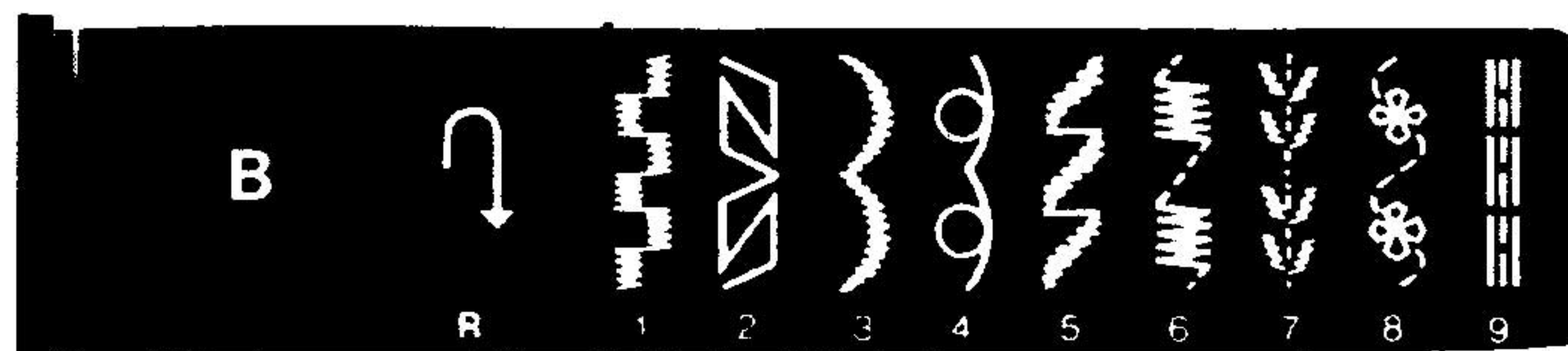
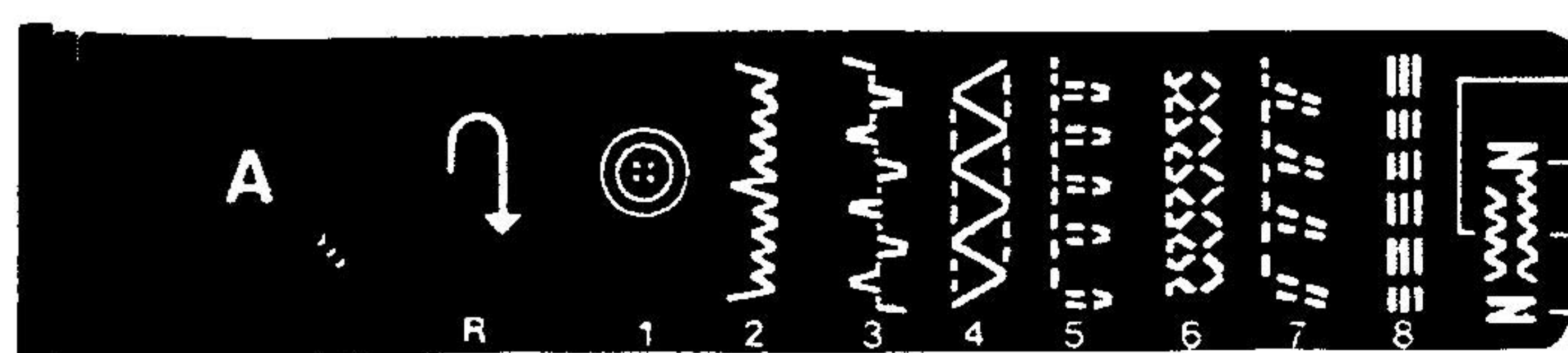
- Bar tack corner of sample by stitching 4 or 5 times in place.
- Lock threads by pressing Finishing Button.

WHAT IS A COMPUTERIZED SEWING MACHINE?

The micro-computer in a Viking 6690 is a technological miracle. Within its miniscule size, it packs an enormous computing power. In simple terms, the system consists of a central processor and a memory. There are no moving parts in the micro-computer; rather, a fascinating array of circuits and wires of microscopic dimensions, carrying millions of electric impulses, all carefully programmed.

You just press a button and the computer immediately goes into action. A number of activities are unleashed: the memory and central processor determine the needle position required for the first stitch of the chosen program. After they have understood the order, the central processor chooses the correct instruction from the vast amount of information offered by the memory and gives the order electronically to the needle mechanism -- all before you have even managed to blink! And you simply press a button . . .

Included with the 6690 are five cassettes, each one containing nine different functions. Cassettes A and C are the utility cassettes; B and D are for decorative stitching; and E is for lettering.






BUTTONHOLES

BASIC BUTTONHOLE

The Basic Buttonhole is used on fabrics with little or no stretch.

MACHINE SETTING

TENSION - Buttonhole Symbol
SS - A - Buttonhole Symbol
SL - 0.5 or less (Fine Adjustment Knob)
SW - 4.6 mm , 3.0 mm , 1.5 mm 
FOOT - Buttonhole Foot C, 411 73 89 01

PRACTICE SAMPLE

6" x 6" medium-weight woven, folded in half

PROCEDURE

Measuring: Place button on foot and note which foot marking is closest to the button's edge. These markings indicate 3/8, 1/2 and 5/8 inch sizes. The end of the foot measures 3/4". To account for the thickness of the button, go one mark beyond.

Horizontal Buttonhole Placement: The lines on the Buttonhole Foot can also be used to measure distance from the garment edge. Insert fabric, aligning garment edge with freearm front edge. Body of fabric will be behind machine which will insure proper location of the buttonhole since machine starts sewing in reverse. Line up edge of fabric with marking on foot that indicates correct starting distance from edge.

Vertical Buttonhole Placement: Lay fabric edge even with seam allowance marking, which indicates correct distance to buttonhole.

Making the Buttonhole:

- a. Hold the upper thread to the left. Press the button under the Buttonhole Symbol and start to sew. Stop when you reach the desired column length.
- b. Press the button again. The machine will form a bar tack and then continue sewing the second column. Stop stitching when the columns are the same length.
- c. Press the button once more. The machine will form the other bar tack, reduce speed and lock threads automatically. The light under the Finishing Symbol will blink simultaneously. Trim threads.
- d. Repeat procedure twice, using 3.0 mm and 1.5 mm width settings.

REINFORCED BUTTONHOLE

This stronger buttonhole can be used on children's clothes, menswear, or for loosely woven fabrics, and is also good when a contrasting buttonhole is desired.

MACHINE SETTING

Same as Basic Buttonhole.

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

-Measure and Mark the same as Basic Buttonhole.

-Making the Buttonhole:

- a. Set stitch length slightly longer than for Basic Buttonhole.
- b. Complete Step a. of Basic Buttonhole.
- c. Press the button twice and sew right column.
- d. Press the button twice and repeat stitching around the buttonhole, using the Basic Buttonhole procedure.

CORDED BUTTONHOLE

A Corded Buttonhole helps stabilize stretchy fabrics and gives a professional look to tailored garments.

MACHINE SETTING

Same as Basic Buttonhole.

PRACTICE SAMPLE

Use sample from previous exercise.

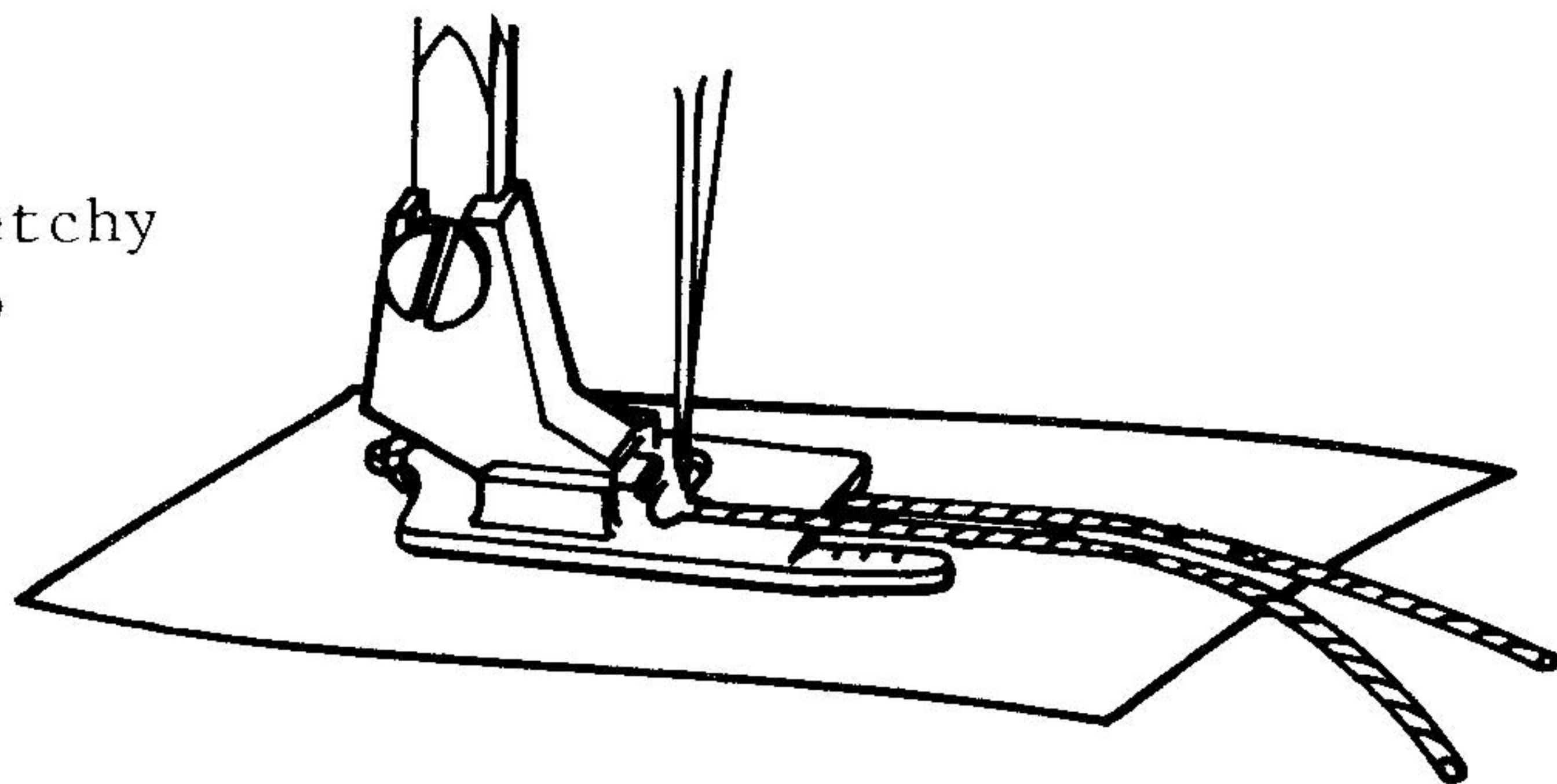
6" length of perle cotton, top stitching thread, four strands of thread from the machine or twisted cord (see following instructions).

PROCEDURE

-Measure and Mark the same as Basic Buttonhole.

-Making the Buttonhole:

- a. Loop cording around back projection of Buttonhole Foot so that two parallel strands lie in grooves under foot.
- b. Complete steps a. and b. in Basic Buttonhole without holding cord.
- c. Place needle down into center of buttonhole and lift presser foot.
- d. Pull right side of cording to remove loop in back of buttonhole.
- e. Cross ends of cording in front of needle. Lower presser foot.
- f. Remove needle from fabric and complete step c. in Basic Buttonhole, making sure bar tack stitches over crossed cords.
- g. Clip off ends of cording next to bar tack.



TWISTED CORD

This technique is used to make cording for corded buttonholes, belt and button loops, decorative trims and edgings, etc.

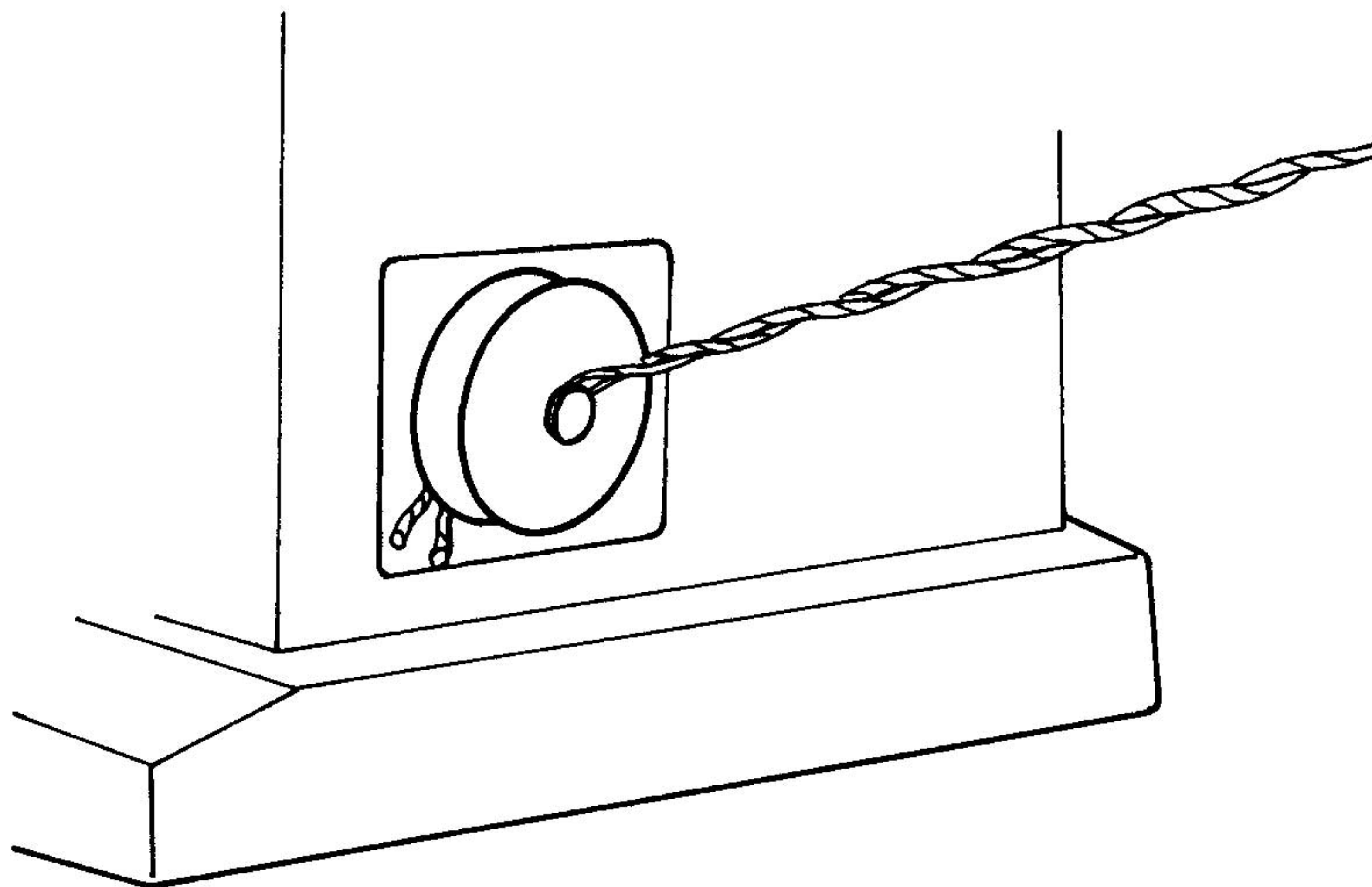
MATERIAL

Four 1 yard lengths of thread; one empty bobbin

PROCEDURE

- Put 1" of thread ends through the large center hole of empty bobbin.
- Snap bobbin onto bobbin winder, pinching short ends of thread between bobbin and machine.
- Hold the other end of threads straight out with right hand and press foot pedal -- threads will twist.
- Continue twisting threads until a definite "pull" is felt.
- Pinch threads in center of length with left hand. Fold cord in half by bringing thread ends in right hand to the bobbin.
- Release cord from left hand allowing the two sides to twist together.
- Smooth out by rubbing fingers over length of cord.

NOTE: Heavier threads, cords and yarns can be twisted together in this same manner to create thicker cording for belts, etc. Always begin with $2\frac{1}{2}$ times the desired finished cord length.



REPAIR BUTTONHOLE

This technique is used to improve ready-made buttonholes, mend worn buttonholes or reinforce buttonholes in loosely woven fabric.

MACHINE SETTING

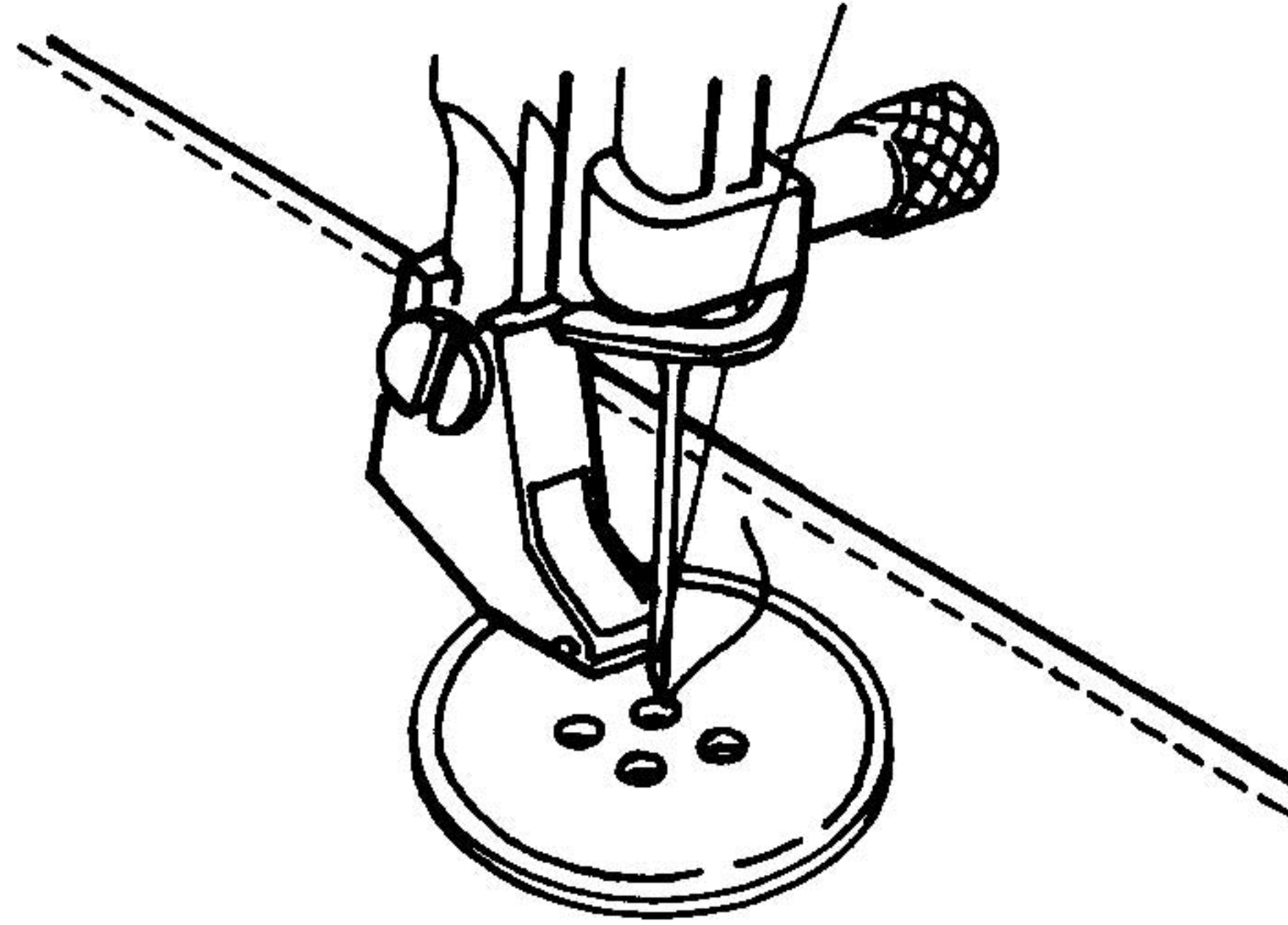
Same as Basic Buttonhole.

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Clip any loose threads in the center of the buttonhole.
- Next to bar tack, lower needle into center of buttonhole, making sure it doesn't catch anything. Columns should be aligned under grooves of foot.
- Sew left and right columns with stitches overcasting inside edges. It may be necessary to pull buttonhole apart to prevent stitches from catching the other column.
- Lock threads with Finishing Button.



SEWING ON BUTTONS

Buttons may be quickly and easily sewn on by machine.

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - Button Symbol, A-1

FEED DOG - Down

FOOT - None, or Button Foot, 401 52 37 01

PRACTICE SAMPLE

6" x 6" medium-weight woven, folded in half

1 button

PROCEDURE

- Position button on fabric and lower presser bar. Presser foot ankle should be centered between holes in button.
- Hold thread ends and turn handwheel to test carefully that needle enters hole in button. To check that needle pierces right hole, press mirroring button. If width adjustment is needed, push stitch width button to obtain a wider or narrower width.
- Press Finishing Button and sew a few stitches to lock thread.
- Press Button Symbol A-1 and sew 5 to 8 stitches.
- Press Finishing Button and sew a few fastening stitches.
- Reposition button if sewing on four-hole button.
- Press "REP" and sew. Machine will sew the same number of stitches and finish.
- To sew on more buttons, leave machine at Finish and lock stitches at beginning.
- Push "REP" and continue.

BUTTON REED 411 17 32 01

Due to the extra thickness of fabric that must fit behind the button on suits and coats, a shank is often desired. The button reed is designed to make two size shanks. Use the thin end for a short shank; the thick end for a long shank.

MACHINE SETTING

Same as Sewing on Buttons.

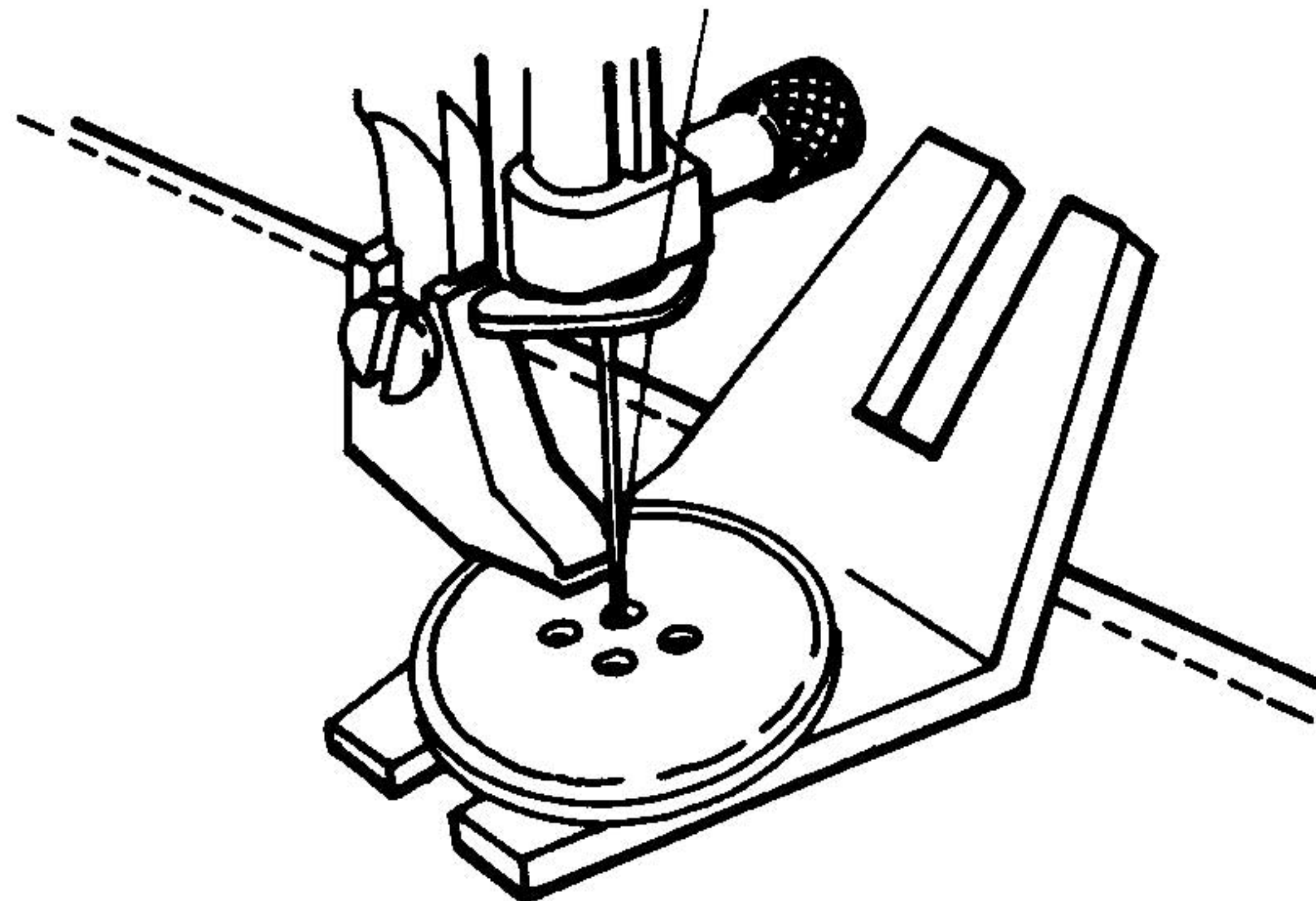
PRACTICE SAMPLE

Use sample from previous exercise.

1 button

PROCEDURE

- Affix button with a stitch, keeping thread tails long.
- Raise the presser bar and place Button Reed between button and fabric.
- Lower presser bar and sew on button following Sewing on Buttons procedure.
- Remove Button Reed and draw threads through, between fabric and button.
- Tie several half hitches around the shank.
- Separate threads and tie a knot.



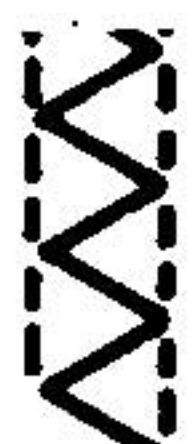
UTILITY STITCHES

In days past, the only construction stitch available on a sewing machine was a straight stitch, and later a zig-zag stitch. No longer must a garment be sewn together with simple straight stitching, a weak method of seam construction unsuitable for many of today's fabrics. In addition, the raw edge of the fabric needs special attention when a straight stitch is used. For stronger, less time-consuming methods of seam construction and finishing, the Viking sewing machine has a selection of functional utility stitches available.

When deciding which stitch to use for the construction of a garment, it is important to consider the type, weight and body of the fabric.

Garment seams are commonly sewn with one of the following six utility stitches. If used properly, each stitch will have a smooth, flat appearance from the right side of the garment.

FLATLOCK, A-4



Stitches and finishes edges in one operation. For overlapped seams, fastening binding, decorative hems and edges on woven and elastic fabrics. Easy to rip out in the event of an error.

OVERCAST or LINGERIE STITCH, A-5



For simultaneous seaming and overcasting on medium to lightweight knits and wovens. Perfect for use on tailored garments where seams must be graded, clipped and/or notched. Also used to stitch a shell edge -- a simple, clean finishing technique.

DOUBLE OVERLOCK STITCH, A-6



Stitches and finishes seam in one operation. Suitable for use on fabrics with little or no stretch -- particularly medium to heavy-weight woven fabrics that ravel. Ideal for curved areas where strength is needed. Easy to rip out in the event of an error.

OVERLOCK STITCH, A-7



Sews an elastic seam and finishes edges in one operation. Ideal for fabrics with a high percentage of stretch; sweater knits, rib knits, stretch terry, swimwear, etc. Also eliminates extra finishing steps when attaching neckbands, collars, cuffs, etc.

REINFORCED STRAIGHT STITCH (ELASTIC STRAIGHT STITCH), A-8



A triple straight stitch with a tremendous amount of elasticity. Used in garment areas where both stretch and strength are necessary for the sake of comfort and durability; sleeve seams, crotch seams, etc. Best results obtained if used on medium to heavy-weight fabrics.

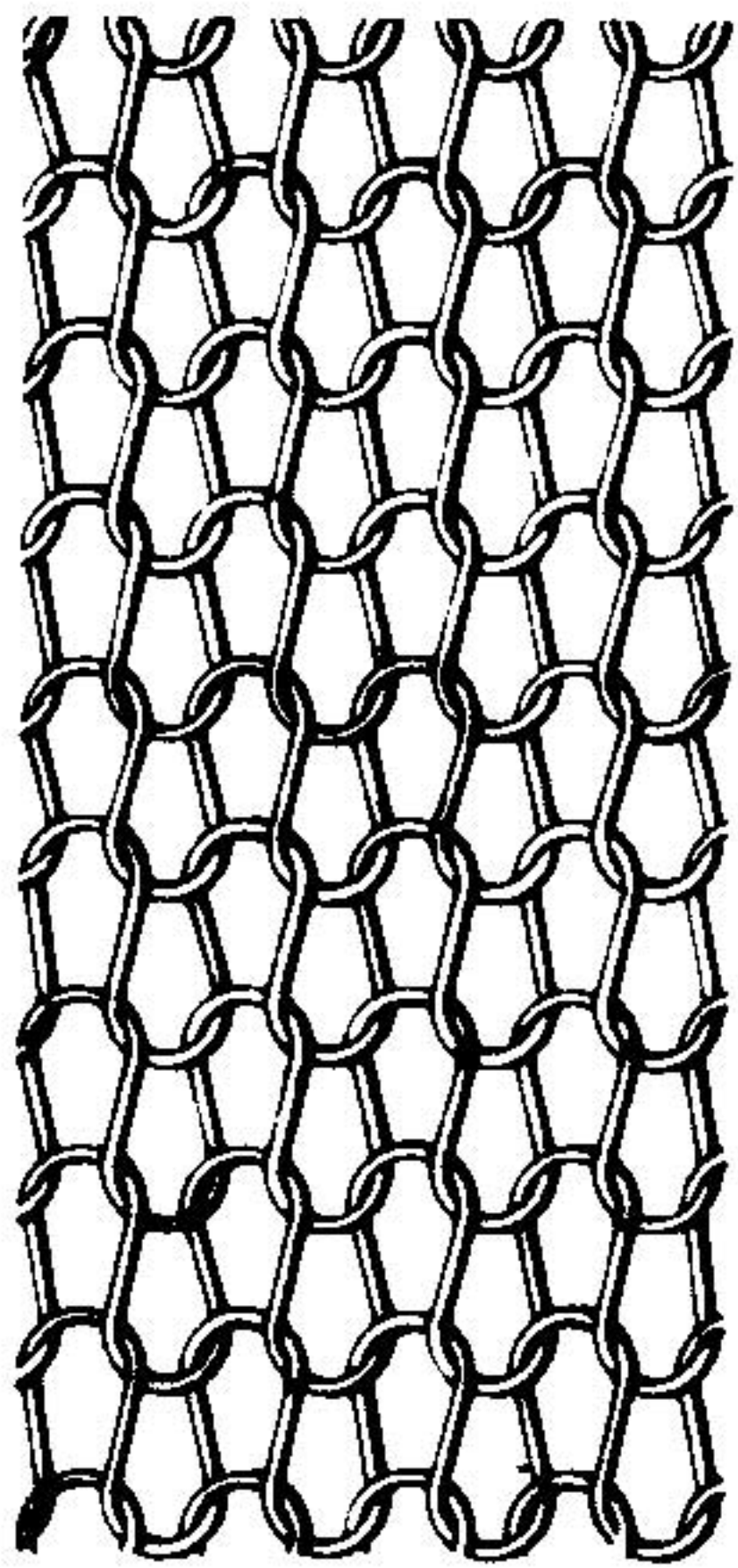
DOUBLE ACTION STITCH, C-6



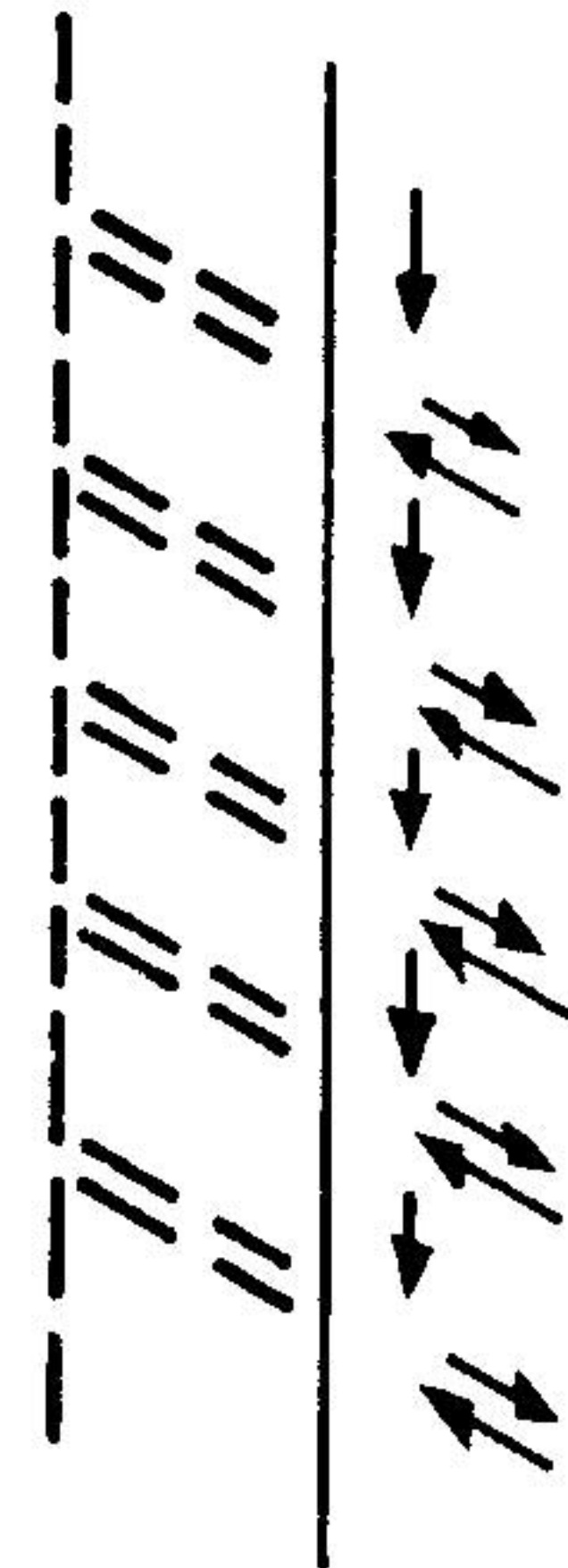
Ideal for stitching a finished inside seam on sheer or lightweight wovens and knits. Also used to stitch overlapped seams on synthetic suedes and leathers and as a casing for 1/8" elastic.

TRIMOTION® STITCHES

Why do knit fabrics need Viking's Trimotion® stitches? Knit fabrics are constructed with the yarns continually moving in backward, forward and sideways directions (ill. 1). This is why knit fabrics go back to shape after being stretched. Knit fabrics should be sewn with the same "multi-directional" stitching. Viking's Trimotion® stitches have this same backward, forward and sideways movement (ill. 2). Using these stitches to construct a garment will allow the seams to behave exactly as the fabric -- returning to the original shape after being stretched.



1. Knit Fabric
Construction



2. Trimotion®
Stitch

BLINDSTITCH

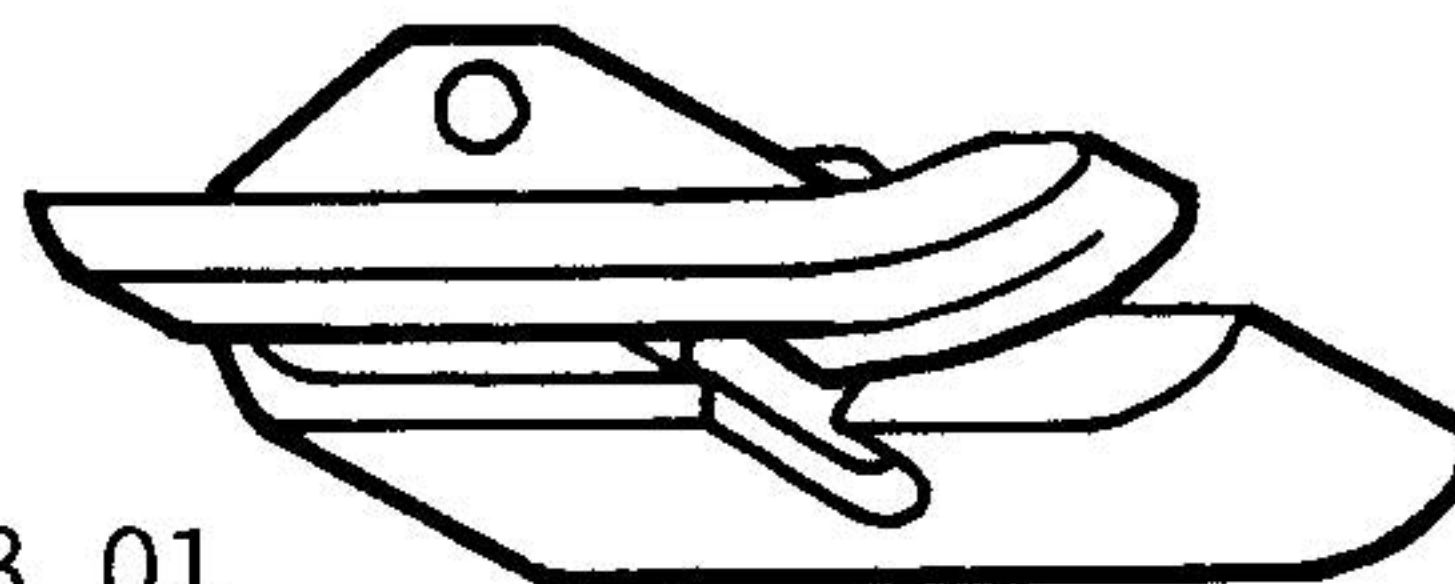
This stitch is excellent for hems in stretch fabrics, casings in pillows and drawstring bags, etc.

MACHINE SETTING

SS - Blindstitch, A-2

SW - Adjustable

FOOT - Blindstitch Foot, 411 42 28 01

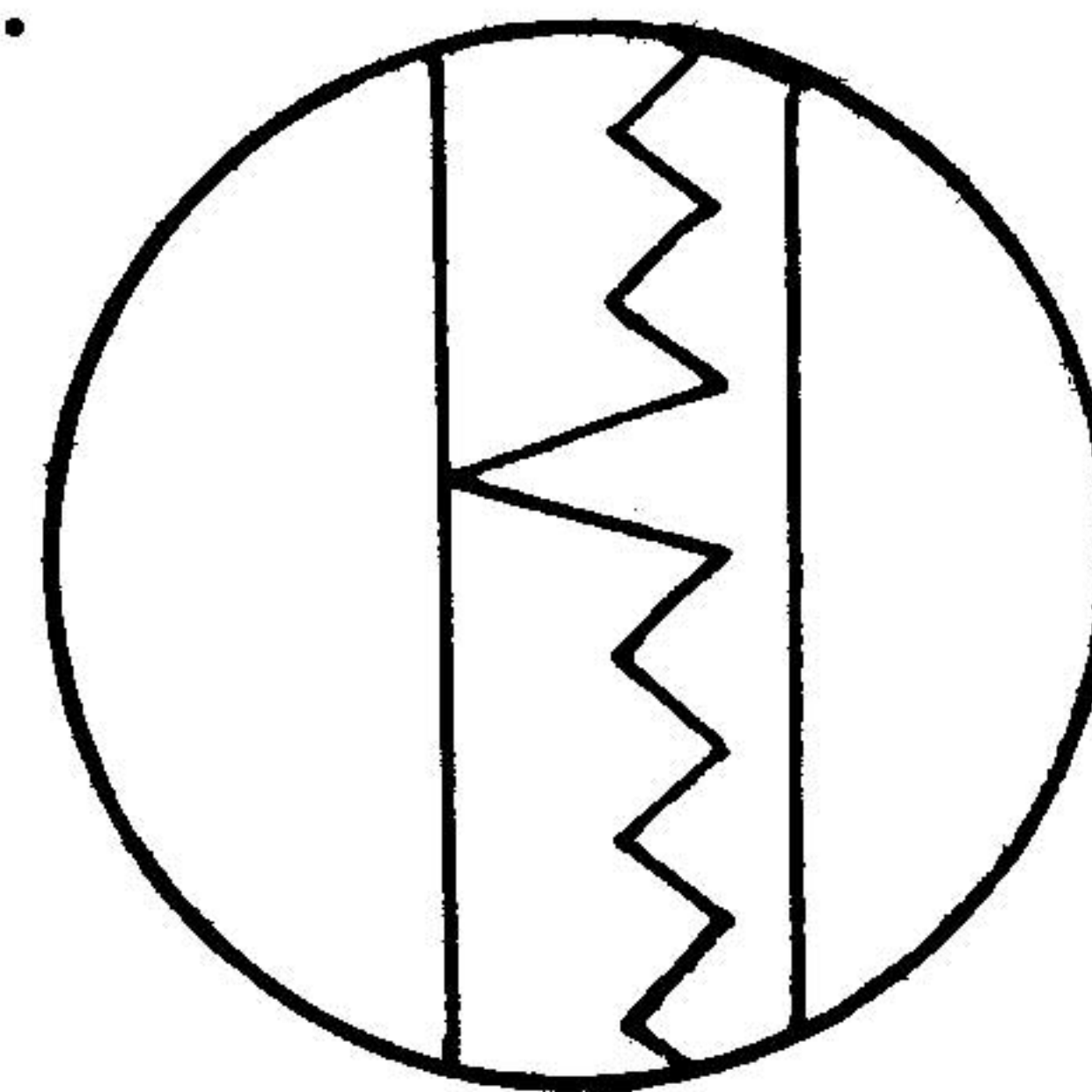
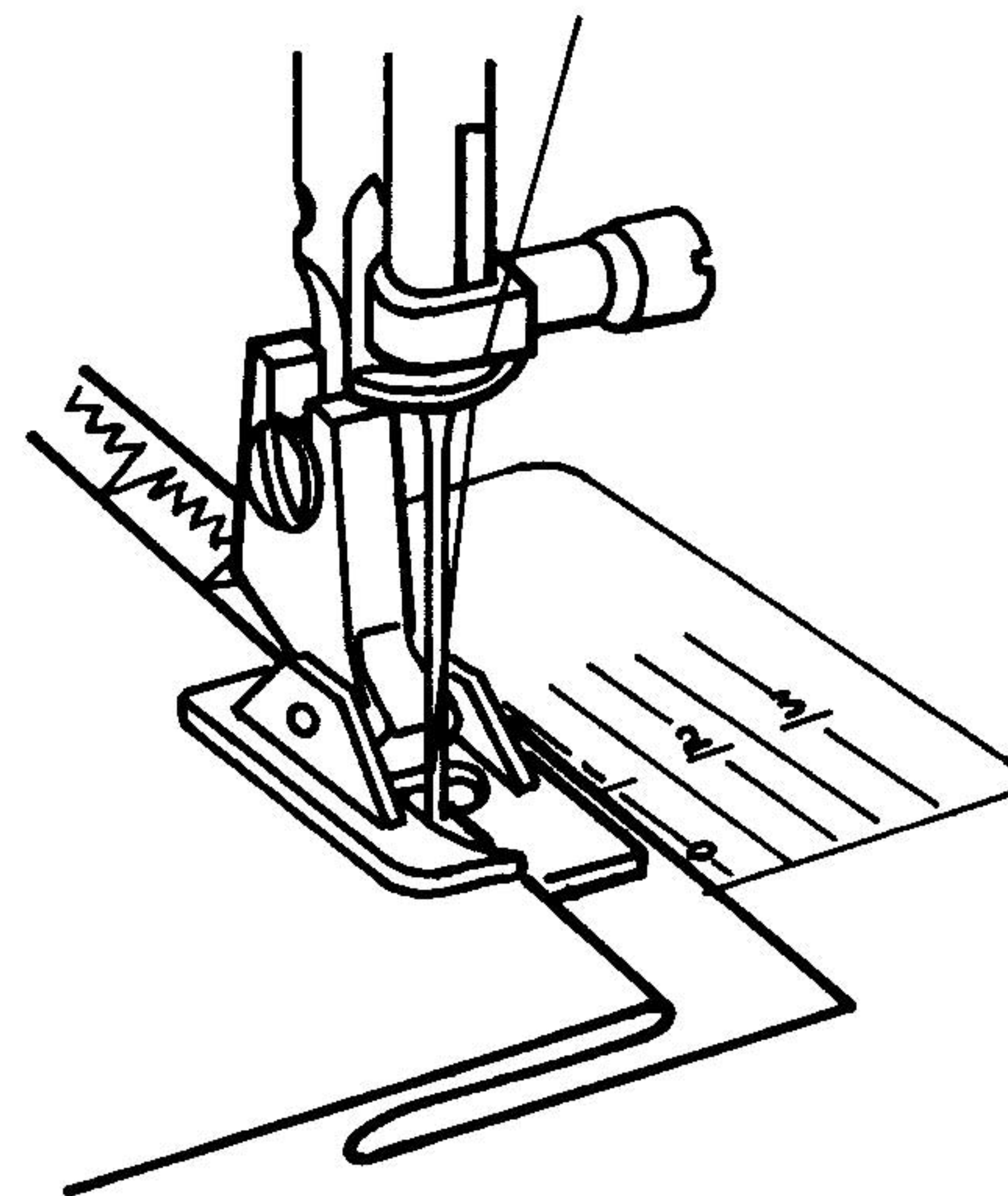


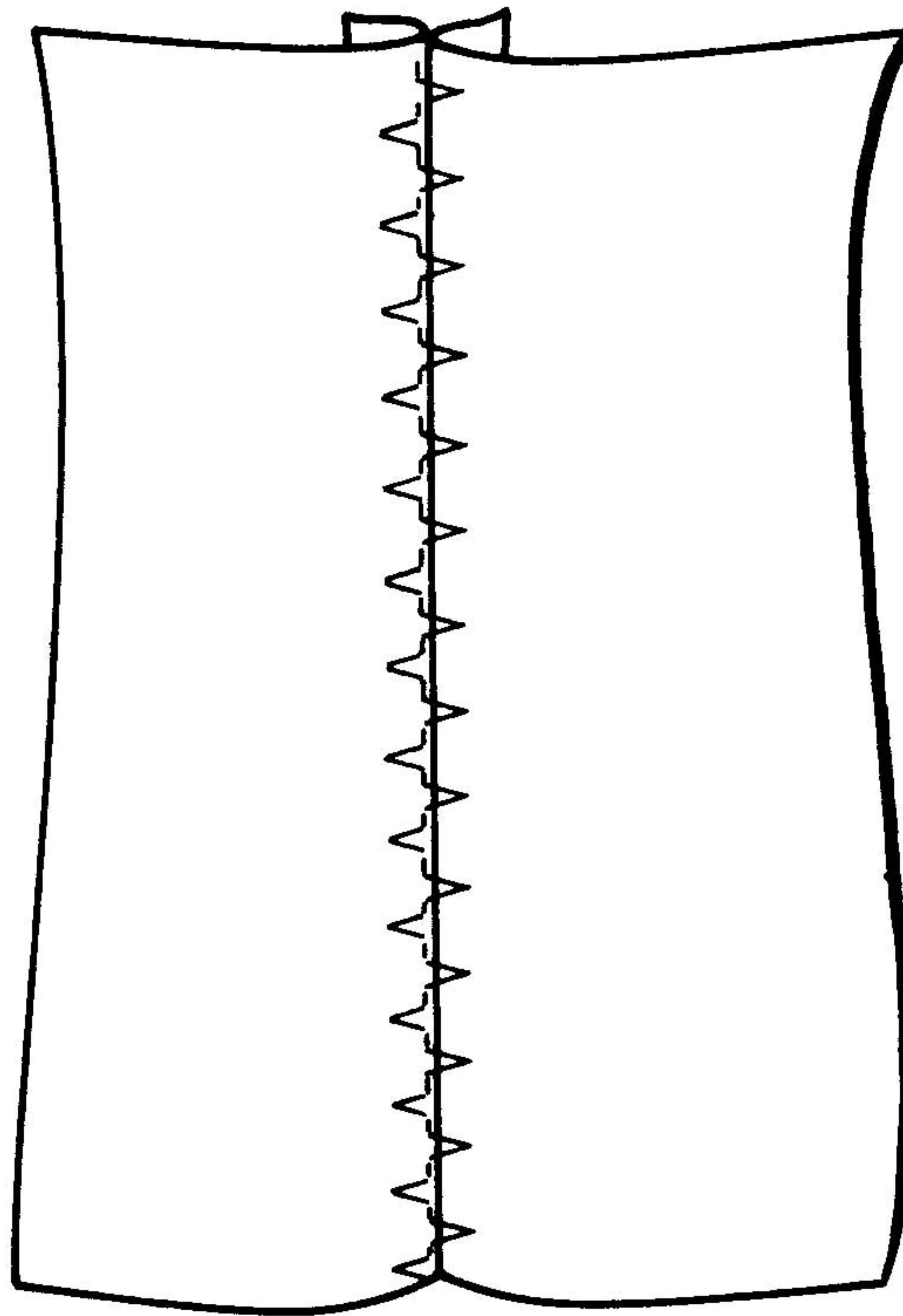
PRACTICE SAMPLE

6" x 6" medium-weight knit

PROCEDURE

- Measure, fold and press up 2" hem allowance.
- Fold hem under so that right side of hem is touching throat plate of machine. Position foot on top of fold leaving $\frac{1}{4}$ " of fabric extending under right side of foot (as illustrated). Align the fabric fold so that it rides in the groove under the left side of presser foot.
- Make hem invisible on any type of knit fabric by following these steps:
 - a. Engage low gear and begin stitching.
 - b. Just before widest zig-zag stitch bites fold of fabric, STOP.
 - c. Check bite by adjusting Stitch Width so that needle catches a single thread of folded edge (as illustrated).
- Disengage low gear and stitch remaining hem.





BRIDGING STITCH

This stitch is suitable for joining, inserting lace, patchwork, sewing on elastic fabrics, and for shirring with elastic.

JOINING

MACHINE SETTING

SS - Bridging Stitch, A-3

FOOT - Utility Foot B, 411 73 88 01

for thinner fabrics, use Foot for Lightweight
Fabrics, 411 45 39 01

PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half

PROCEDURE

-Fold back the fabric edges at least $\frac{1}{2}$ ".

-Place the fabric edges together, centered under the foot. Stitch.

NOTE: A space can be placed between the two fabrics by using the Raised Seam Guide and guiding the fabric edges on either side of the guide.

SHIRRING

MACHINE SETTING

SS - Bridging Stitch, A-3

FOOT - Buttonhole Foot C, 411 73 89 01

PRACTICE SAMPLE

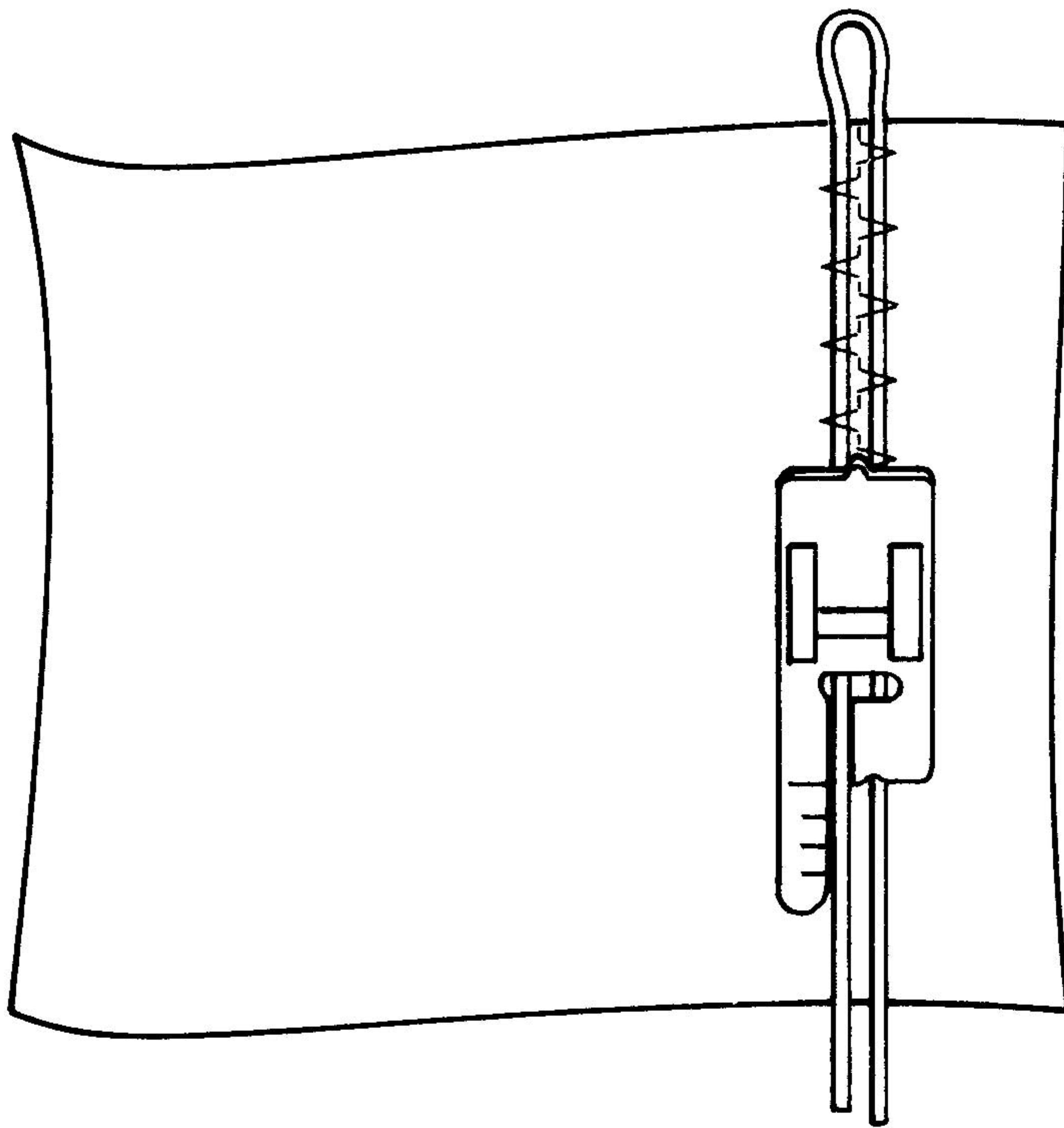
6" x 6" lightweight woven

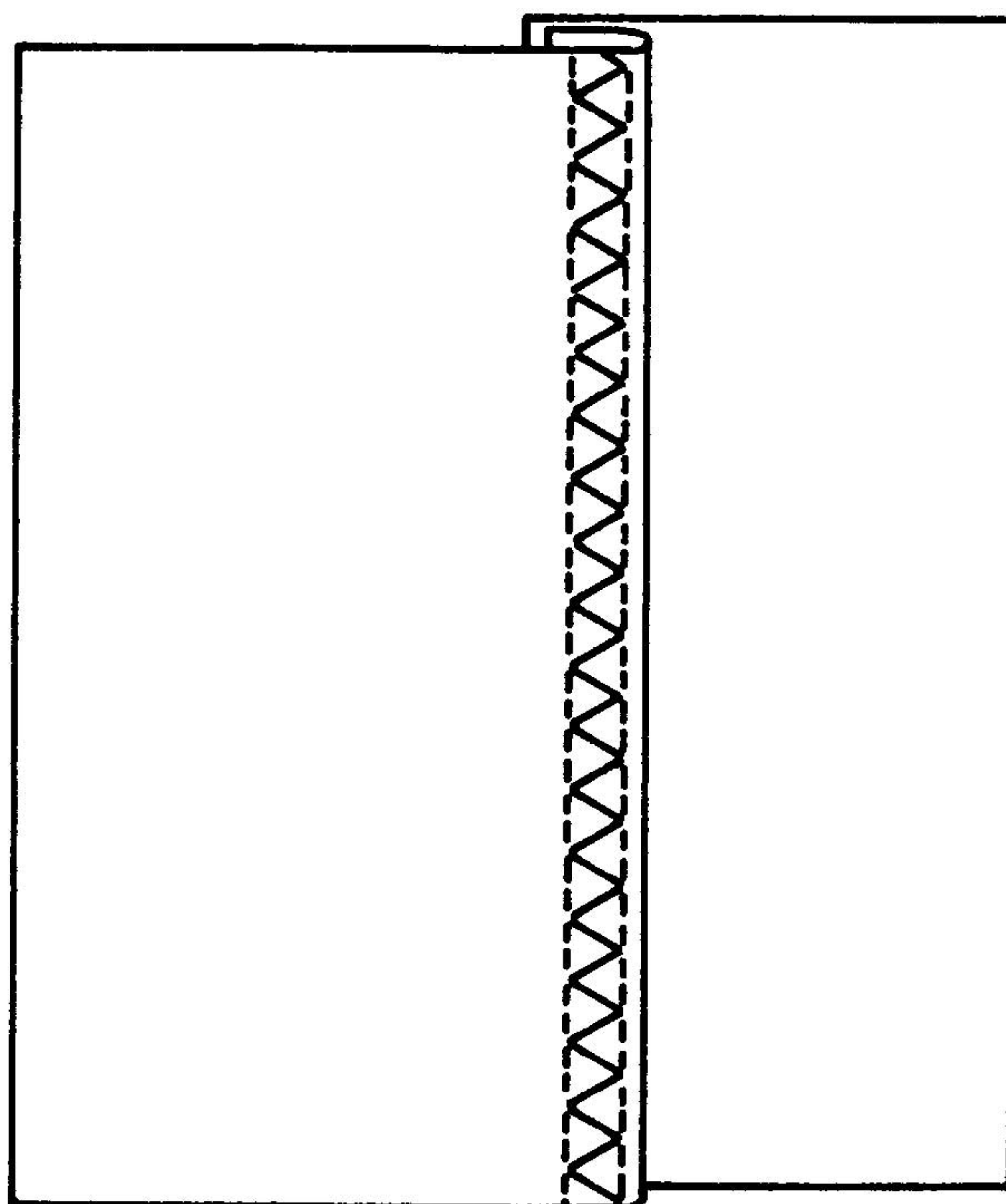
$\frac{1}{2}$ yard elastic thread

PROCEDURE

- Fold elastic thread in half. Loop thread around heel projection of buttonhole foot. Fit strands of elastic into grooves on underside of foot.
- Sew on wrong side of fabric. Do not stretch elastic as you sew.
- Draw up elastic to desired finished length.

NOTE: Make sure needle does not puncture elastic. Hold elastic threads up while stitching. The letter X on the E cassette can be used for shirring in place of the Bridging Stitch.





FLATLOCK

This stitch is used for lapped seams, neck binding, joining, decorative hems and top stitching.

LAPPED SEAM

MACHINE SETTING

SS - Flatlock, A-4

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim, cut in half

PROCEDURE

- Fold long edge of one piece of fabric under $\frac{1}{2}$ ".
- Place folded edge over other piece of fabric, overlapping seam allowance.
- Place under foot so that fold is under the slit of Foot B.
- Stitch.

OVERCAST OR LINGERIE STITCH

It's excellent for simultaneous seaming and overcasting as well as decorative edges on lingerie and other sheer fabrics.

SEAMING

MACHINE SETTING

PRESSURE - Test for fabric

SS - Overcast Stitch, A-5

FOOT - Presser Foot for Lightweight Fabrics, 411 45 39 01

PRACTICE SAMPLE

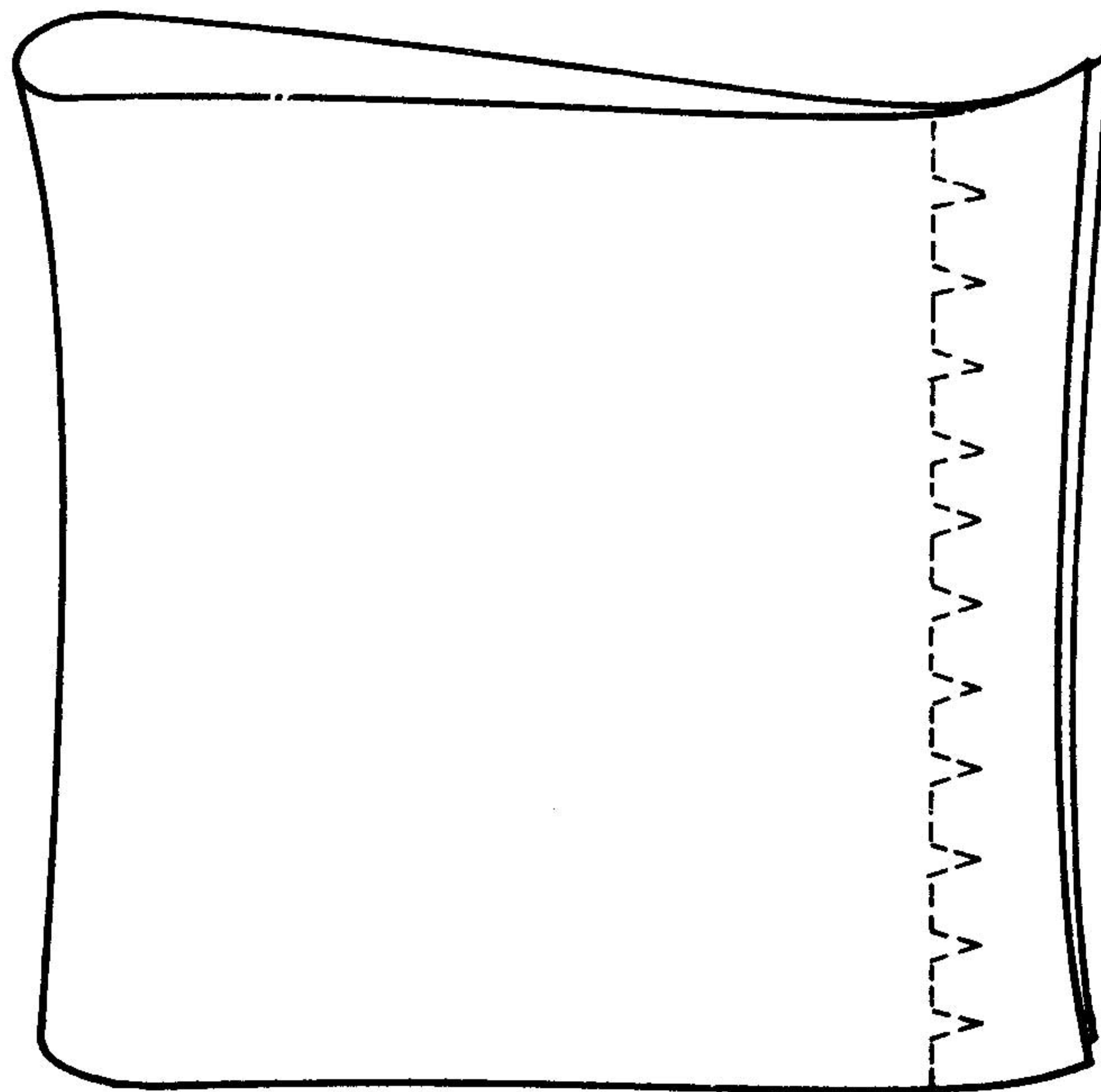
6" x 6" lightweight knit

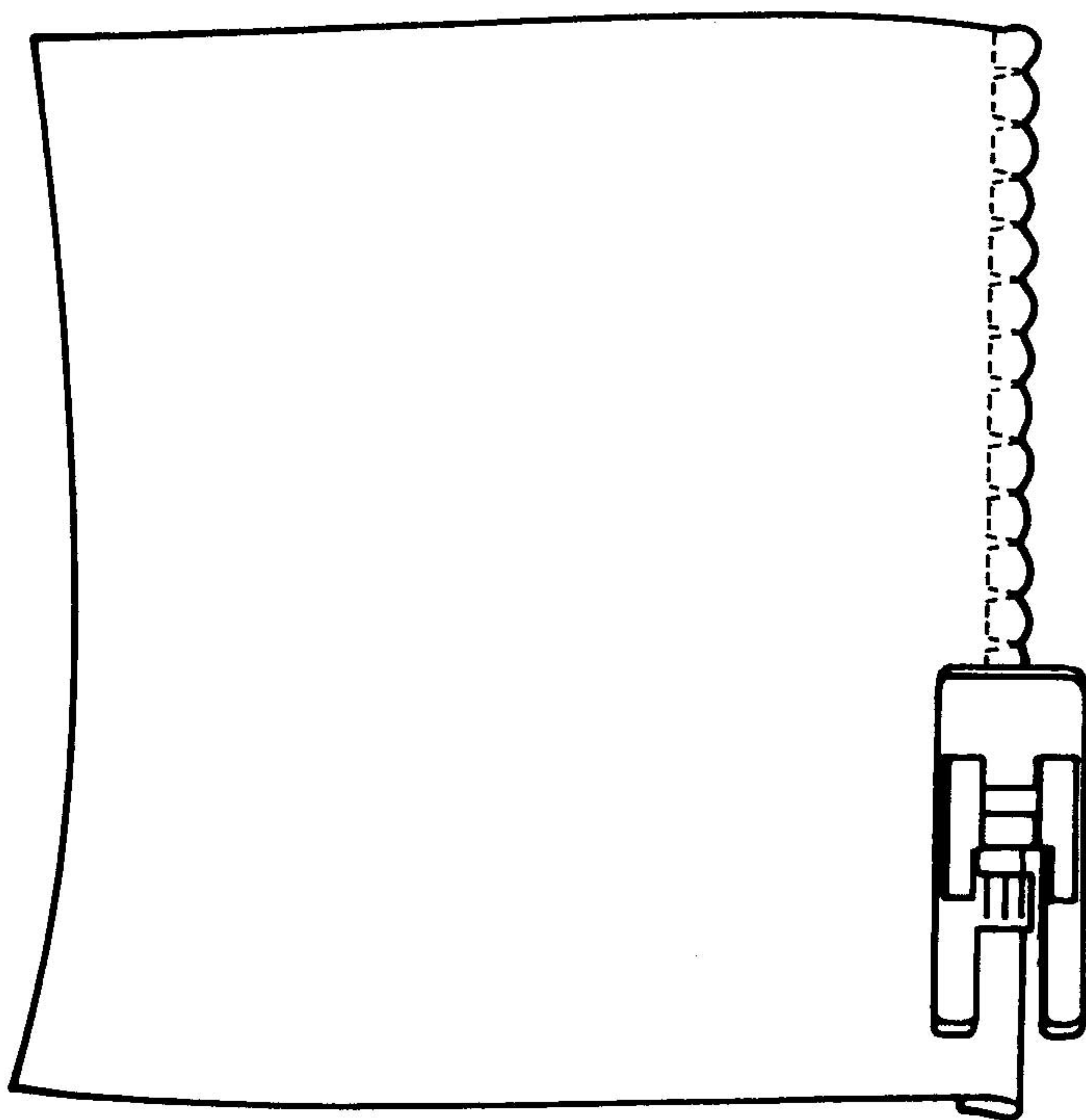
PROCEDURE

-Fold fabric in half and stitch seam.

-Trim close to stitching.

NOTE: May be used on curved seams which can be notched or clipped.
Be careful not to clip stitches.





SHELL EDGE

MACHINE SETTING

SS - Overcast Stitch, A-5

SL - 3-4 mm

FOOT - Presser Foot for Lightweight Fabrics, 411 45 39 01

PRACTICE SAMPLE

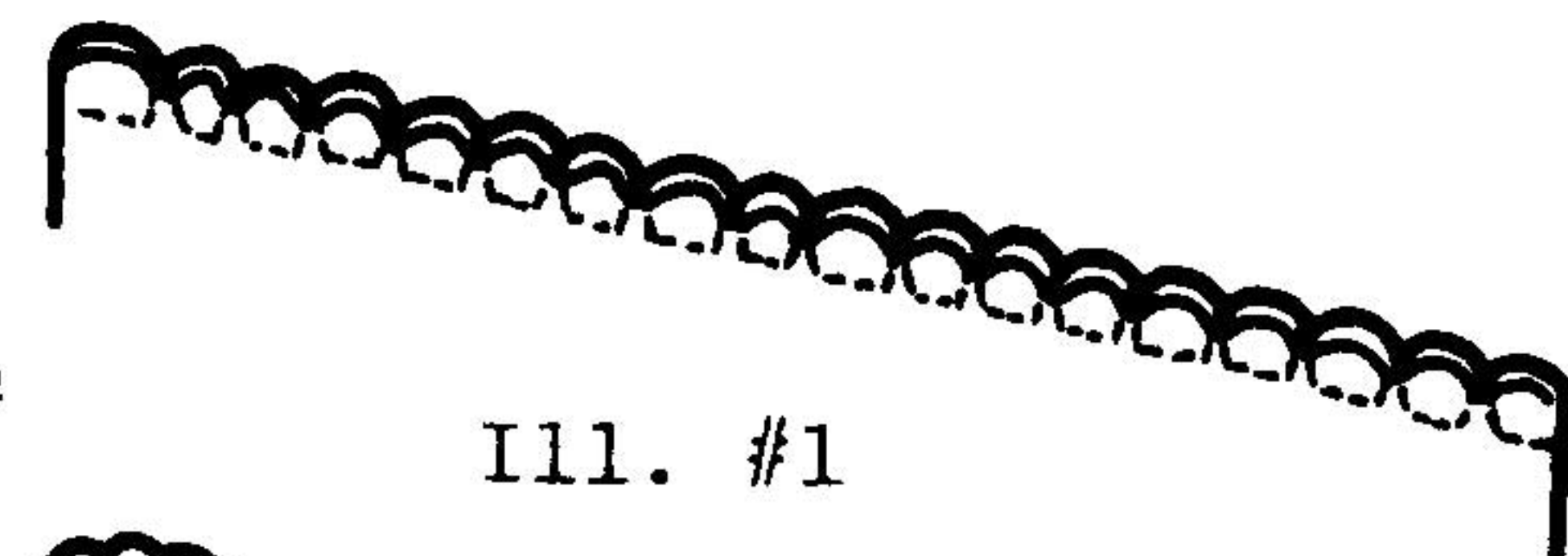
6" x 6" lightweight knit

PROCEDURE

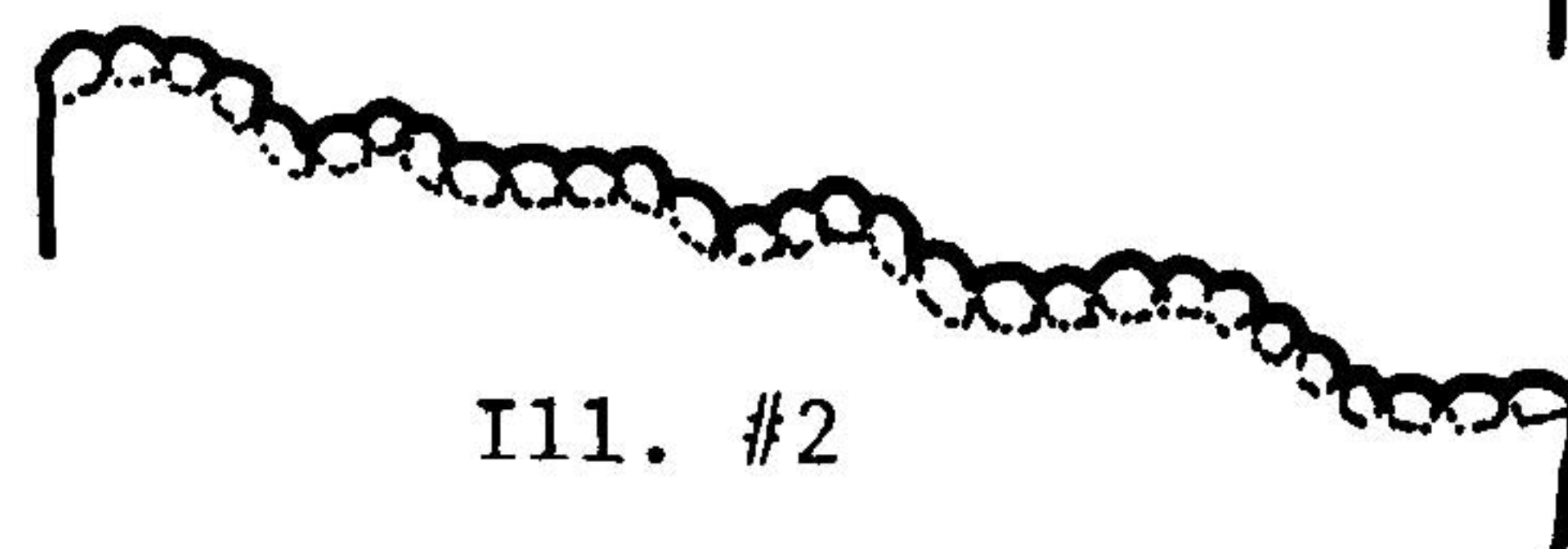
- Fold edge of fabric back $\frac{1}{4}$ ".
- Sew overcast stitch along edge, running point of stitch off fabric while holding fabric taut, front and back.

NOTE: Perle cotton/yarn can be stitched in along folded edge at the same time (ill. 1). Buttonhole foot aids procedure.

The cross-grain of fabric can also be stretched to create a "fluted" appearance (ill. 2).



I11. #1



I11. #2

DOUBLE OVERLOCK

This stitch sews and finishes seams in one operation. Suitable for fabrics with a moderate amount of stretch as well as for non-stretch materials. The Double Overlock Stitch locks yarns of fabric, making it ideal for overcasting coarse, rough-textured materials and fabrics that fray.

SEAMING

MACHINE SETTING

SS - Double Overlock Stitch, A-6

FOOT - Utility Foot B, 411 73 88 01

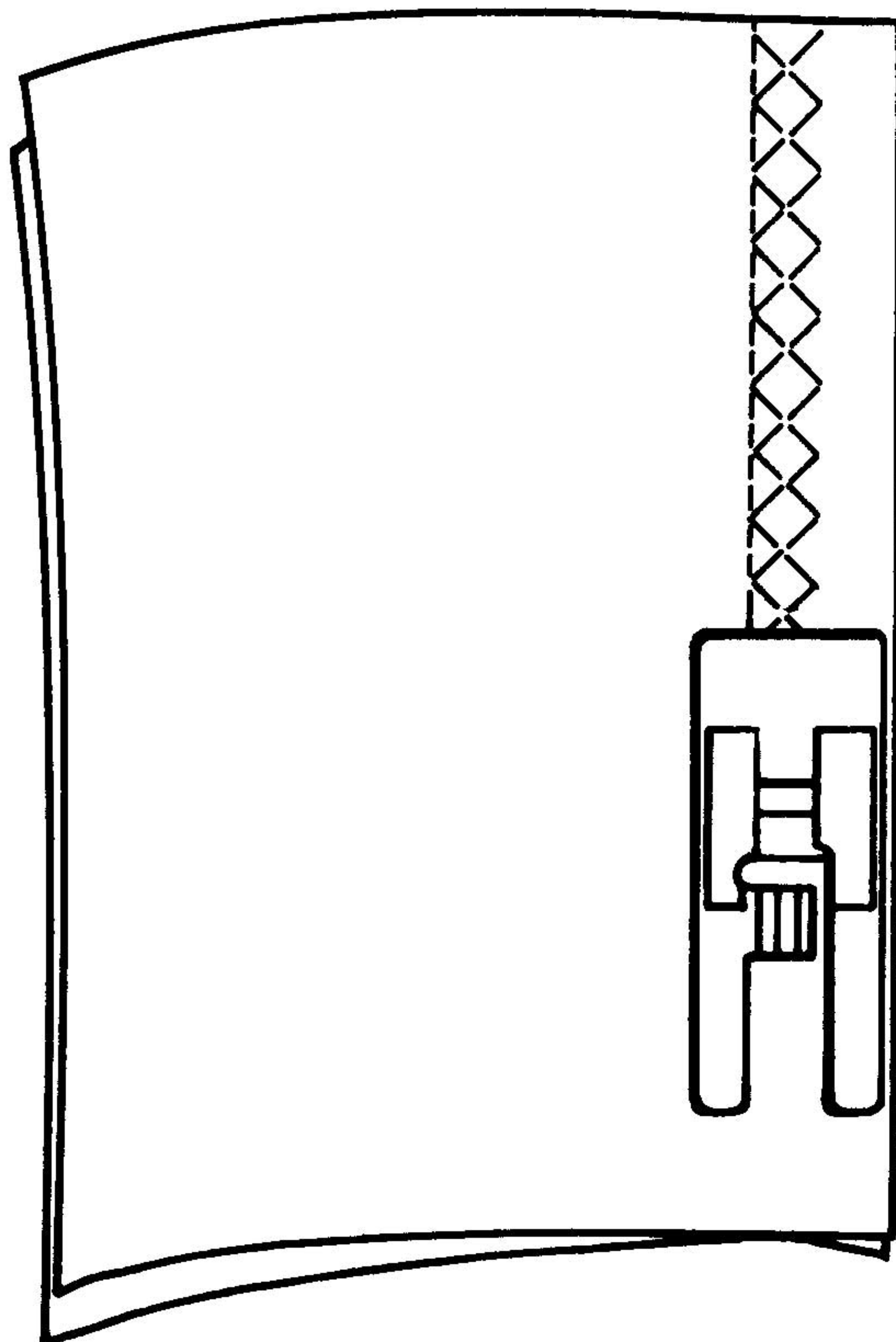
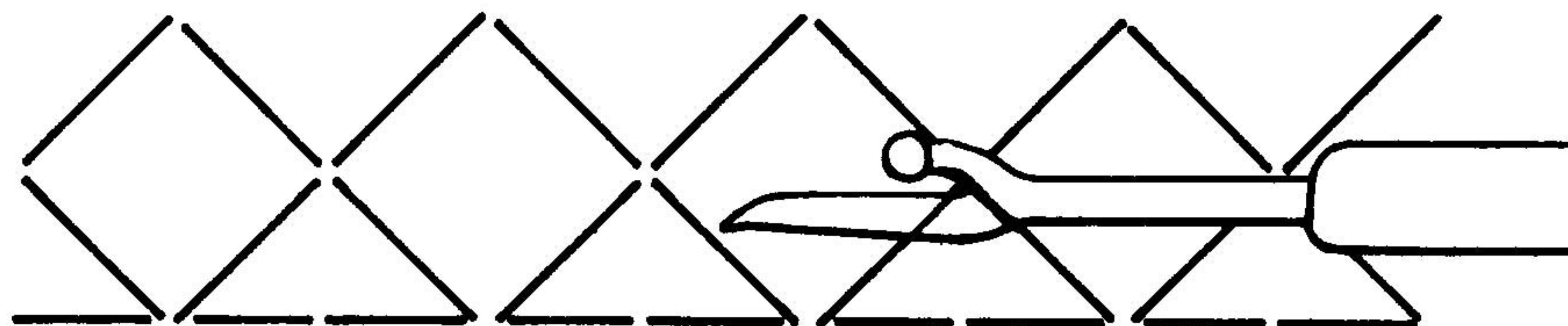
PRACTICE SAMPLE

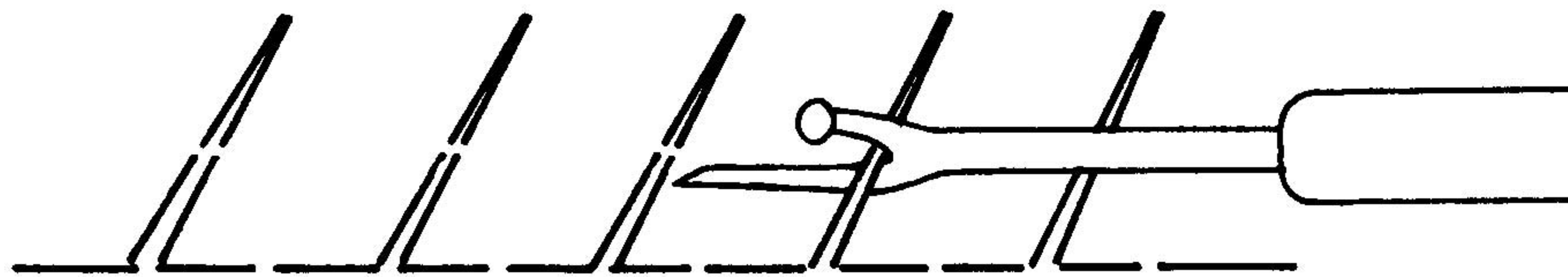
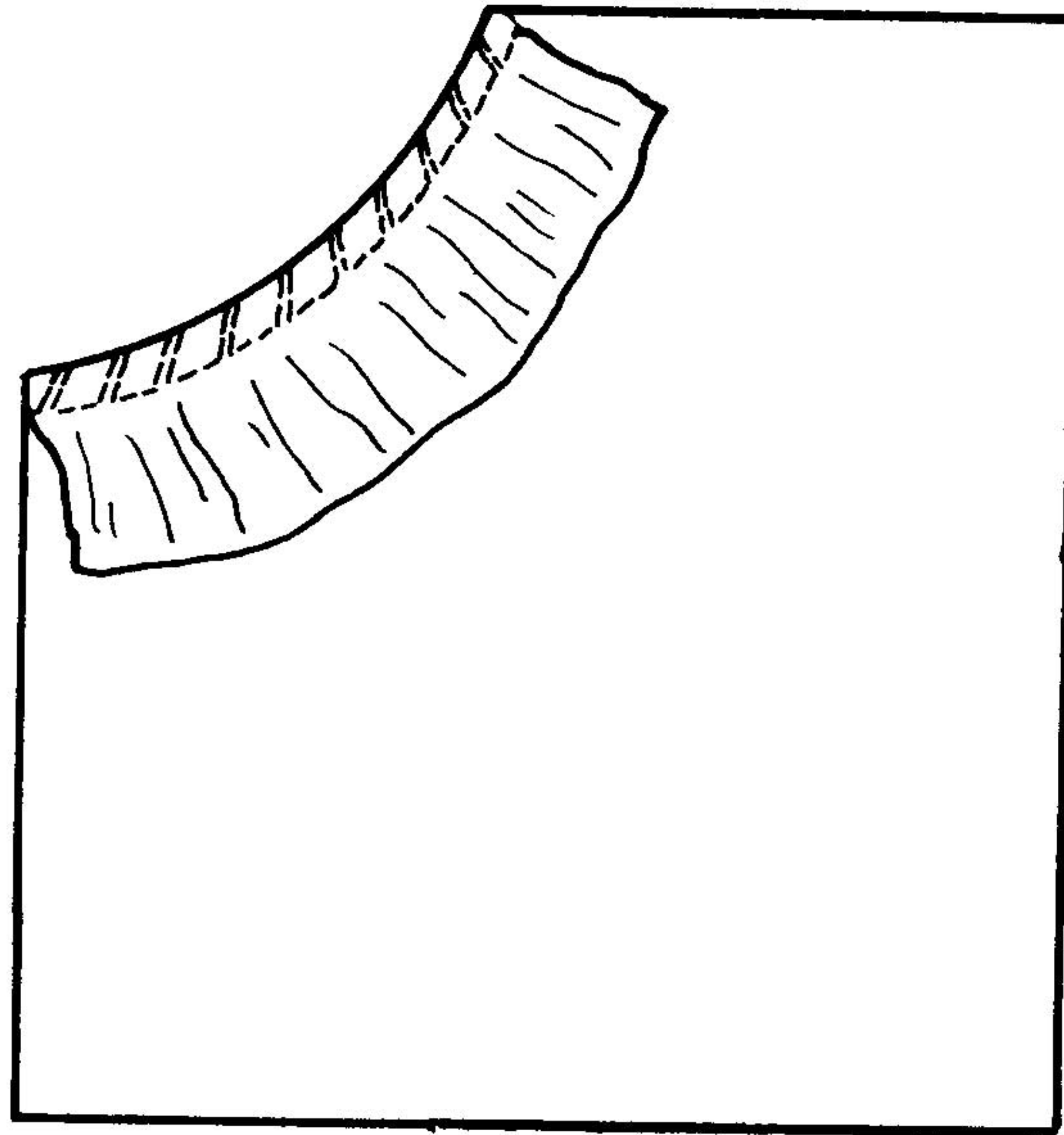
6" x 6" denim, cut in half

PROCEDURE

- Sew with right sides together.
- Trim seam allowance close to stitching.

NOTE: To remove stitching, insert buttonhole knife under "X" part of stitching and rip, being careful to cut thread only.





OVERLOCK STITCH

This stitch seams and overcasts in one operation, eliminating extra finishing steps. For attaching neckbands, collars and cuffs. Especially good on swimwear or other fabrics with 75% stretch or more.

SEAMING

MACHINE SETTING

SS - Overlock Stitch, A-7

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" medium-weight knit

2" x 6" ribbing

PROCEDURE

- Cut curve from corner of 6" x 6" piece.
- Fold ribbing in half, lengthwise.
- Stretch ribbing to fit raw edge of curve and stitch with raw edges even with edge of foot.

NOTE: To remove stitch in event of error, cut between the two diagonal stitches (as illustrated above).

REINFORCED STRAIGHT STITCH

This stitch is used for seaming in wovens and knits in areas of stress such as crotch and armhole seams.

SEAMING

MACHINE SETTING

SS - Reinforced Straight Stitch, A-8

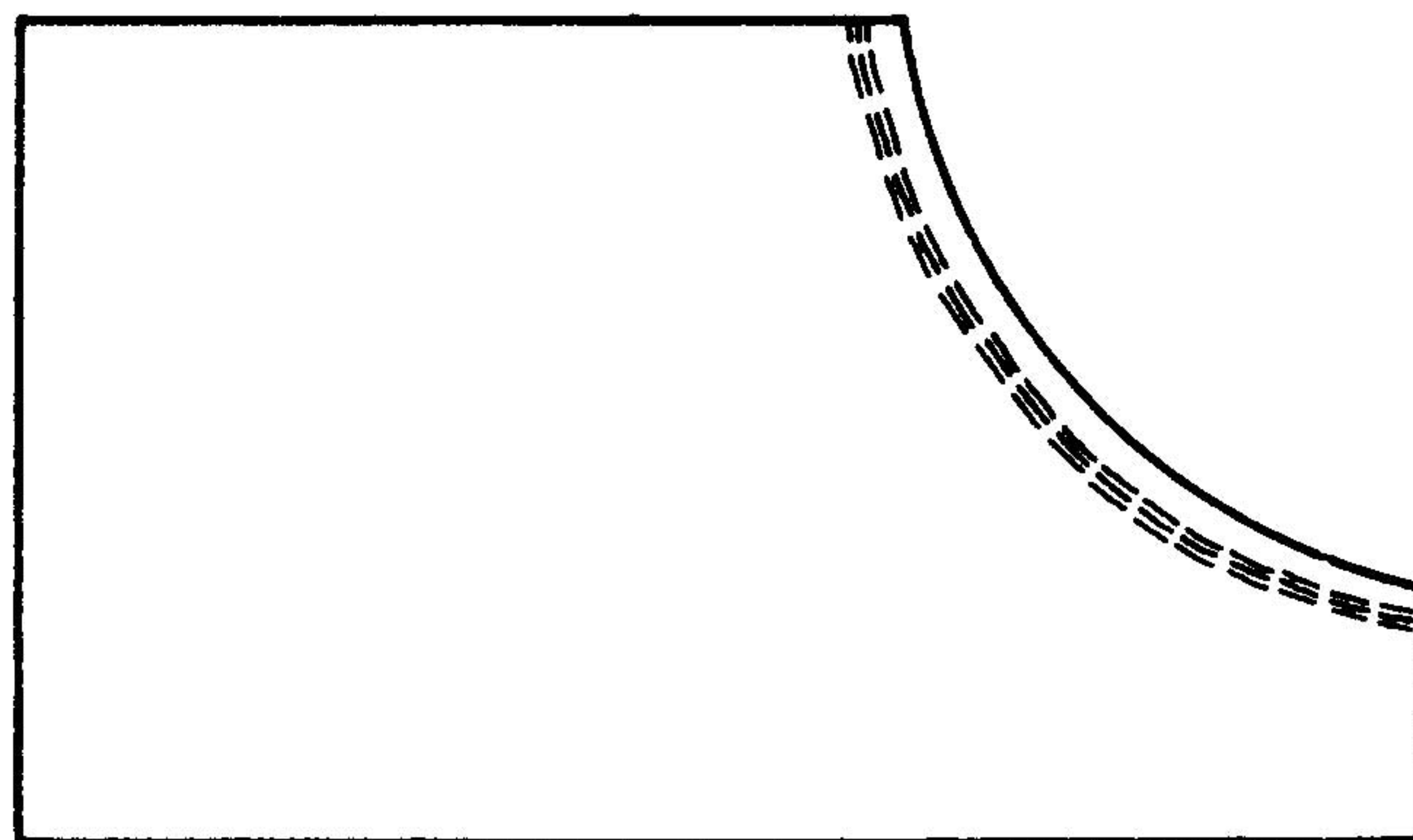
FOOT - Utility Foot B, 411 73 88 01

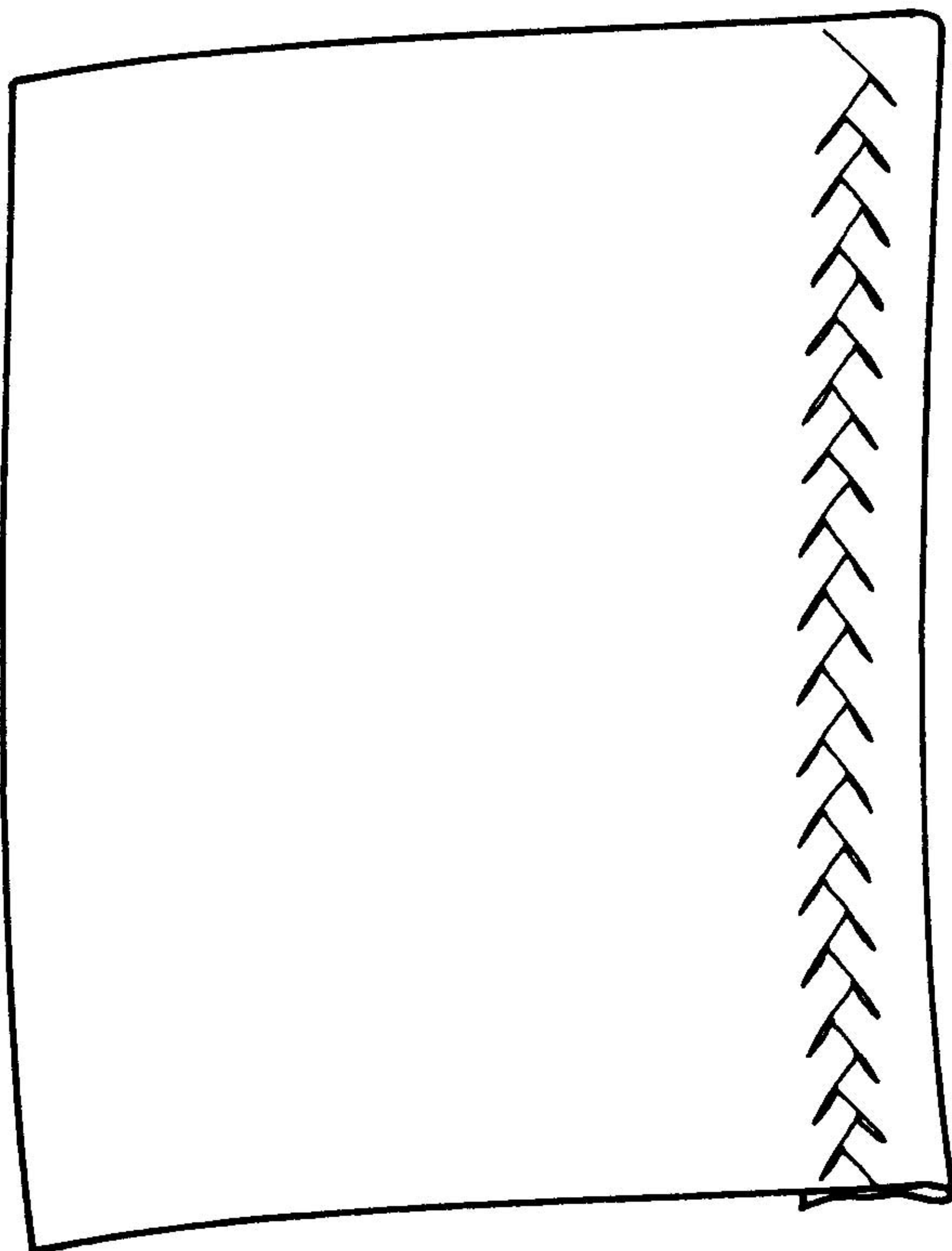
PRACTICE SAMPLE

6" x 6" medium-weight knit

PROCEDURE

- Fold fabric in half, right sides together, and cut curve from one corner of both layers.
- Stitch curve $\frac{5}{8}$ " from raw edge.





FEATHER STITCH

This stitch is suitable for decorative hemming and top stitching.

HEMMING

MACHINE SETTING

SS - Feather Stitch, C-1

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" medium-weight knit

PROCEDURE

-Fold edge back $\frac{1}{2}$ ".

-From right side, top stitch with folded edge aligned with edge of foot.

ARCH STITCH

Pin tucks, scallops and decorative edge finish can be done with this stitch.

EDGE FINISH

MACHINE SETTING

SS - Arch Stitch, C-2

FOOT - Standard Foot A, 411 73 86 01

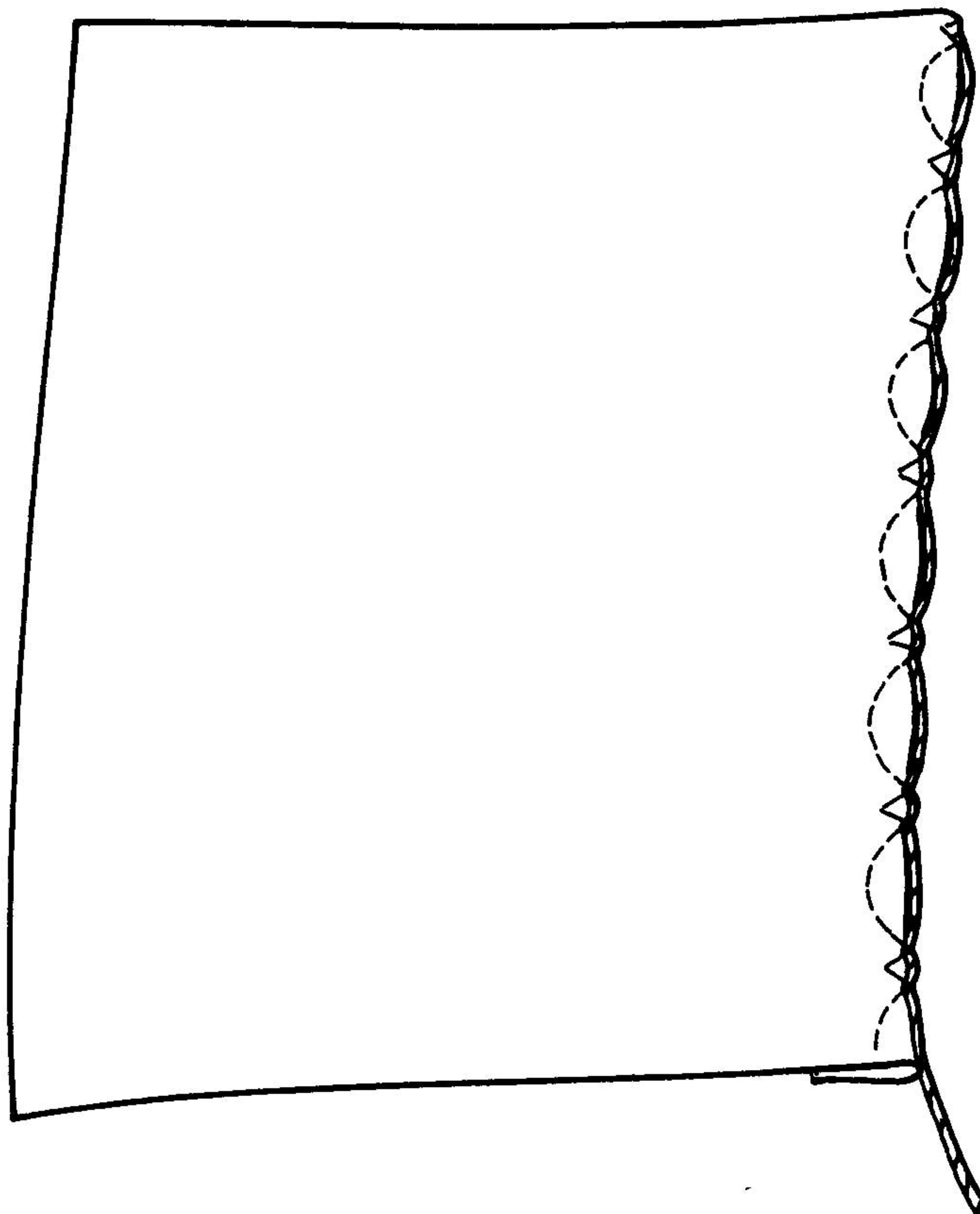
PRACTICE SAMPLE

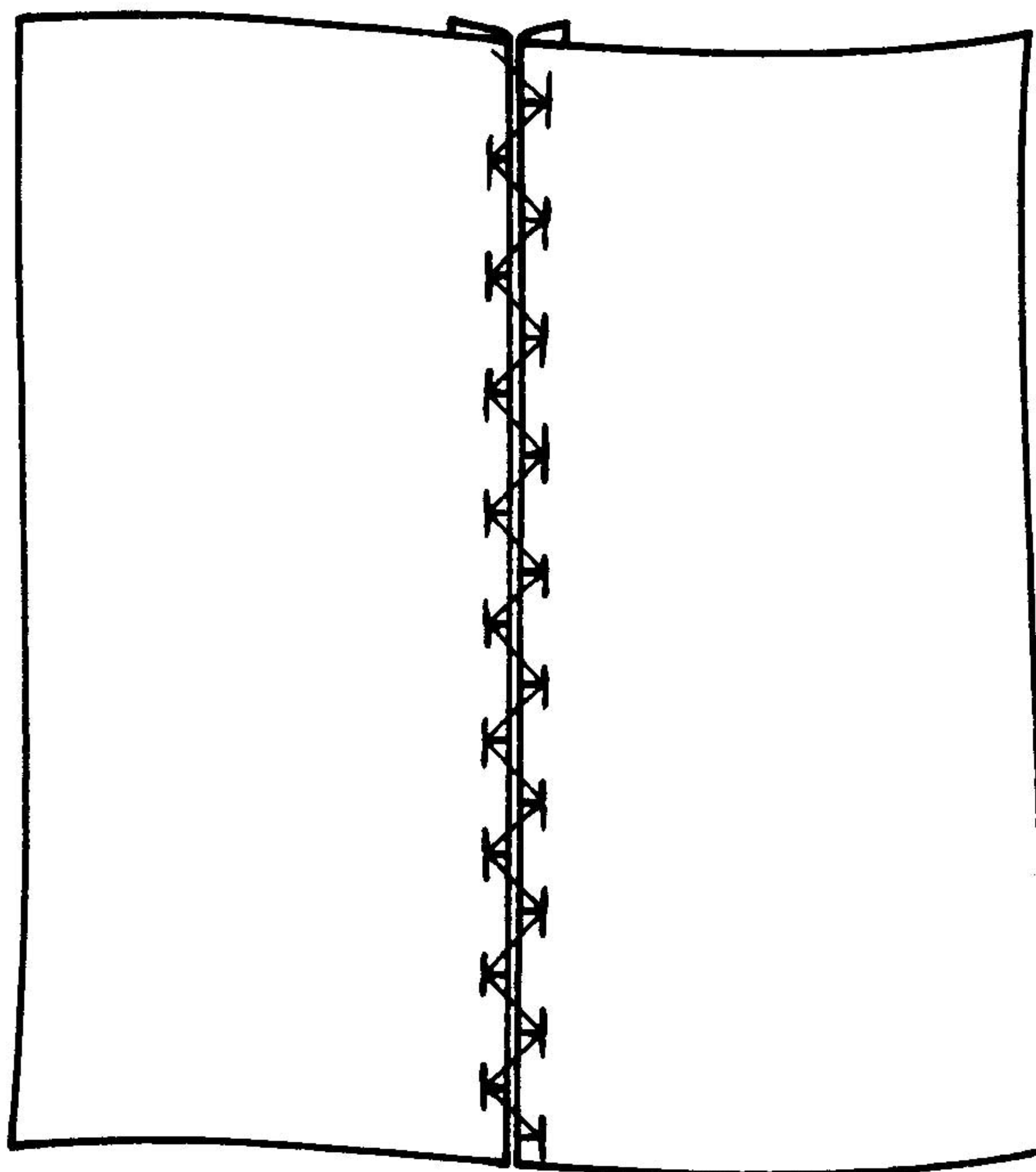
6" x 6" medium-weight woven

6" perle cotton

PROCEDURE

- Fold edge back $\frac{1}{2}$ ".
- Lay perle cotton along the folded edge of fabric.
- To allow the point of the stitch to catch the perle cotton, line up the perle cotton and fabric under the 2 mm marking of the presser foot.
- Stitch the perle cotton in place.





CROWFOOT STITCH

A decorative seam good for patchwork can be produced with this stitch.

HEMSTITCHING

MACHINE SETTING

SS - Crowfoot Stitch, C-3

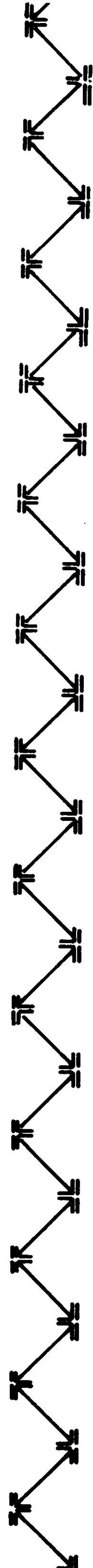
FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half

PROCEDURE

- Fold two edges back $\frac{1}{2}$ ".
- Place the folded edges of the fabric next to each other.
- Stitch.



SERPENTINE STITCH

The Serpentine Stitch is used for sewing through elastic because it has no points to cause stress and tearing of the fibers.

ATTACHING ELASTIC

MACHINE SETTING

SS - Serpentine Stitch, C-4

FOOT - Utility Foot B, 411 73 88 01

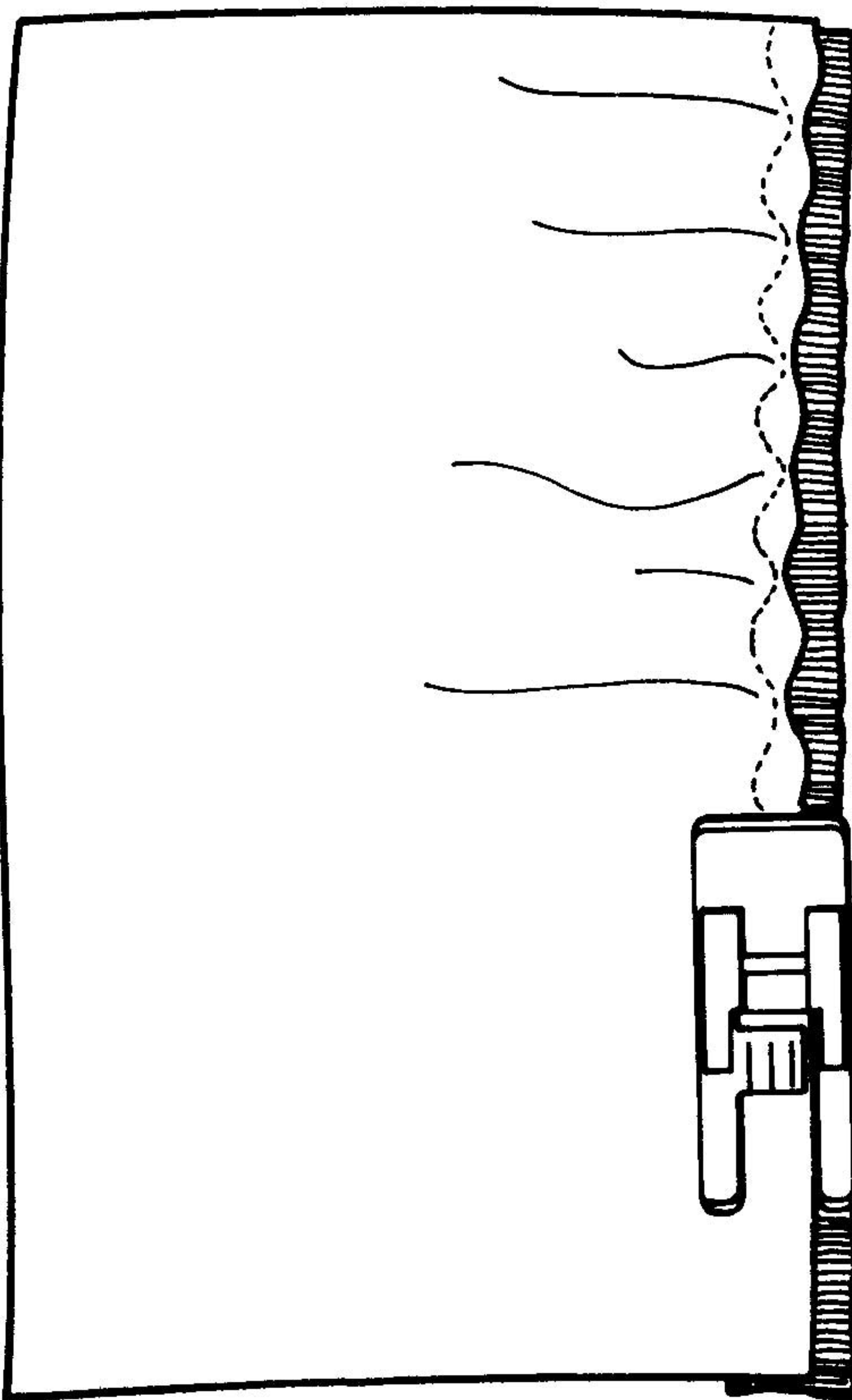
PRACTICE SAMPLE

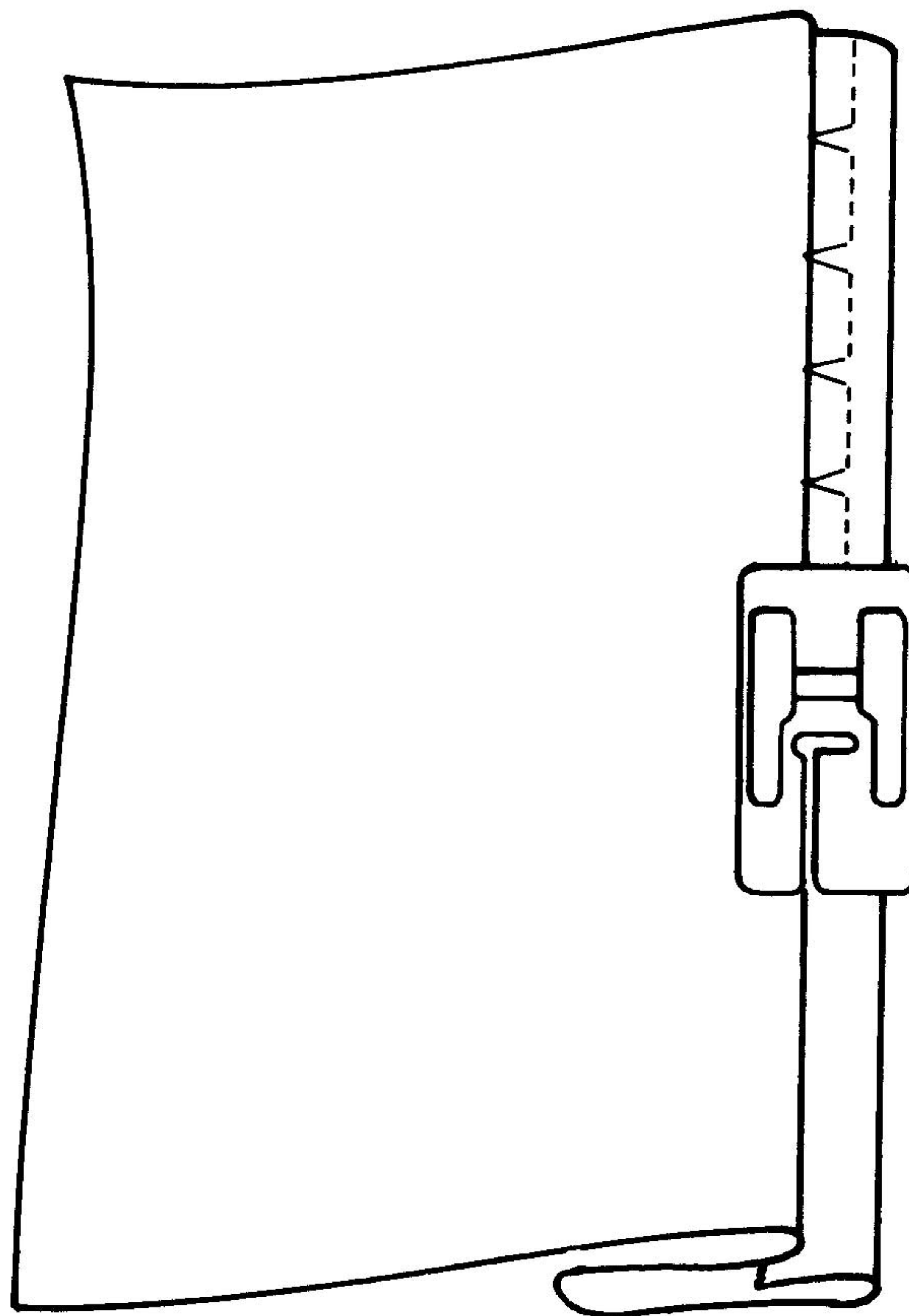
6" x 6" lightweight knit

5" length of lingerie elastic

PROCEDURE

- Fold edge back $\frac{1}{4}$ ".
- Lay fabric on top of elastic with folded edge next to picot edge of elastic. Fabric should be covering most of elastic.
- Stitch through fabric and elastic, stretching elastic to fit.





BLIND HEM STITCH

For quick and easy hemming of woven fabrics, these stitches are practically invisible from right side. This stitch can also be used for a decorative shell edge.

HEMMING

MACHINE SETTING

SS - Blind Hem Stitch, C-5

SW - Adjustable

FOOT - Blindstitching Foot, 411 42 28 01

PRACTICE SAMPLE

6" x 6" medium-weight woven

PROCEDURE

- Prepare hem in normal manner. Press raw edge under $\frac{1}{2}$ ".
- Fold hem under so right side of hem is touching throat plate of machine. Position foot on top of fold leaving $\frac{1}{4}$ " of fabric extending under right side of foot. Align fabric fold so that it rides in the groove under left side of presser foot.
- Make hem almost invisible on any type of woven fabric by following these steps:
 - a. Engage low gear and begin stitching.
 - b. Just before zig-zag stitch bites fold of fabric, STOP.
 - c. Check bite by adjusting Stitch Width so that needle catches a single thread of folded edge.
- Disengage low gear and stitch remaining hem.

SHELL EDGE

MACHINE SETTING

TENSION - Normal - 7

SS - Blind Hem Stitch, C-5


SW - 4.6 mm

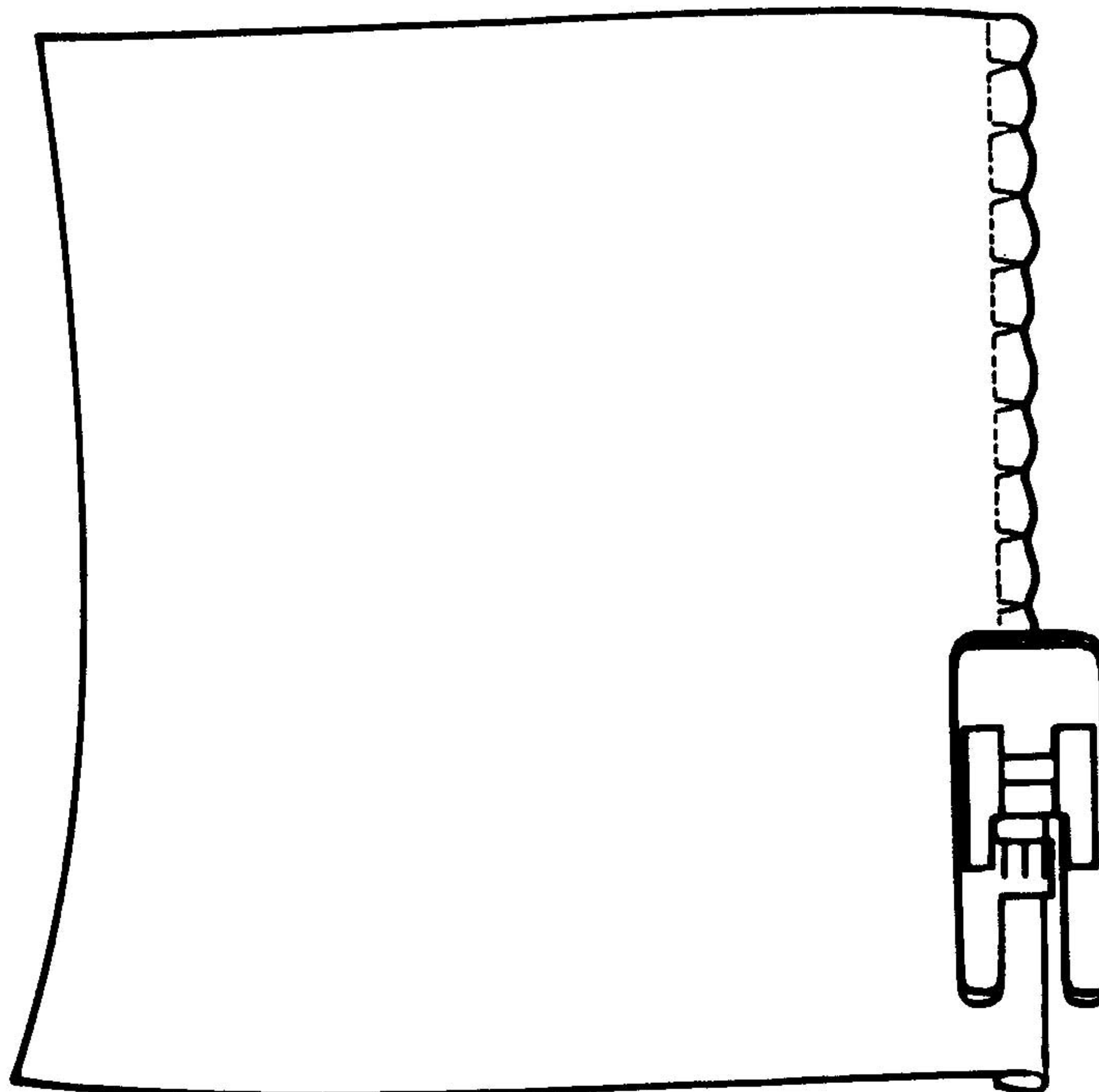
FOOT - Presser Foot for Lightweight Fabrics, 411 45 39 01

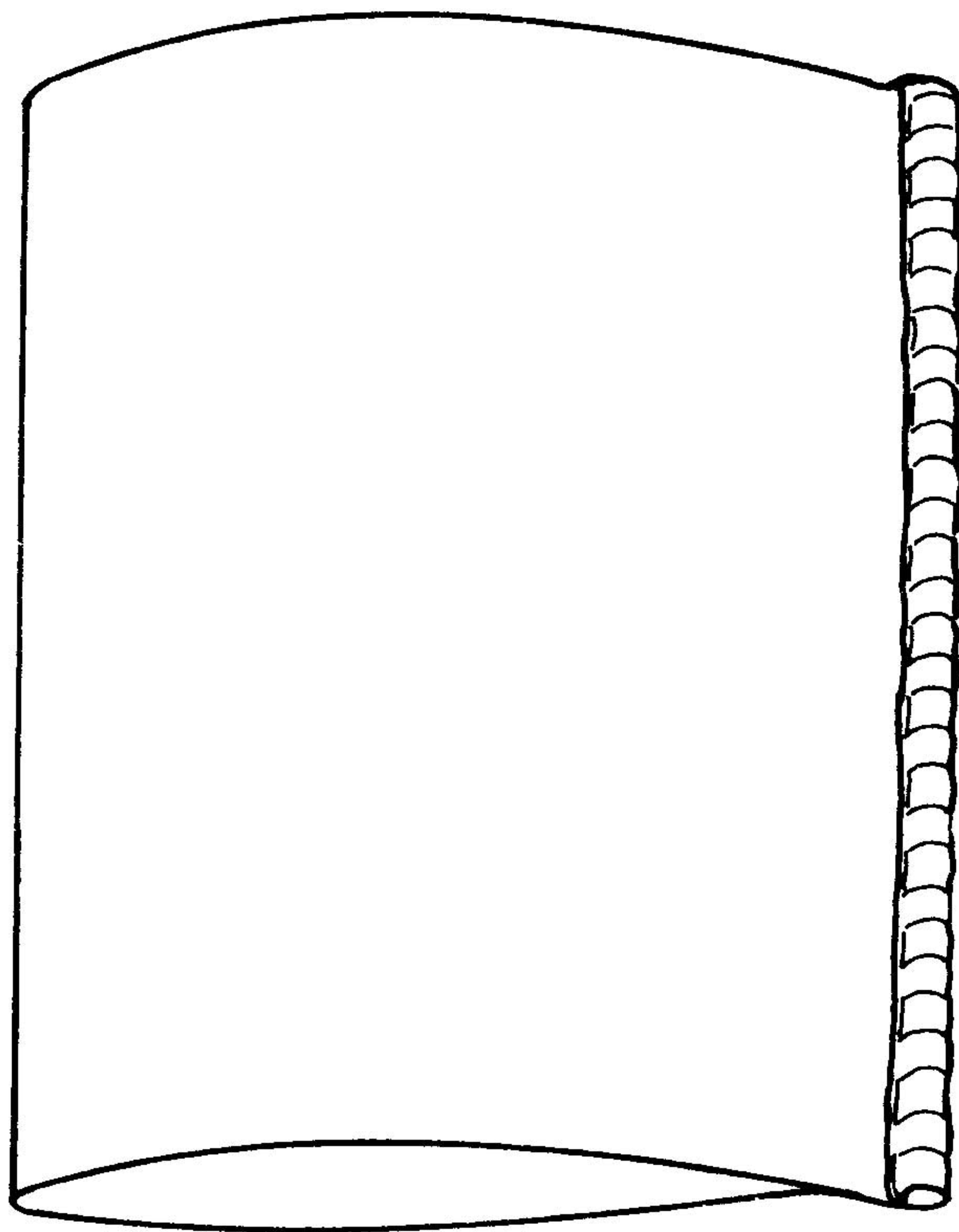
PRACTICE SAMPLE

6" x 6" lightweight knit

PROCEDURE

- Fold back the raw edge $\frac{1}{2}$ ".
- On woven fabrics, work with the bias in order to get the Shell Edge.
- Press the Mirroring Button 
- Place fabric under the presser foot with the folded edge under right red line.
- Stitch. Adjust scallop size if desired by adjusting the length settings.





DOUBLE ACTION STITCH

This is used for a delicate, finished seam on soft fabrics, lapped seams and a casing for 1/8" elastic.

ROLLED SEAM

MACHINE SETTING

SS - Double Action Stitch, C-6

FOOT - Standard Foot A, 411 73 86 01

PRACTICE SAMPLE

6" x 6" sheer tricot, folded in half

PROCEDURE

-Right sides together, stitch seam over raw edge so that right side of stitch overcasts edge.

CASING ELASTIC

MACHINE SETTING

SS - Double Action Stitch, C-6

FOOT - Utility Foot B, 411 73 88 01

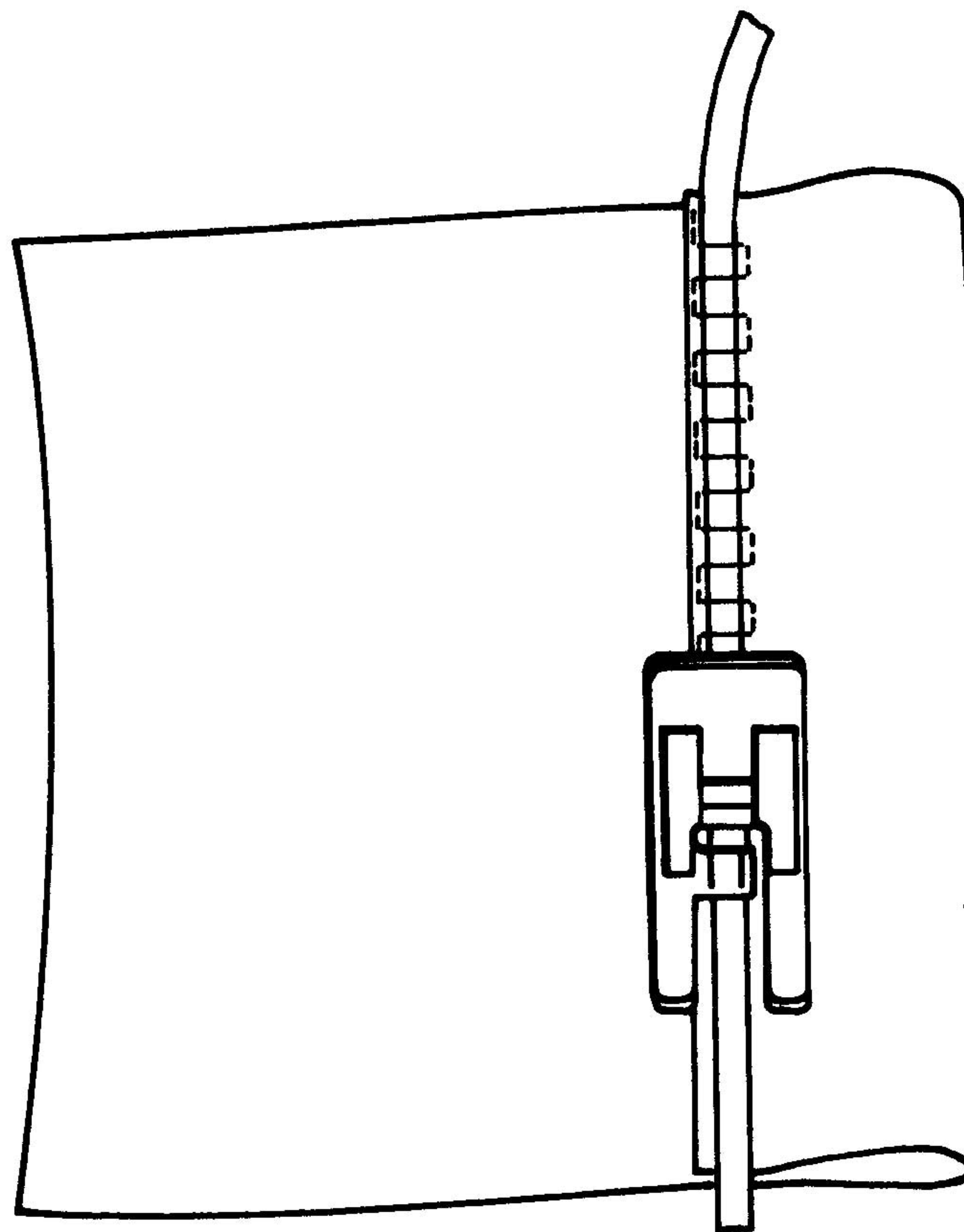
PRACTICE SAMPLE

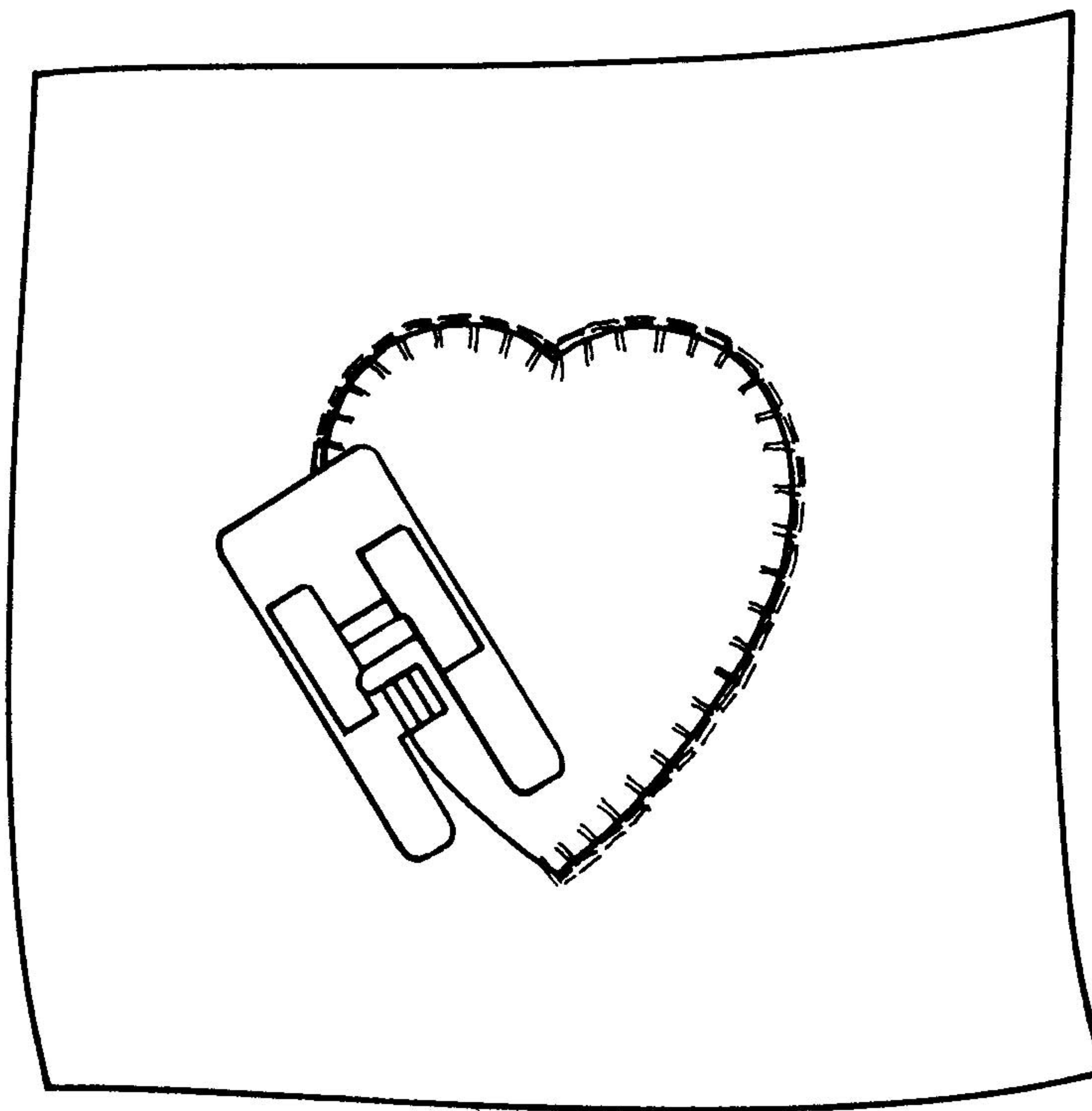
6" x 6" lightweight woven

8" length 1/8" flat elastic

PROCEDURE

- Fold back 2" hem.
- Center elastic over raw edge of hem allowance and between outer lines of foot. Stitch.
- Draw up elastic to fit.





POINT DE PARIS

This stitch is suitable for decorative stitching, applique and lapped seams.

APPLIQUE

MACHINE SETTING

PRESSURE - Release slightly (test)
 TENSION - Buttonhole Symbol
 SS - Point de Paris Stitch, C-7
 FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim
 2" x 3" vinyl

PROCEDURE

- Cut applique from small fabric sample.
- Position and secure design with fabric glue, tape or pins.
- Start on LEFT side of applique, positioning edge under left line of foot. Stitch. The straight row of stitching will be on the fabric, and cross-stitch bar will catch into the applique.

RIC-RAC STITCH

This prominent top stitch with built-in stretch for making lapped seams is also used for decorative stitching and top stitching.

LAPPED SEAM

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - Ric-Rac Stitch, C-8

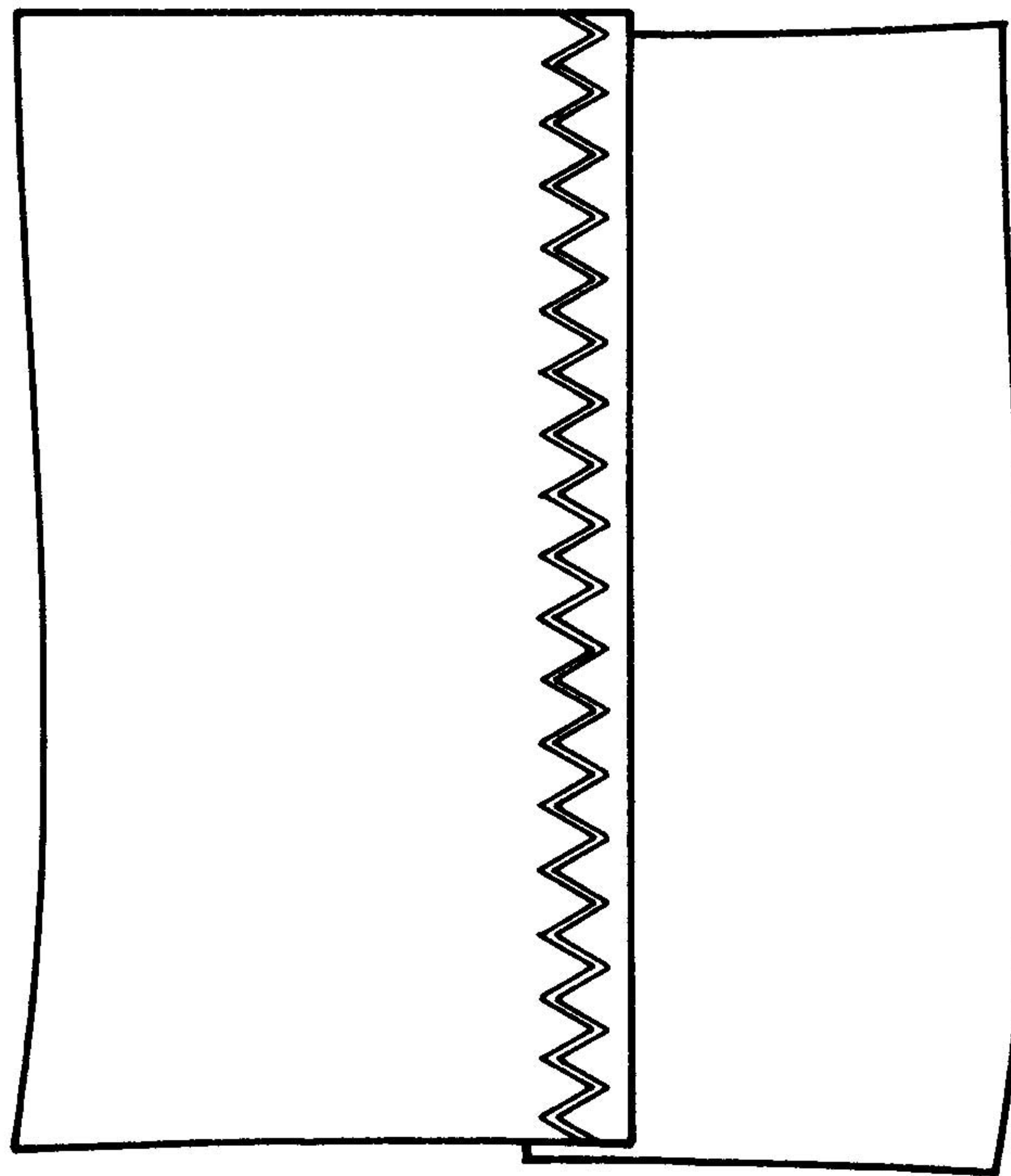
FOOT - Utility Foot B, 411 73 88 01

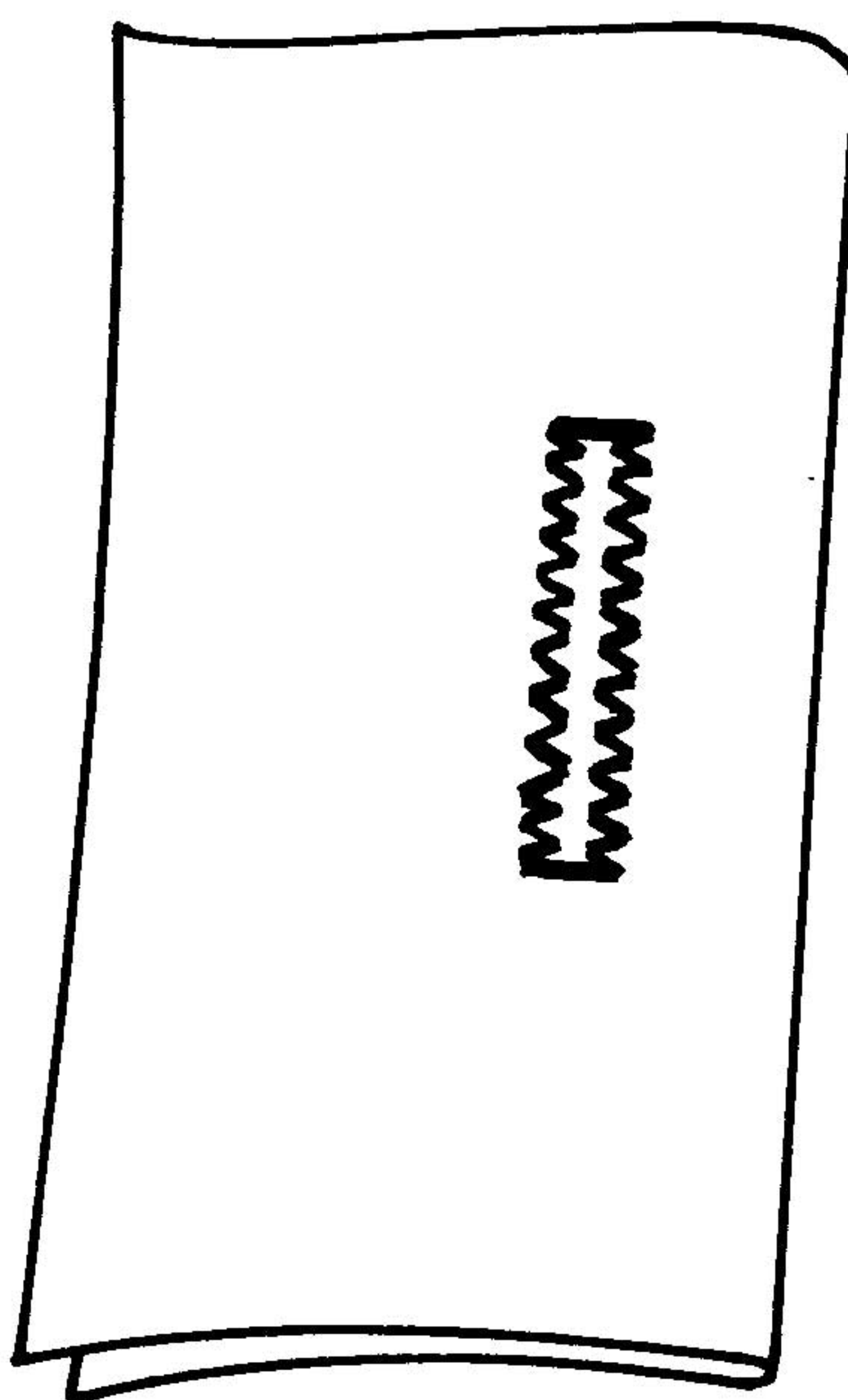
PRACTICE SAMPLE

6" x 6" suede cloth, cut in half

PROCEDURE

-Overlap edges $\frac{1}{2}$ " and stitch.





RIC-RAC BUTTONHOLE

This buttonhole is decorative and suitable for heavier fabrics.

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - C, Ric-Rac Buttonhole Symbol

FOOT - Buttonhole Foot C, 411 73 89 01

PRACTICE SAMPLE

6" x 6" denim, folded in half

PROCEDURE

-Follow procedure for Basic Buttonhole, page 18, omitting step d.

EDGE GUIDE 401 54 20 01 and ATTACHMENT SCREW 411 13 99 01

For sewing parallel rows of stitching when doing decorative work or quilting, top stitching, sewing with extra wide seam allowances, and to aid in straight stitching when applying a zipper.

PARALLEL TOP STITCHING

MACHINE SETTING (First Row)

SS - Straight Stitch, Left Needle Position

SL - 3 mm

FOOT - Blindstitching Foot 41-14-228

PRACTICE SAMPLE

6" x 6" gabardine, folded in half

PROCEDURE

- Place sample to left of needle with folded edge under shallow (left) side of foot.
- Stitch on folded edge allowing foot to guide fabric.

MACHINE SETTING (Second Row)

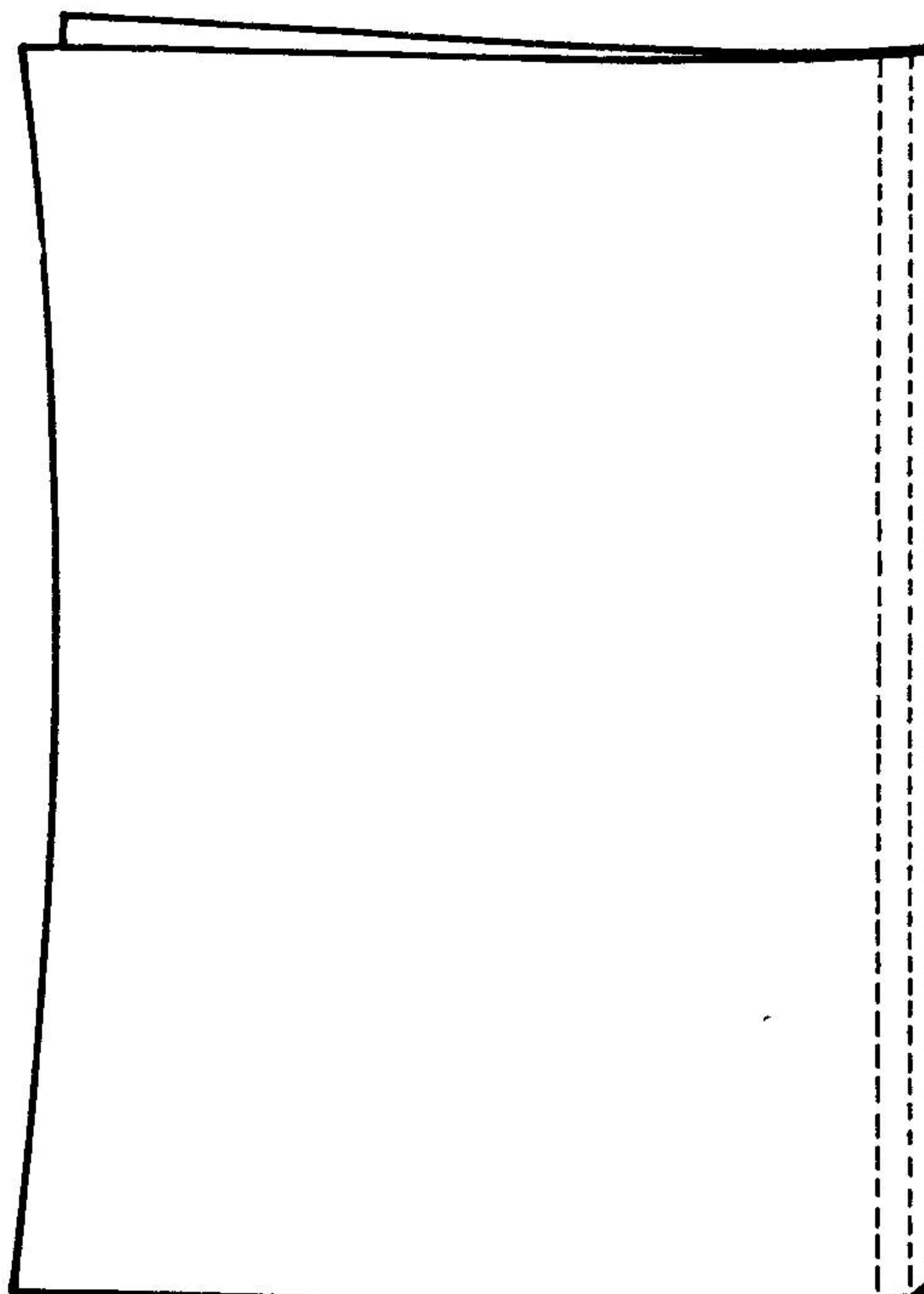
SS - Straight Stitch, Center Needle Position

SL - 3 mm

FOOT - Standard Presser Foot 41-11-383

PROCEDURE

- Insert the edge guide through ankle hole from right to left.
- Line up edge guide so it touches right side of blindstitching foot.
- Set edge guide so that it rides lower than foot. Tighten attachment screw.
- Place fabric under foot so that folded edge lies directly under right edge of blindstitching foot.
- Stitch second row, allowing edge guide to guide fabric.







DOUBLE NEEDLE 411 16 21 03

Consists of two needles mounted by a bridge to a single shank. Ideal for raised seams, decorative stitching and straight top stitching. Size designation is determined by the distance between the needle points.

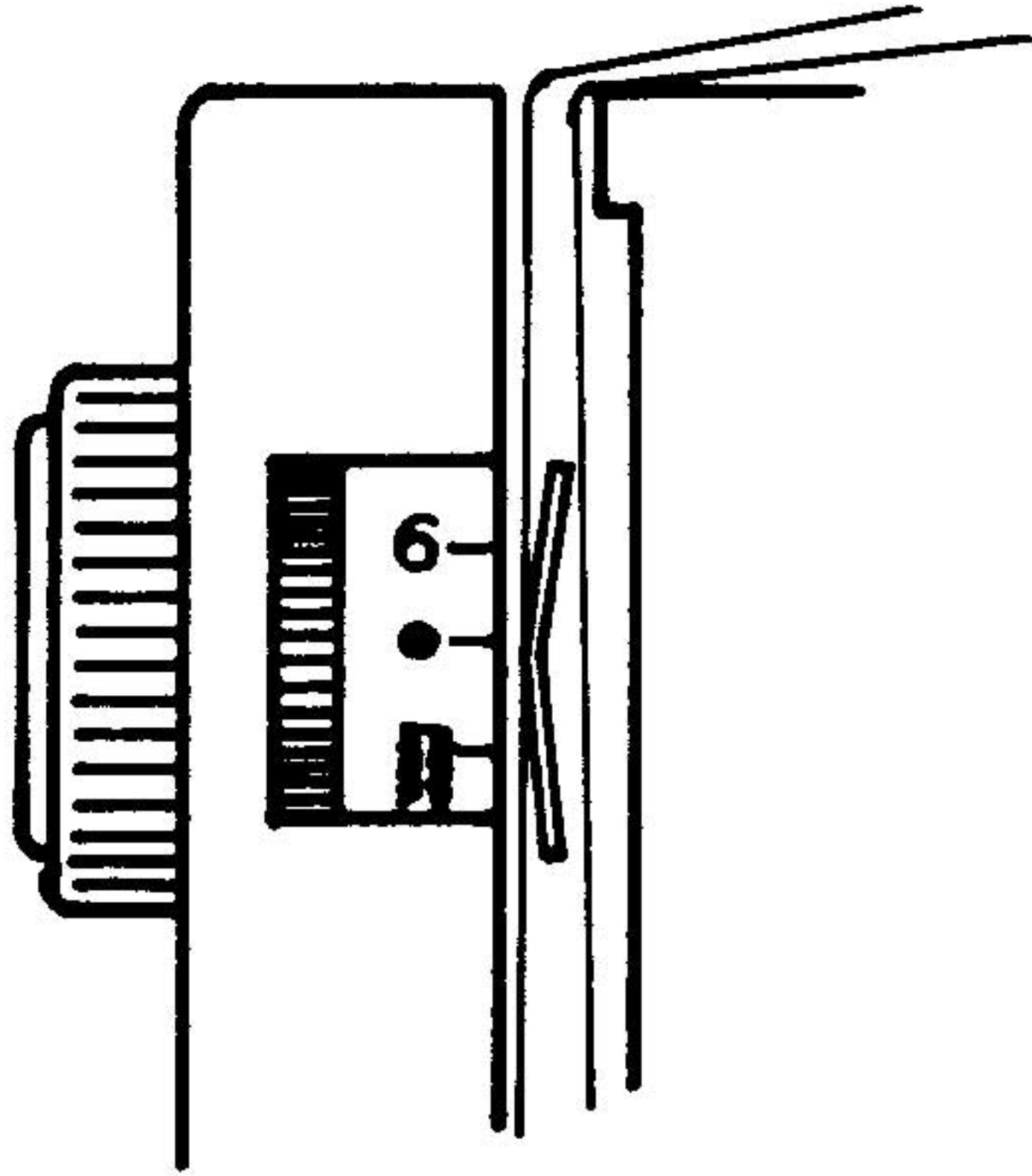
Caution: Do not exceed Maximum Zig-Zag Width Settings listed below. Too wide a zig-zag will result in broken needles. The following settings are only recommendations. Check the specific stitch to be used.



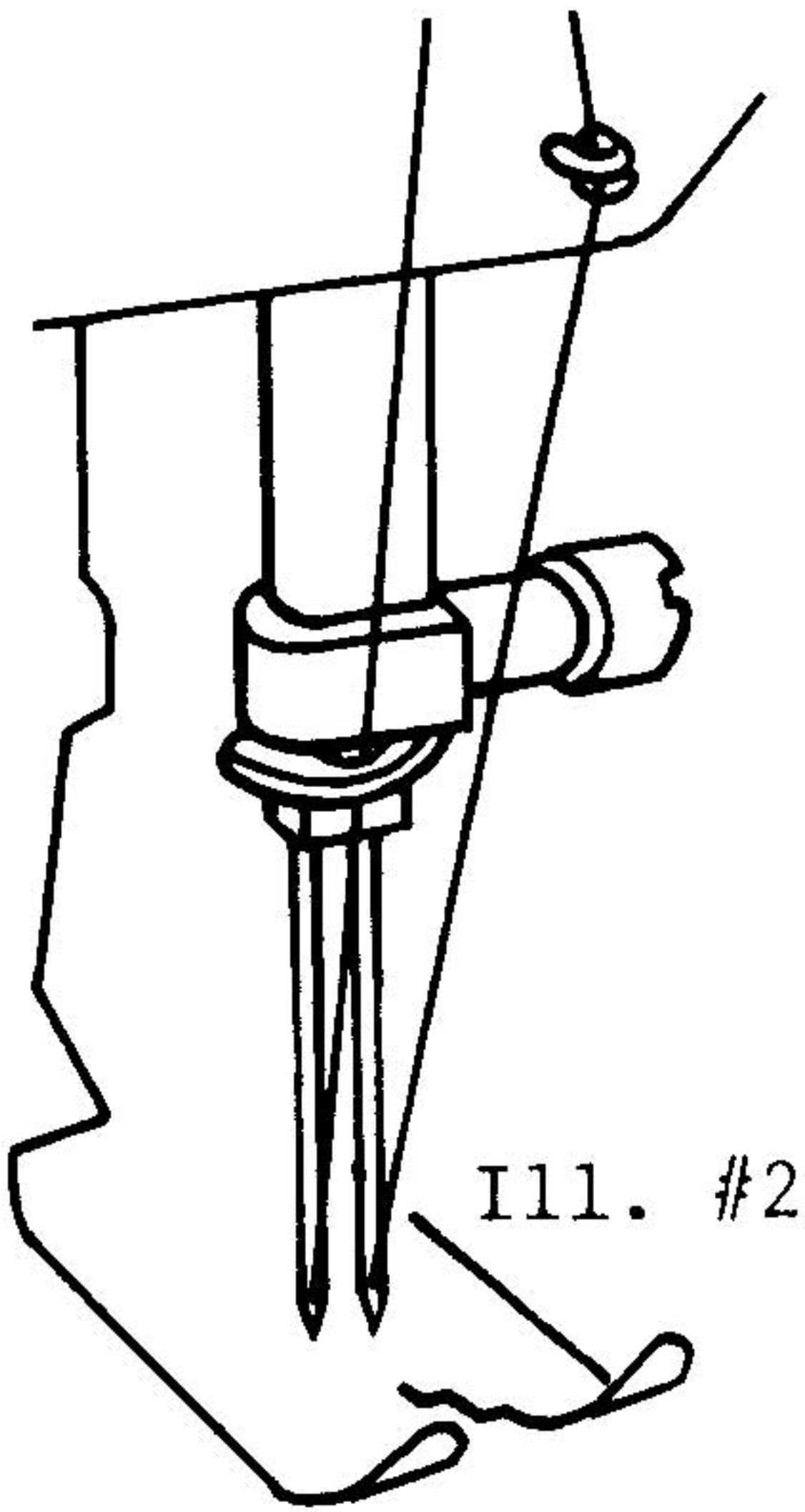
Needle Width Designation.....	1.8 mm	2.0 mm	3.0 mm	4.0 mm
Maximum Zig-Zag Width Setting....	3.0 	3.0 	2.3 	1.5 

MACHINE THREADING

- Position spools of thread so that threads reel off in opposite directions.
- Thread 2 strands in one operation, keeping strands separate.
- Place one thread on each side of tension disc (ill. 1).
- Continue threading as one through to take-up lever.
- Separate threads -- right one through pig-tail, left one through black thread guide (ill. 2).
- Thread through eyes of needles as shown (ill. 2).



Ill. #1



Ill. #2

RAISED SEAM PRESSER FOOT 411 73 99 01 and RAISED SEAM ATTACHMENT 411 39 25 01

For twin needlework, raised seams, window pane designs and pin tucks.

MACHINE SETTING

SS - Straight Stitch

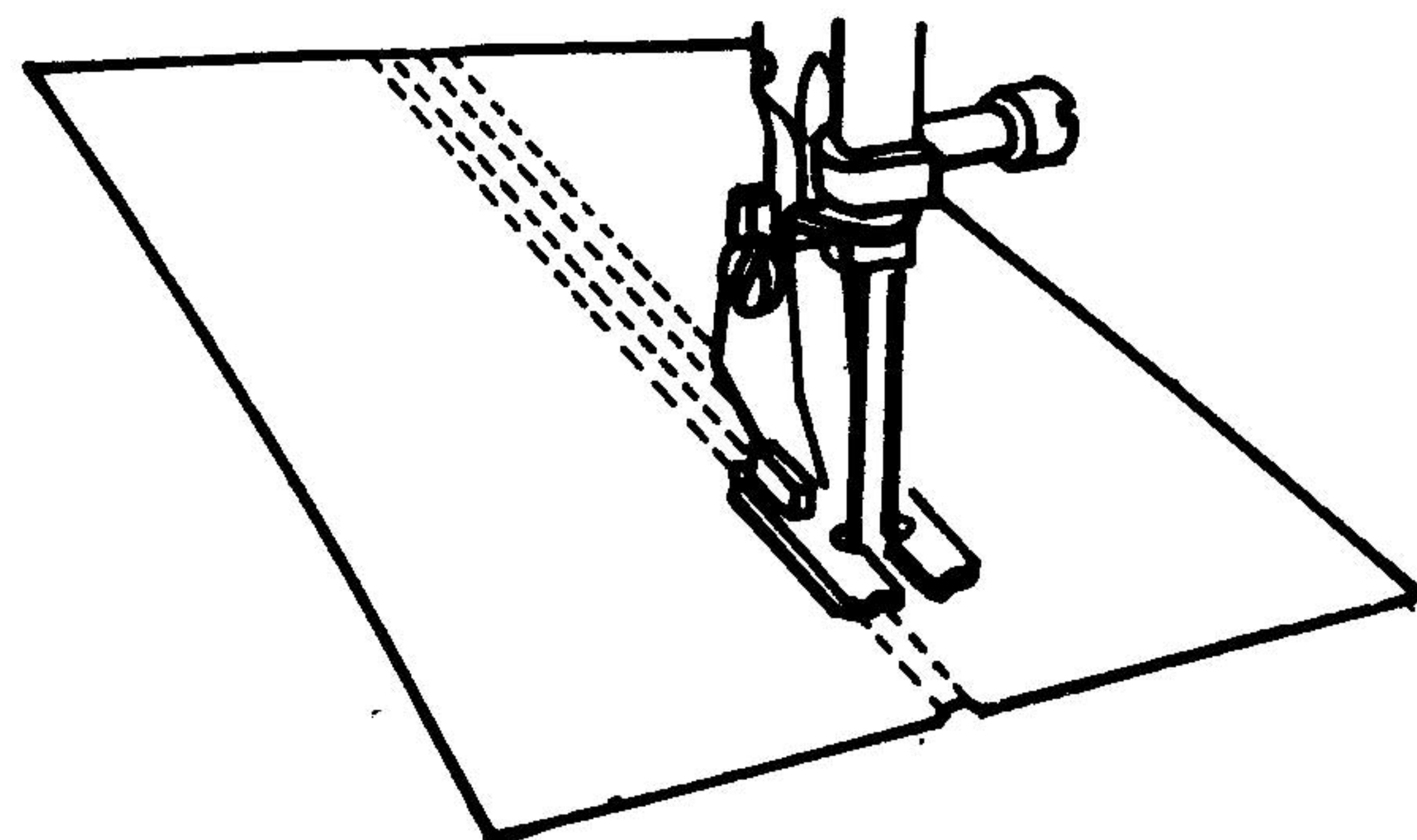
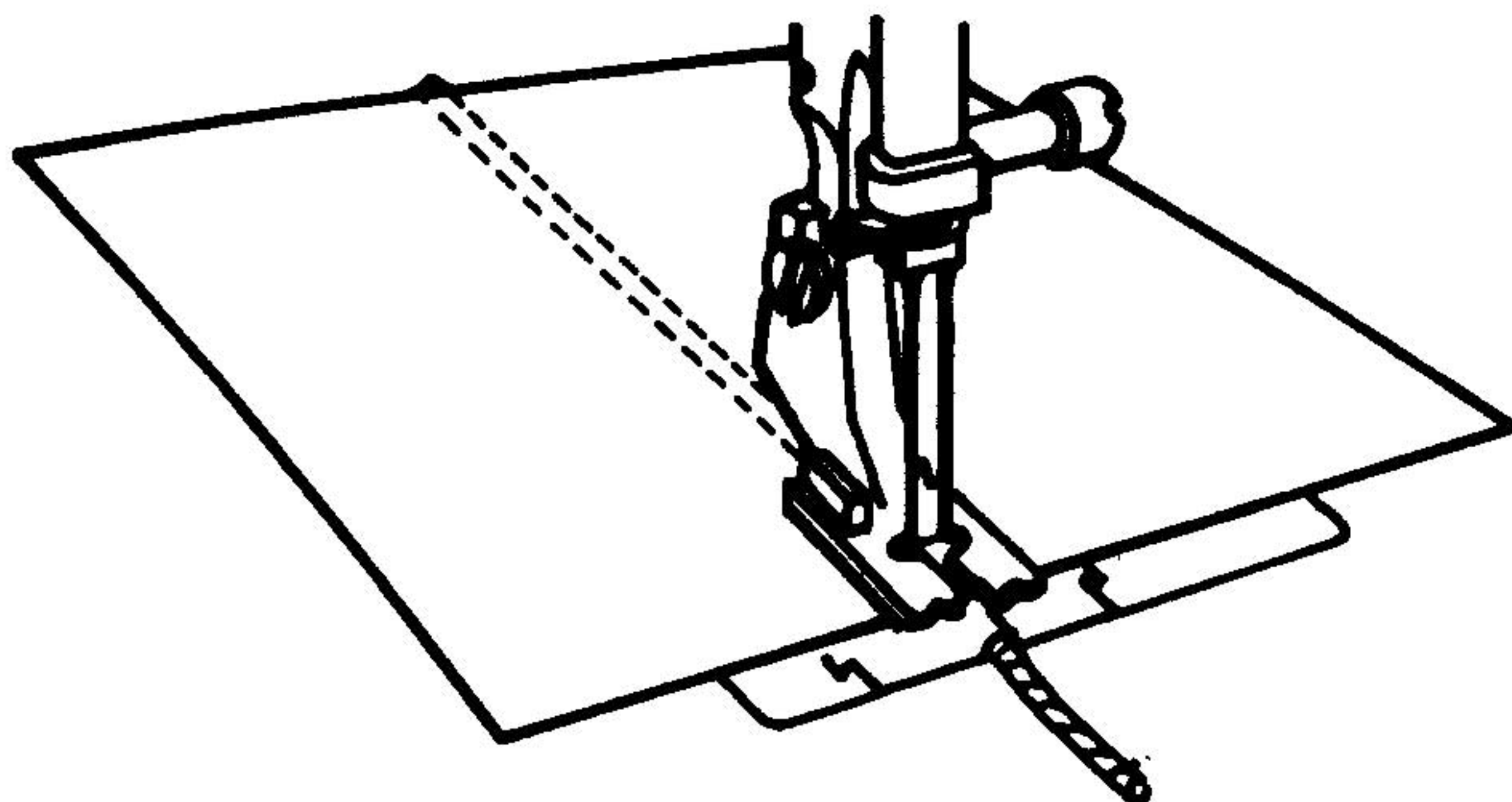
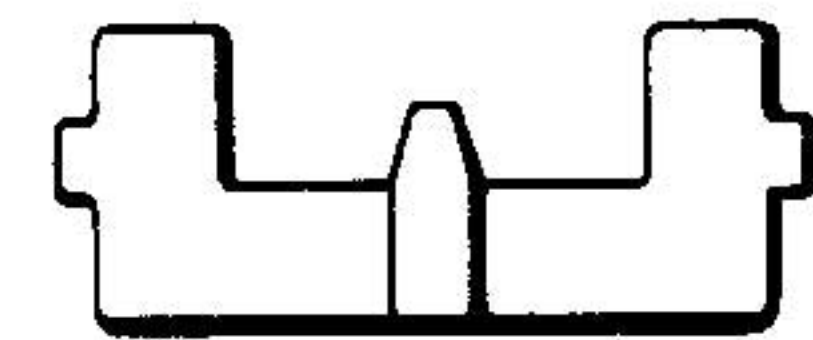
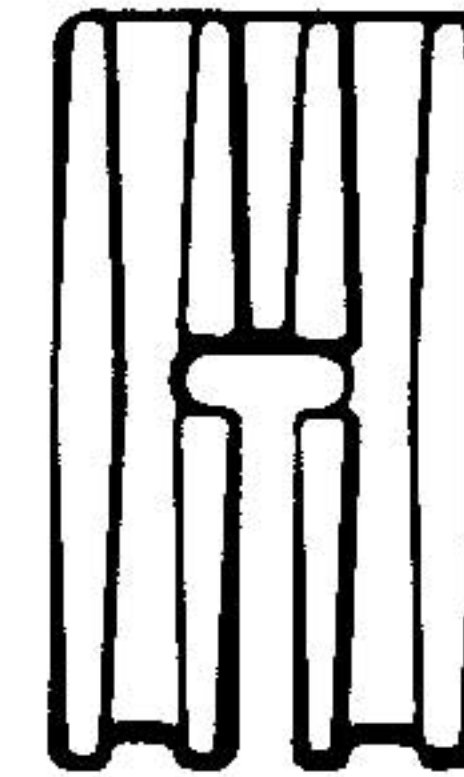
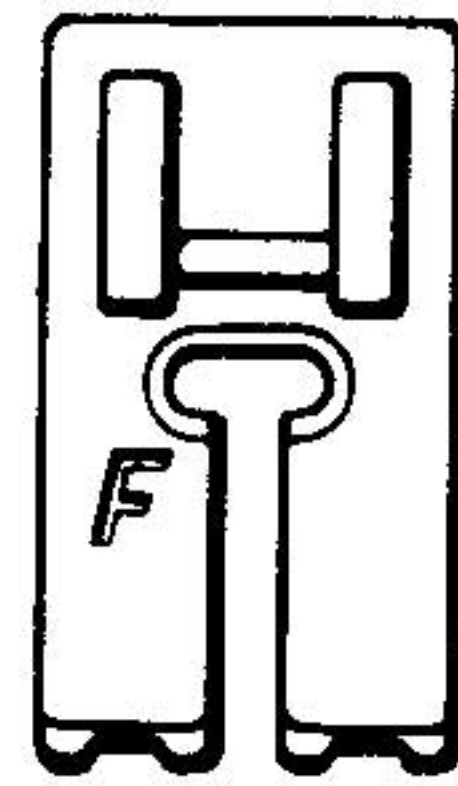
PRACTICE SAMPLE

6" x 6" medium-weight woven
Perle cotton

PROCEDURE

- Lay perle cotton or cord under raised seam attachment and snap onto throat plate with its straight edge facing forward.
- Before stitching, pull perle cotton or cord behind presser foot; attachment will guide cord into position as it sews.
- Sew several parallel seams, using the grooves on the bottom of the presser foot as a guide. Place the previously sewn seam to the left or right of the first row and let the presser foot guide the work (see illustration).

NOTE: Two rows of raised seams equal approximately 1/8" pin tuck.



DECORATIVE STITCHING WITH DOUBLE NEEDLE

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - C-2

SW - 3.0 mm

NEEDLE - 2.0 Double Needle

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

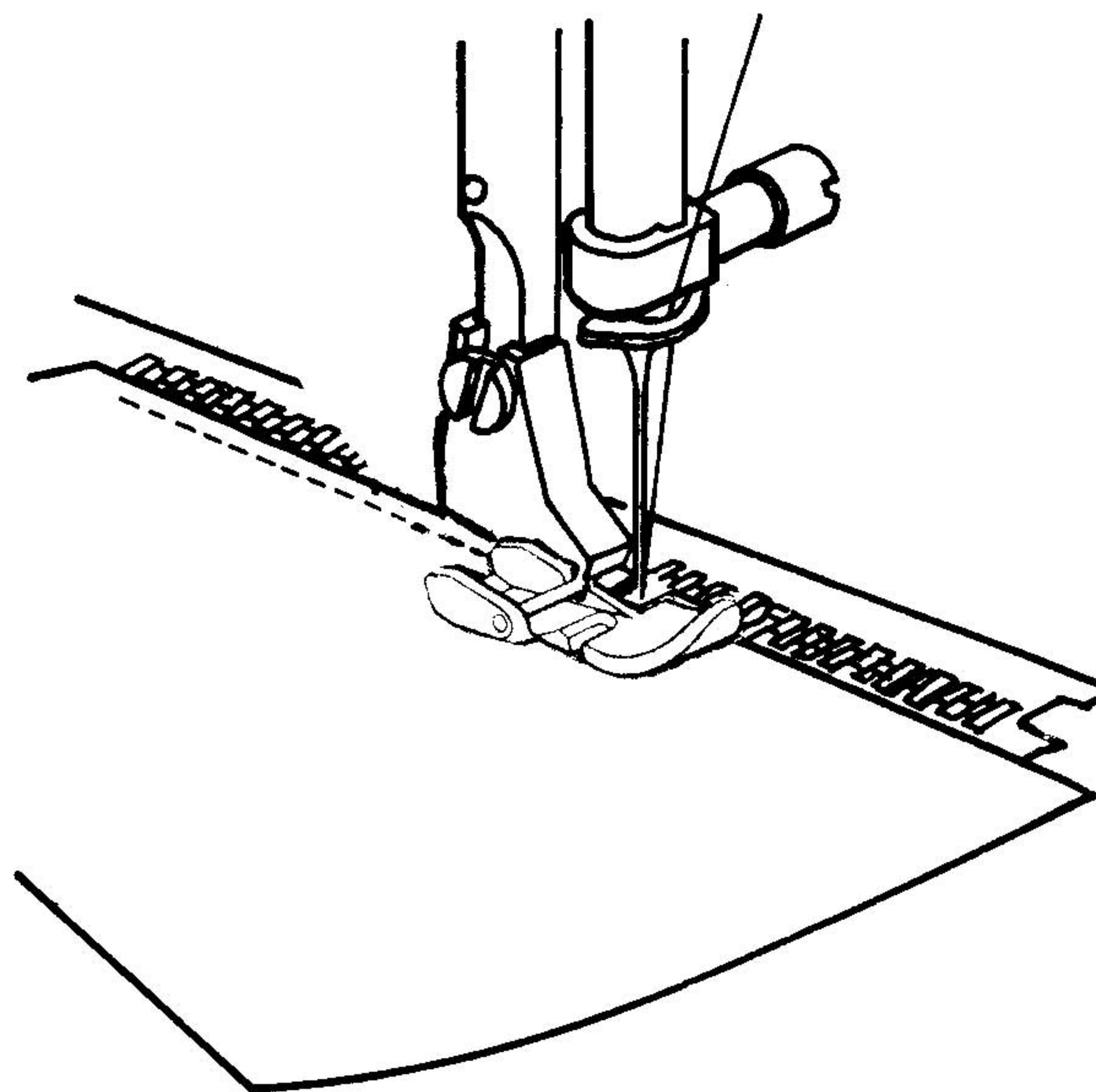
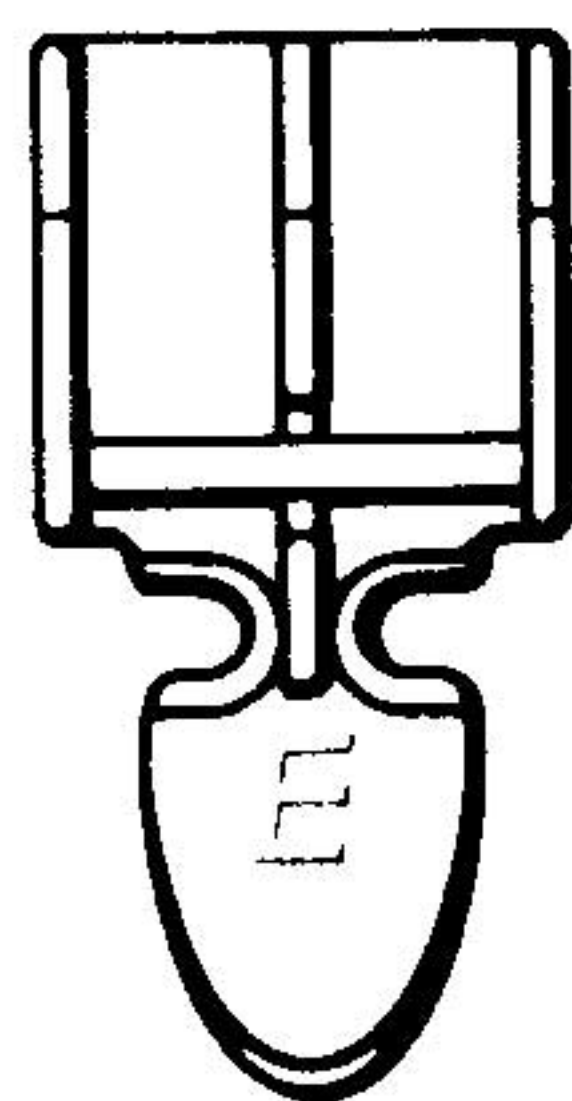
6" x 6" denim

PROCEDURE

-Sew several rows of decorative stitching.

ZIPPER FOOT 411 29 89 01

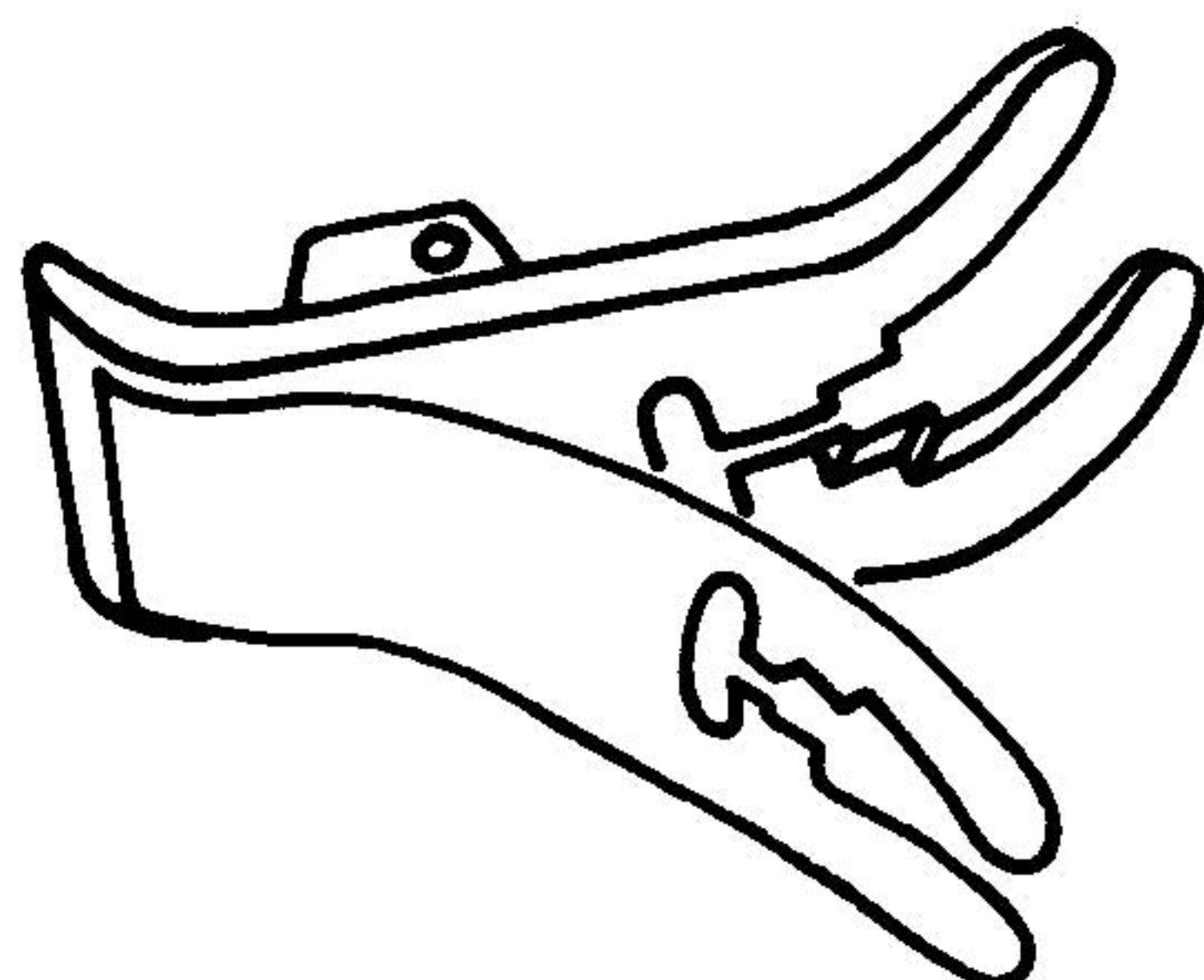
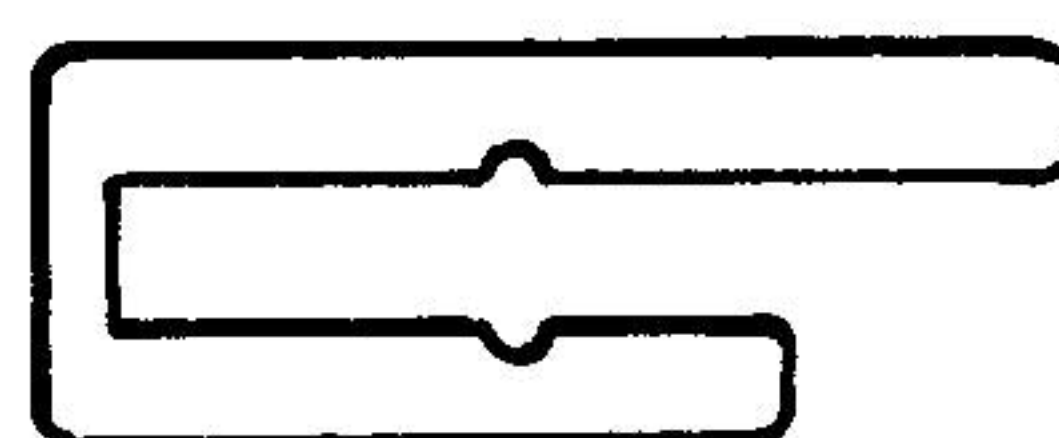
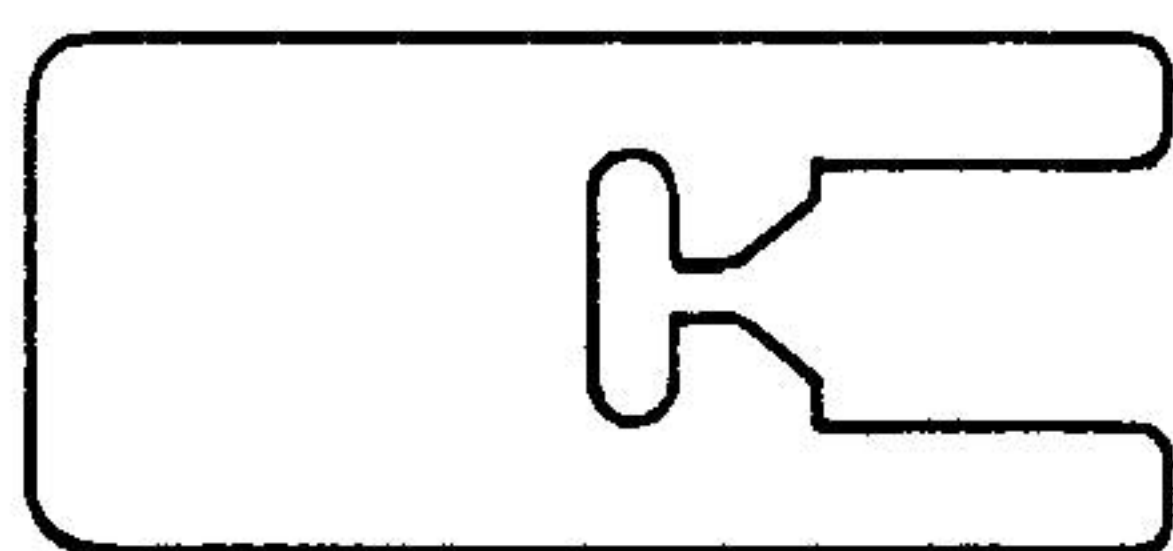
Zipper foot snaps on so that it is situated either to the right or to the left of the needle. This makes it possible to sew on both sides of the zipper without turning the work.



GLIDE PLATE

Glide plate can be used when sewing on foam, plastic, plastic-coated fabric and leather imitations. It minimizes friction between fabric and foot.

Peel off the protective paper and adhere to underside of presser foot (as illustrated). Glide plates are also designed for buttonhole foot and zipper foot.



DECORATIVE STITCHES

The decorative stitches on Cassettes B and D can be used individually or programmed in combinations. These stitches all have a pre-programmed length and width which are suitable for most fabrics. When the stitch is selected, the machine will start stitching at the beginning of the pattern.

FINISHING BUTTON

The Finishing Button  can be used to sew a single stitch pattern.

FLOWER

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - D-3


FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE


6" x 6" denim

PROCEDURE

-Press D-3.

-Press Finishing Button  .

-Stitch.

-Press . Reposition fabric, starting each petal at center of flower.

WAVES

This stitch can be used for a decorative edge finish.

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - D-9

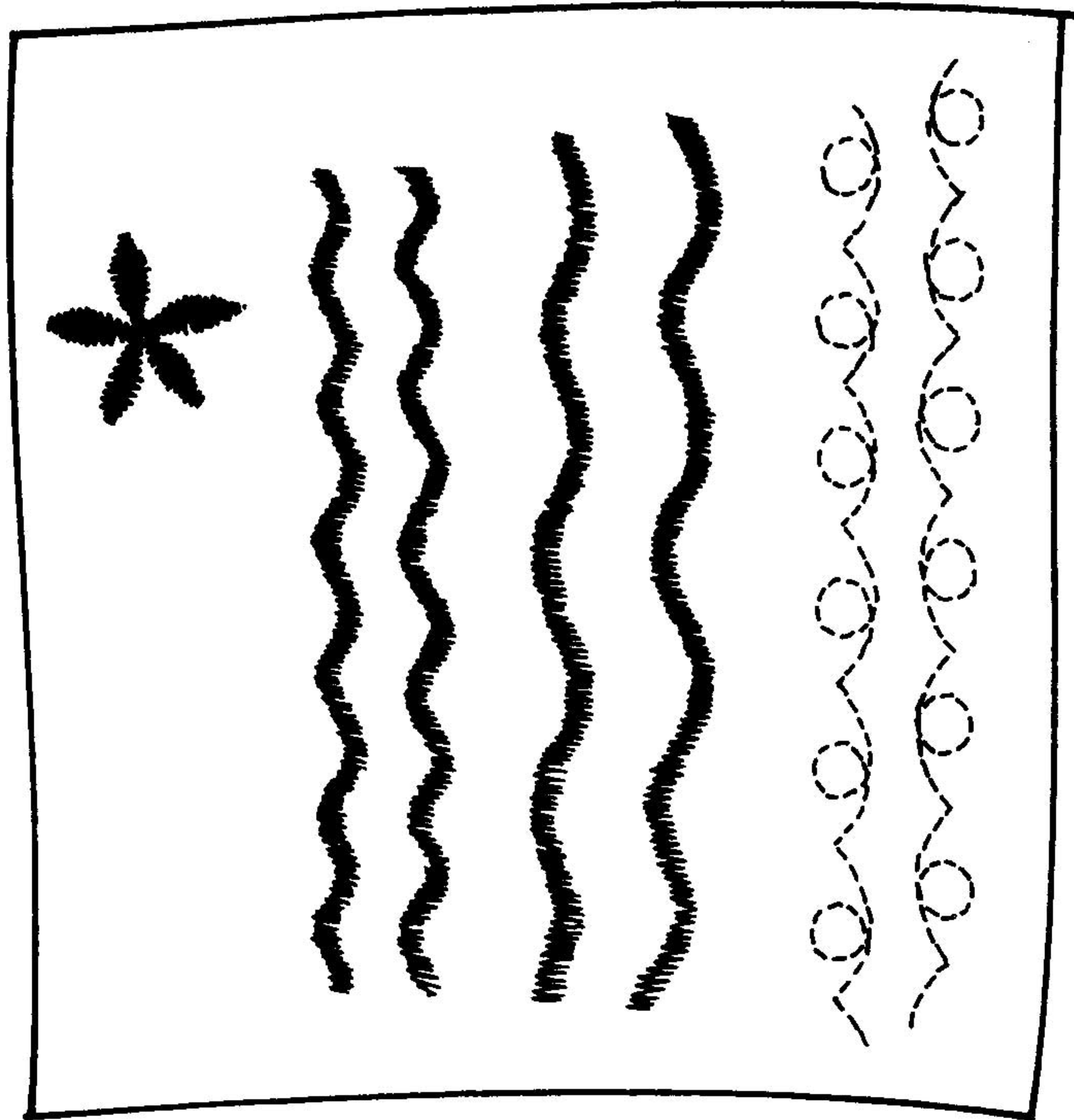
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE


Use sample from previous exercise.

PROCEDURE

-Stitch four rows varying the wave size by pressing D-9 once for each row.



MIRRORING

When the mirroring button  is pressed after a stitch has been selected, the pattern will be sewn in the opposite direction.

MACHINE SETTING

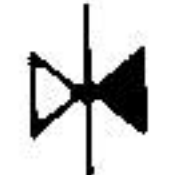
SS - B-4

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Sew a row of stitches.
- Reposition fabric to sew another row in the same direction as the first row. Press B-4 and then the mirroring button  .
Stitch.

LETTERING

Lettering can be used for sewing initials, words and sentences for name labels, decorating pockets, cuffs and creating a smocked effect, etc.




Letter stitches may be programmed into the machine when Cassette E is inserted. Up to 54 letters may be entered. By pressing PROG, the "brain" of the machine opens up, and letters may be programmed by pressing the desired button under a column of letters. When a button is pressed, a small red dot will light up at the right of the letter cassette. If the first letter in a column is desired, press the button once and the top red dot will light up. If the second letter in a column of letters is desired, press the button under the column twice, and the second red dot will light up. Follow this procedure for the third and fourth letters, pressing each button three or four times respectively. After the desired letter is selected, and the button pressed as many times as necessary, press the + button at the far right of the control panel. The + button must be pressed after each letter to enter it into the machine. After a series of letters has been programmed, press REP to begin sewing the word(s). Upon completion of a word, the machine will stop sewing and secure the threads.

WIDTH ADJUSTMENTS

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - Cassette E

SW - 4.6 mm  , 3.0 mm  , 1.5 mm 

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

- Press PROG.
- Press button under U column three times to select V.
- Press +.
- Continue pressing letter buttons and + button after each letter until "VIKING" is spelled.
- Press REP.
- Stitch.
- Press REP and press width button for 3.0 mm stitch width.
- Reposition fabric to sew under first word and stitch.
- Press REP and press width button twice for 1.5 mm stitch width.
- Reposition fabric to sew under previous word and stitch.

NOTE: Letter widths can be changed after pressing REP, or during stitching. The width changes are not programmed with the letters.

SENTENCE AND LOCKING LETTERS


MACHINE SETTING

TENSION - Buttonhole Symbol
SS - Cassette E
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Press PROG.
- Enter MADE into machine by pressing a letter, then +, etc.
- Press ---, which is a space, and +.
- Continue with entering IN---SWEDEN.
- Press ■, which is a period, and + and REP.
- Press the Finishing Button . This will cause the machine to lock each letter.
- Stitch.
- Clip threads between letters.

STOP FUNCTION

When it's necessary to move the fabric in the middle of the program, the STOP function is used.

MACHINE SETTING

TENSION - Buttonhole Symbol
SS - Cassette E
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Press PROG.
- Press symbols to spell HAPPY.
- Press STOP, +.
- Press symbols to spell BIRTHDAY.
- Press Repeat and stitch.
- When the machine sews HAPPY, it will slow down and lock the threads. Reposition the fabric and press + to sew the rest of the sequence.

HAPPY
BIRTHDAY

PROGRAMMING

The Viking 6690 has a "brain" which makes programming stitches and letter stitches possible. By pressing PROG, more than one stitch can be programmed. Thus, thousands of combinations of stitches become possible. As many as seven different stitches can be programmed into the machine at one time.

The REP button is pressed after a sequence of stitches is programmed into the machine. This tells the machine to begin sewing the sequence.

In some cases, the length of a stitch cannot be changed and will be so indicated when "FL" (fixed length) lights up in the stitch length window.

When sewing a decorative stitch, the stitch length can be increased or decreased by pressing + or -. However, if a programmed sequence of stitches is being sewn, stitch length cannot be changed from the length set by the machine.

The above rule does not apply to stitch width, however. Stitch width can be changed by pressing the stitch width button whether one stitch or several stitches are being sewn or programmed and sewn. The width button may be pressed before or during sewing. If a stitch sequence is programmed in, you can change the width during stitching, but when the program goes to the next stitch, it will go back to the programmed width.

COMBINING MIRRORED AND UNMIRRORED STITCHES

MACHINE SETTING

SS - B-4

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

- Position fabric to sew a row of stitching.
- Press PROG.
- Press B-4; press B-4; press Mirror
- Press REP and stitch.

STITCH SEQUENCE

MACHINE SETTING

TENSION - Buttonhole Symbol

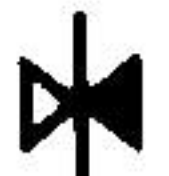

SS - Decorative Stitches Cassette D

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Press PROG.
- Press D-6, D-6 , D-3, D-1, D-1 , D-3, D-2.
- Press REP and stitch.

NOTE: An entire sequence can be mirrored after pressing REP.

FINISHING BUTTON

After a sequence is sewn, the machine will continue stitching the same sequence until the presser foot is let up or the Finishing Button is pressed. If the Finishing Button is pressed while sewing, the machine will finish the sequence, slow down, and lock the stitch.

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - Decorative Stitches, Cassette B

FOOT - Utility Foot B, 411 73 88 01

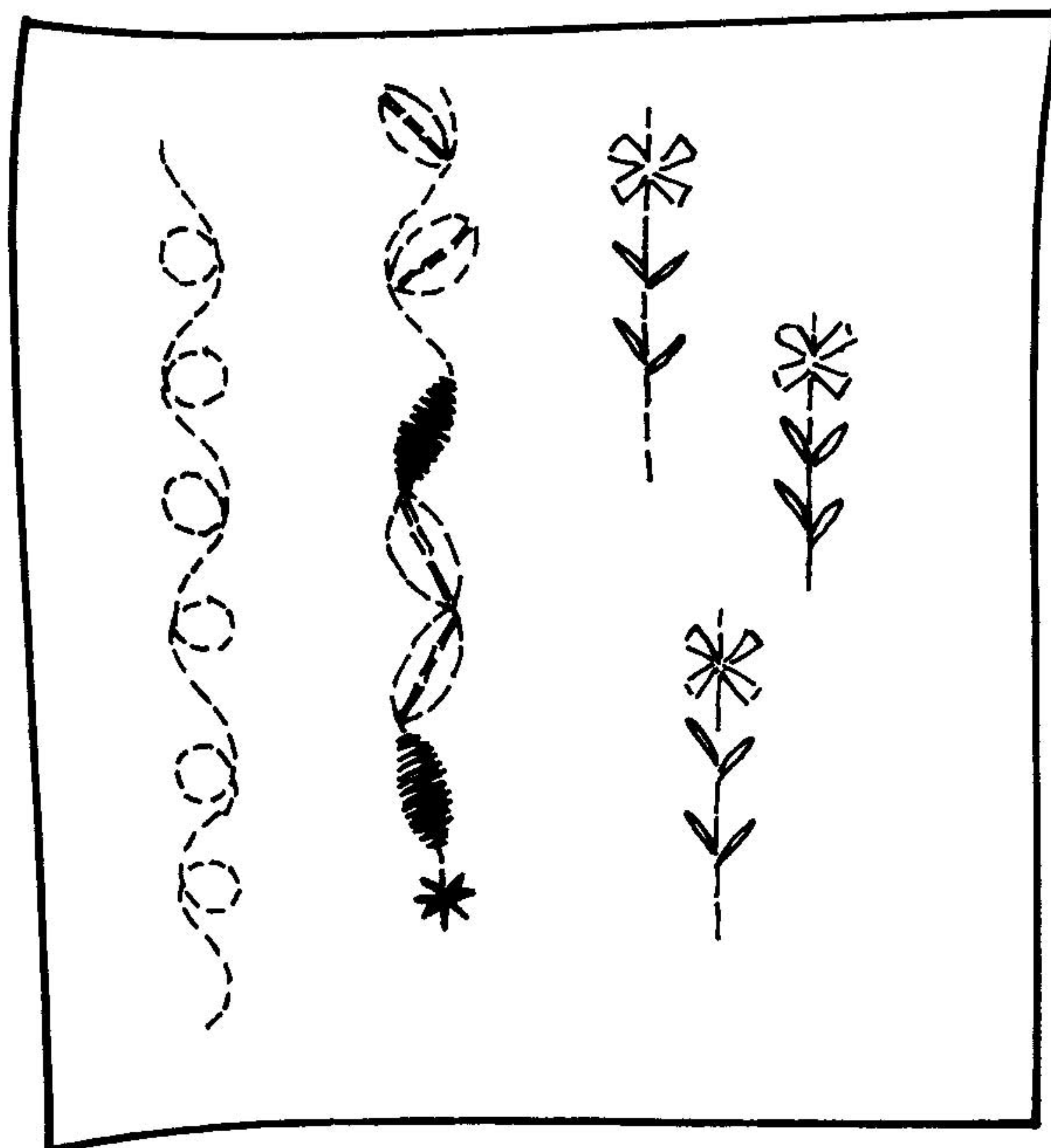
PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Press PROG, B-8, B-7, REP, Finishing Button Ⓢ
- Position fabric and stitch.
- Press Finishing Button Ⓢ.
- Reposition fabric and stitch.
- Press Finishing Button Ⓢ.
- Reposition fabric and stitch.

NOTE: To make seagulls, follow same procedure, pressing B-3 twice.



CORRECTING AN ERROR

The letter sequence can be checked before sewing by pushing repeat and plus until the sequence is complete. If a spelling error is made, you can correct it without reprogramming the entire sequence. Just press program and advance the letters to the mistake by pressing plus. The mistake should light up on the control panel. The number of the letter will appear in the window.

Press the button of the desired letter, press +, reprogram the rest of the word (if a letter was left out). If the word was only misspelled, simply press the correct letter button, press the + button and press REP to go back to the start of the word. Now the word can be sewn again, correctly.

If a word is misspelled during programming, and the REP button has not been pressed, simply press the - button and go back to the space of error. Program in the new letter and finish programming the rest of the word.

MACHINE SETTINGS

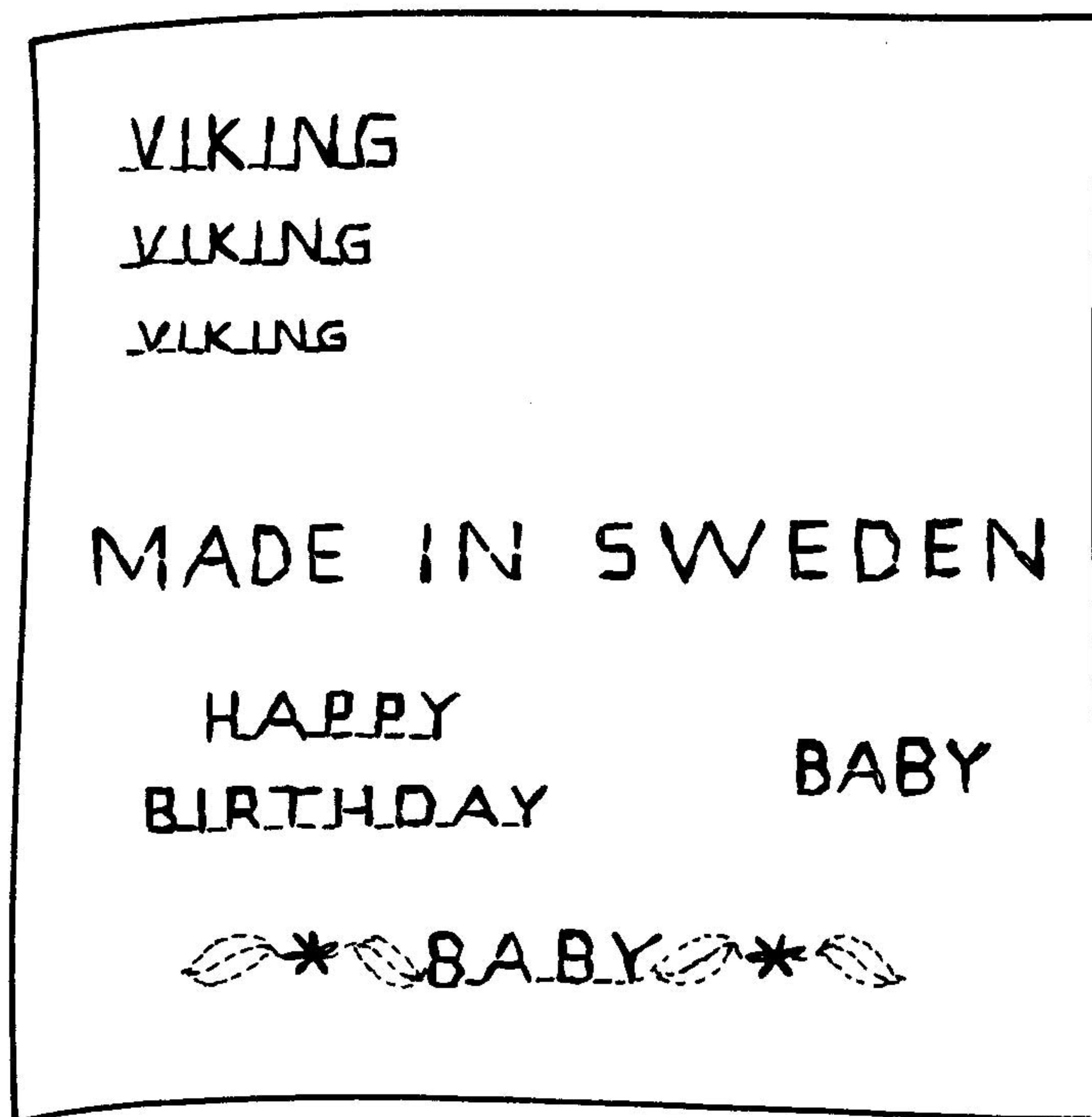
TENSION - Buttonhole Symbol
SS - Letters, Cassette E
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Press PROG.
- Enter in ---, BABZ, ---, press REP.
- Press PROG and + until mistake shows on control panel.
- Press Y +.
- Press REP and stitch.



INTERCHANGING CASSETTES

A stitch sequence may also be programmed by interchanging decorative cassettes and the lettering cassette. For example, stitches may be programmed from a decorative cassette. This cassette can be removed and letter stitches programmed into the machine. Then the original decorative cassette can be inserted, REP pressed, and stitches. When the letter cassette is inserted again, pressing REP will stitch the word without re-programming it.

When interchanging two decorative cassettes, the above rule does not apply. Several decorative stitches may be programmed with a decorative cassette, and it may then be removed. When a second decorative cassette is inserted, the PROG button may not be pressed, or the first cassette's program will be erased. Therefore, only one stitch may be pressed on the second cassette.

MACHINE SETTING

TENSION - Buttonhole Symbol
 SS - Cassettes D and E
 FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Insert Cassette D.
- Press PROG, D-1, D-2, D-1 ✱, REP, Finish Button ◎. Stitch.
- Insert Cassette E, press REP.
- Stitch BABY.
- Insert Cassette D.
- Press REP and Finish Button ◎. Stitch.

NOTE: Do not reposition fabric or turn off machine during procedure.

EXTRA ACCESSORIES

SHANKED ACCESSORIES

BRAIDING FOOT 411 85 00 01

Trimming for collars, cuffs, yokes and pockets is easily applied with the Braiding Foot. It holds braid or soutache trim in place while stitching.

MACHINE SETTING

SS - Straight Stitch

PRACTICE SAMPLE

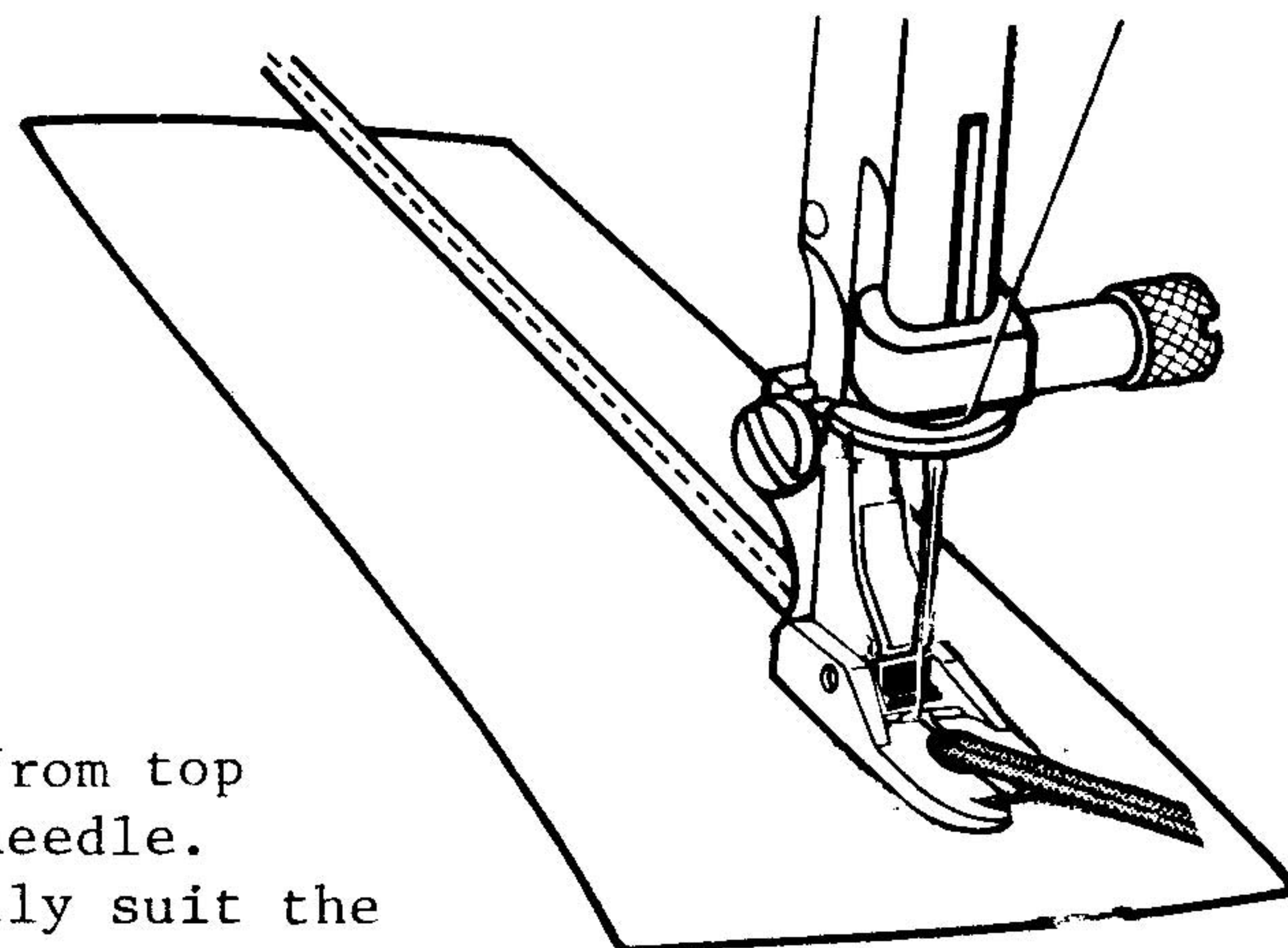
6" x 6" denim

6" soutache braid

PROCEDURE

- Attach Foot.
- Thread Braid into front opening from top of foot until braid is past the needle.
- Adjust opening of foot to correctly suit the width of the braid.
- Lower foot while holding braid in place. Holding braid angled up, stitch through braid placing center of foot along the placement line of garment.

NOTE: Flat metallic braid can be sewn on with the Braiding Foot and nylon thread.
When sewing parallel rows of braid, place edge of foot next to first row of trim and stitch.



BIAS BINDER 411 85 04 01

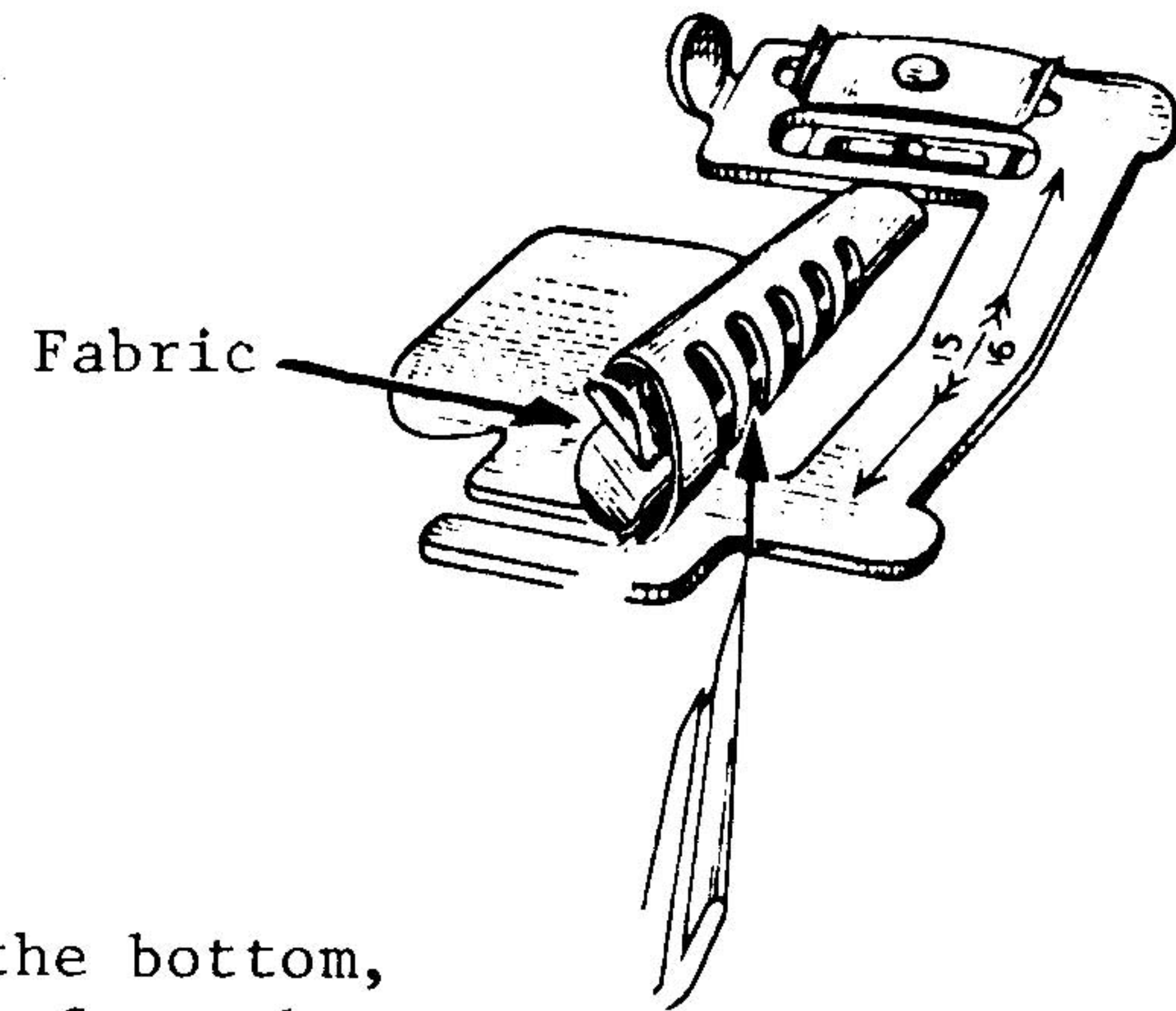
For edge binding on children's clothes, canvas bags, appliance covers, placemats, etc.

MACHINE SETTING

SS - Straight Stitch or
Decorative Stitches

PRACTICE SAMPLE

6" x 6" medium-weight woven
12" double fold bias tape,
cut in half



PROCEDURE

- Cut end of bias tape to a point.
- With the widest side of the tape to the bottom, insert bias tape into the second slot from the top.
- Lower the presser foot and test stitch. Adjust the position of the binder by loosening the screw on the right side of the presser bar so that the stitching catches both upper and lower edges of bias tape.
- Insert the fabric into the binder slot and guide it with your left hand.
- Bias may be sewn on using straight, zig-zag, or any decorative stitch, using a single or double needle.

NOTE: Unfolded bias tape can be attached by using the funnel on the bias binder instead of the slot. Insert bias strips into funnel and guide fabric into opening. Careful attention must be paid to feeding the bias strips and the fabric. Bias strips must be 15/16" wide.

Two rows of bias tape can be applied at one time by inserting different sizes into the corresponding slots.

Lace can be stitched on at the same time the bias tape is attached. Lay it on top of the fabric, matching the raw edges. Insert fabric and lace together, covering both layers with bias tape.

BUTTONHOLE ATTACHMENT 491 30 00 01

The Viking Buttonholer eliminates any guesswork in determining and keeping the buttonhole of uniform size. It is used for standard and keyhole buttonholes and for making eyelets.

MACHINE SETTING

Refer to instructions included with Buttonhole Attachment.

PRESSURE - Increase 1 notch.

TENSION - Buttonhole Symbol

SS - Zig-Zag

SW - 2.3 mm, 1.5 mm, 3.0 mm

FEED DOG - Down

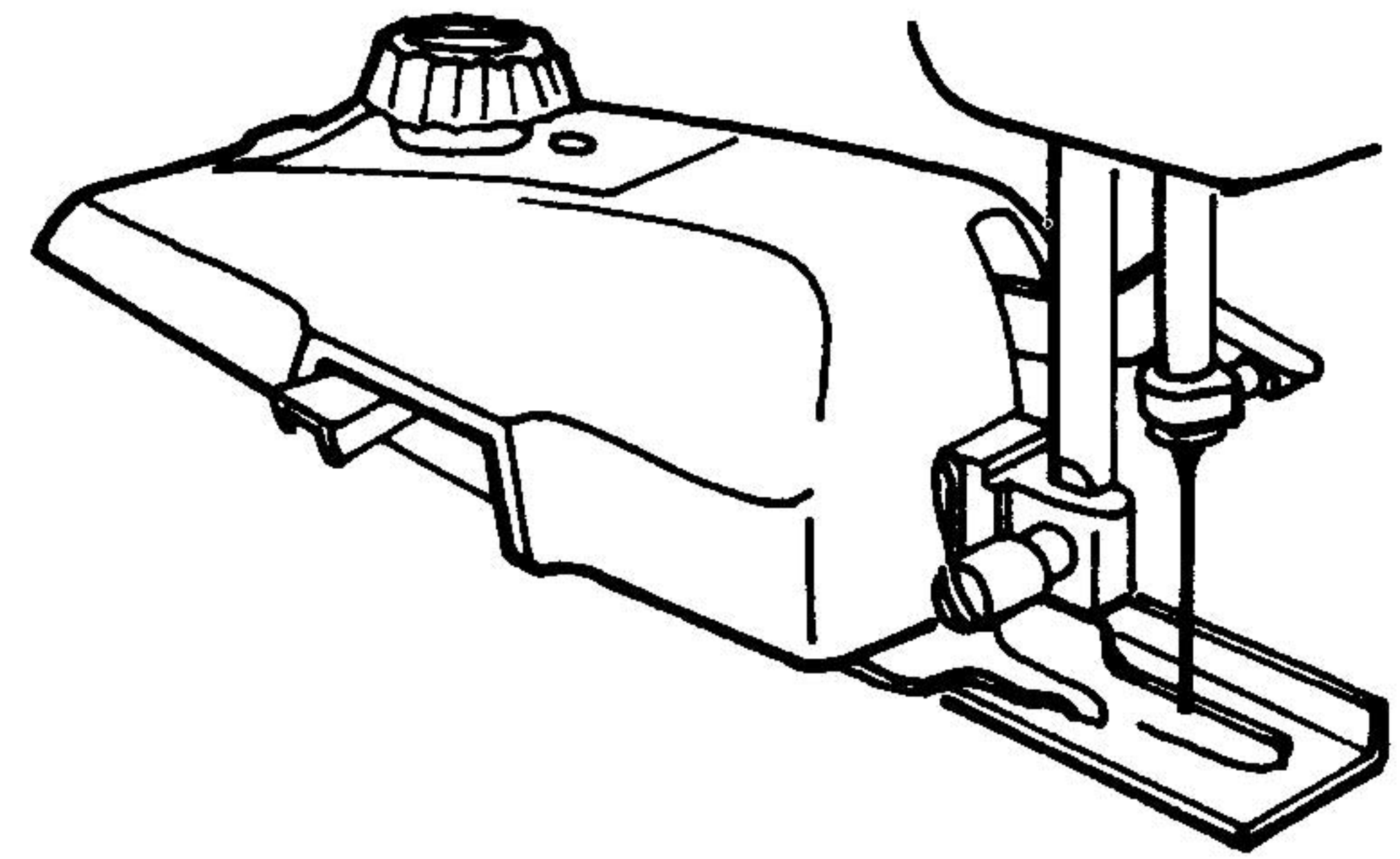
PRACTICE SAMPLE

6" x 6" denim, folded in half

PROCEDURE

- Select template according to size of button being used.
- Insert template and mount attachment to machine according to Buttonhole Attachment instructions.
- Make sure the cloth clamp is positioned all the way forward, and the needle is resting in the center opening.
- Take one stitch and draw up bobbin thread, holding threads to the front.
- For a sample, try several buttonholes with varied sized templates.

NOTE: A pearlized effect can be created by stitching the buttonhole the first time with the widest width, and the second time with a narrow width.



GATHERING FOOT 411 85 02 01

The Gathering Foot will gather fabric and will also gather a straight piece of fabric into a garment edge to form a ruffle.

MACHINE SETTING

TENSION - 6-8

SS - Straight Stitch, Left Needle Position

SL - 4-6 mm

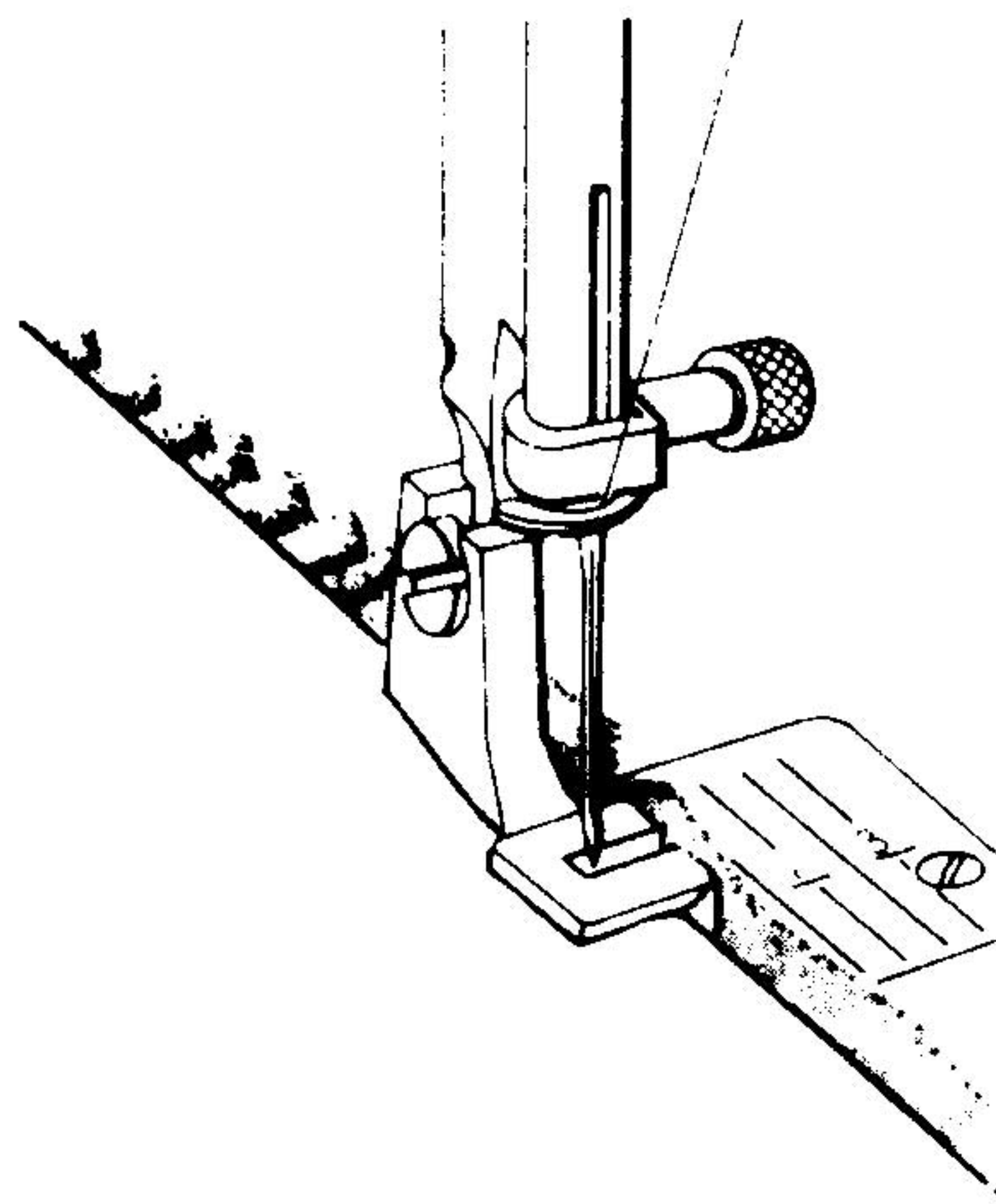
PRACTICE SAMPLE

3" x 12" lightweight woven

6" x 6" lightweight woven, cut in half (save unused portion)

PROCEDURE

- To sew ruffle to fabric, insert shortest of two strips into slot of foot.
- Place second strip of fabric to be gathered under foot so that right sides are together.
- Take several stitches in place to secure threads. Then hold threads behind needle with right hand. Begin to stitch. Feed dog will not move upper layer of fabric so it must be moved manually at a slow and steady pace.



NOTE: The tighter the tension and longer the stitch length, the more gathering there will be. These two settings can be adjusted to accommodate various fabric weights.

The Gathering Foot may also be used to gather one layer of fabric such as a ruffle, and attach it to the garment later. The gathers are adjustable with this technique.

RUFFLER 409 30 20 01

The Ruffler is a convenient attachment when sewing large quantities of ruffles.

Attaching

With needle in highest position, place presser bar clamp onto presser bar, making sure arm on right hand side is around needle clamp screw. Tighten presser foot screw.

Ruffler Settings

Density lever (A)

Lift flat lever to adjust. Numbers on lever indicate frequency of pleat.

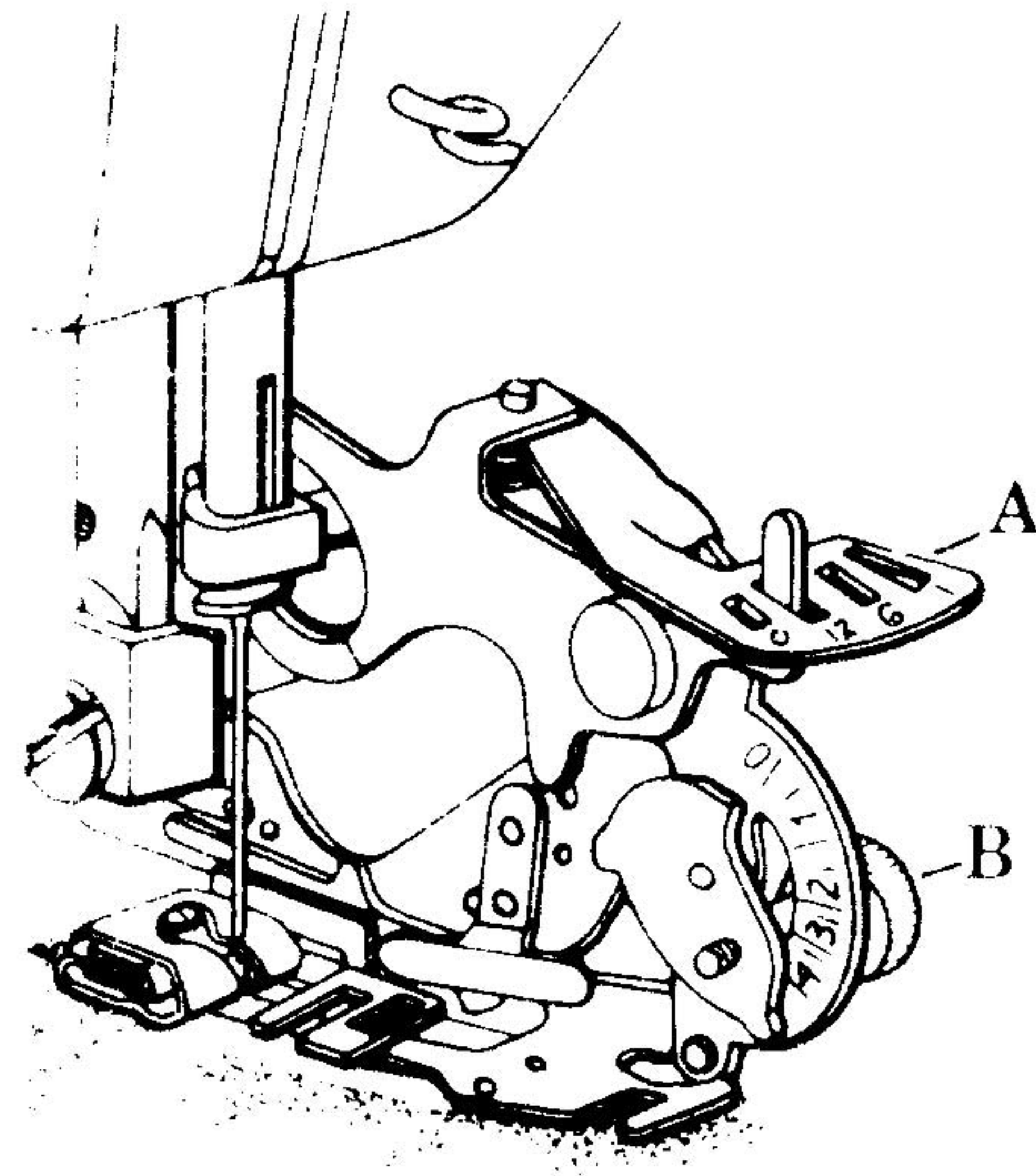
"1" - a pleat every stitch

"6" - a pleat every 6 stitches

"12" - a pleat every 12 stitches

"0" or "*" - straight stitch

Note: Distance between pleats is also varied by SL setting.



Depth Adjustment (B)

Adjust screw located in lower front portion of attachment to select depth of each pleat. Numbers on the scale are directly related to depth of pleat; lower numbers have smaller pleats, higher numbers have larger pleats.

Inserting Fabric

1. To pleat edge of a single layer of fabric, insert edge between blades on bottom of ruffler.
2. It is possible to pleat a single layer and simultaneously attach it to a second, unpleated layer. To do so, place the layer to be pleated between blades, and unpleated layer under both blades.
3. To make pleats in center of a single layer of fabric, remove lower blade by loosening black screw located on right side of ruffler. Entire bottom section of ruffler can now be removed.

MACHINE SETTING

SS - Straight Stitch

PRACTICE SAMPLE

3" x 12" lightweight woven

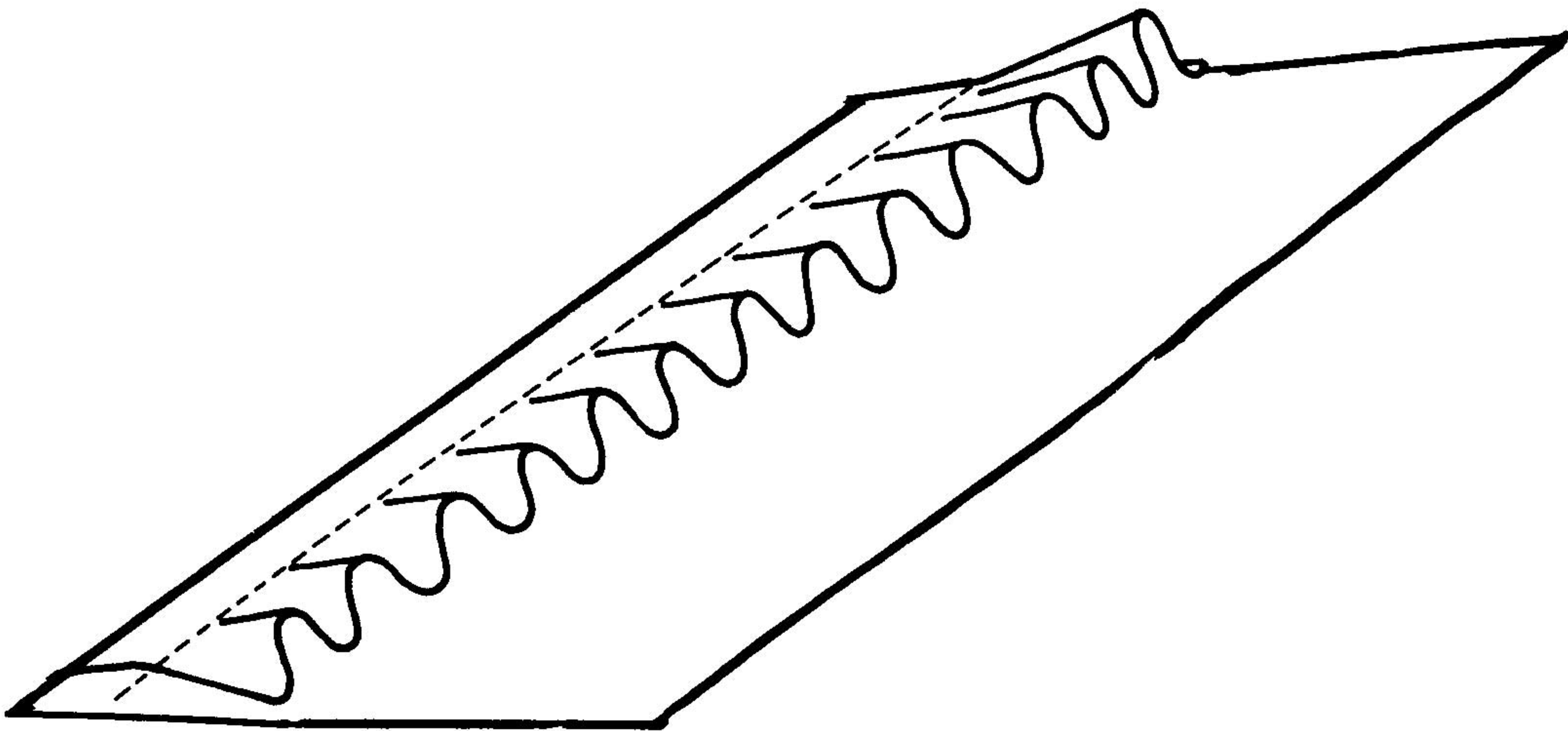
3" x 6" lightweight woven saved from previous exercise

PROCEDURE

- To stitch ruffle to fabric, set density lever at 6; depth adjuster at 4.
- Place one short piece of fabric under blades.
- Insert longer piece of fabric between blades.
- Stitch, holding lower fabric slightly so both layers feed evenly.

NOTE: This set-up results in a 2:1 ratio.

Experiment. A fuller gather is produced with a shorter stitch.



SNAP-ON PRESSER FEET

DUAL FEEDER 411 42 94 01

The Dual Feeder or Walking Foot is used to provide even feeding of upper and lower layers. This is particularly helpful for sewing some synthetic fabrics and difficult fabrics such as foam, imitation leather, plastics and fabrics that "crawl." Matching plaids and machine quilting are also easier with the Dual Feeder.

MACHINE SETTING

SS - Straight Stitch

PRACTICE SAMPLE

6" x 6" gingham, cut in half

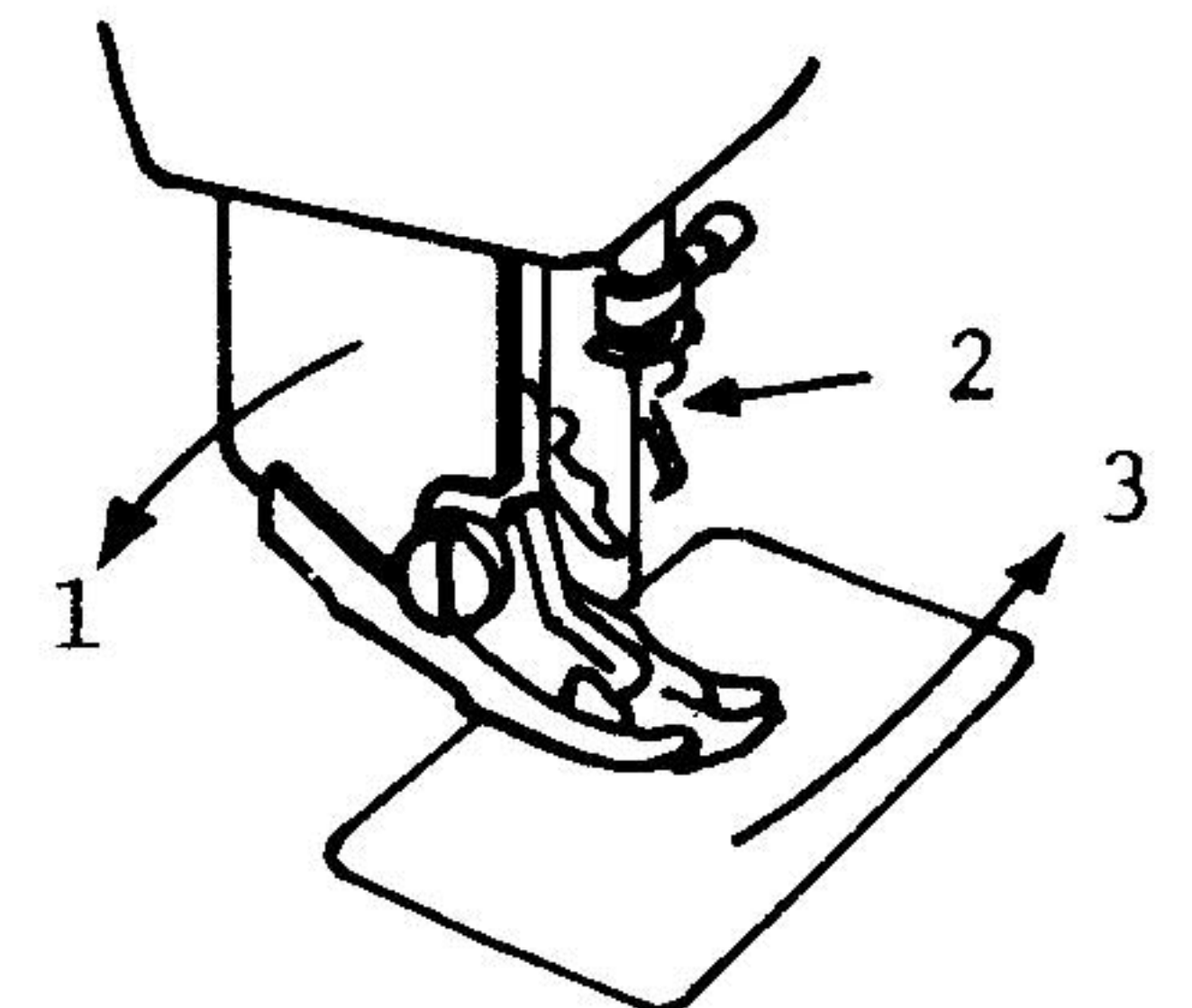
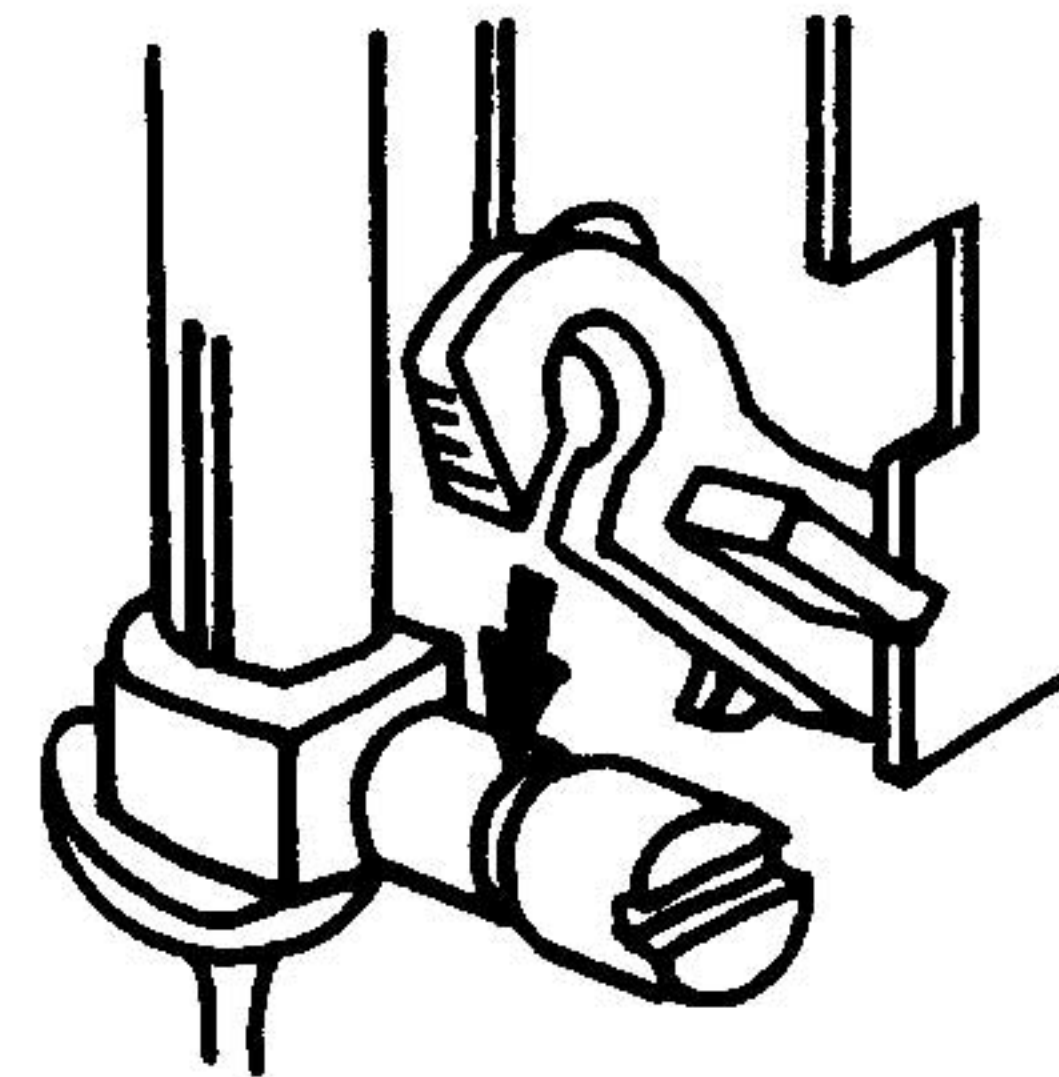
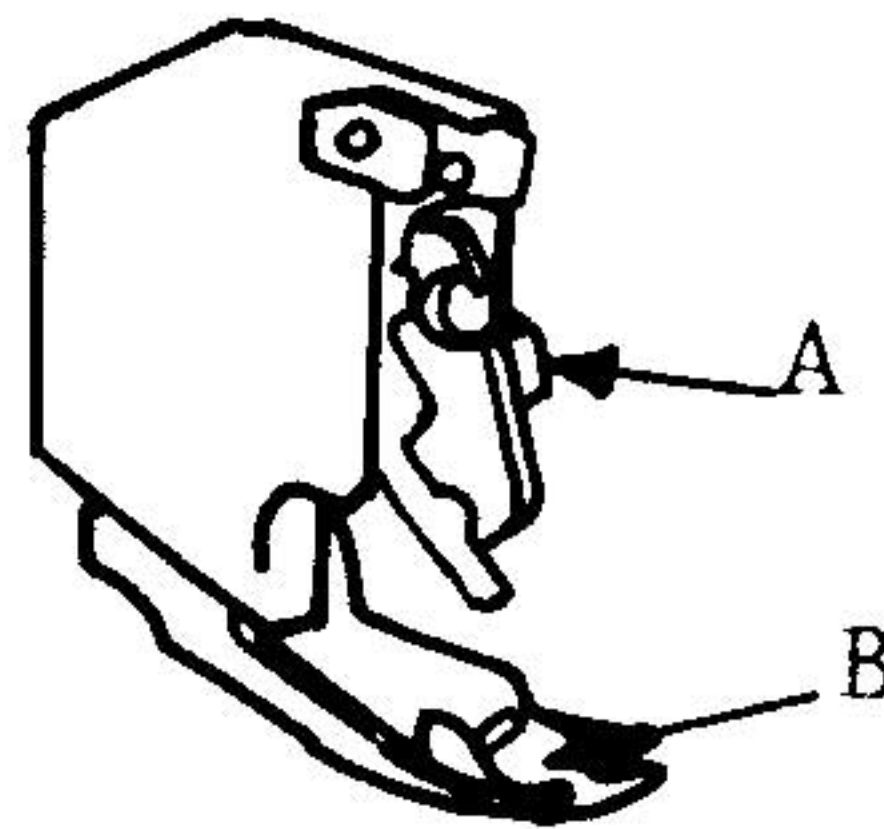
PROCEDURE

- Bring machine needle to its upper position and remove presser foot from "ankle" bracket. Tilt Dual Feeder away from you and insert it under the presser bar. To attach foot, make sure black lever (A) is pushed in. The Transverse Pin (B) should then be snapped onto the "ankle" bracket the same as when fitting ordinary snap-on presser foot in place.
- Snap black lever onto horizontal projection of needle clamp.
- Push top rear of Dual Feeder forward so that it snaps onto vertical presser bar.
- Sew a 5/8" seam allowance with right sides together.

TO REMOVE:

1. Press top downward and to the rear.
2. Lift black lever from needle clamp projection.
3. Pull Dual Feeder presser foot downward and forward to unsnap it from "ankle" bracket.

NOTE: A variety of stitches can be used with the Dual Feeder.



5-HOLE CORD OR BRAID FOOT 411 45 38 01

Up to 5 strands of perle cotton, embroidery floss or buttonhole thread can be applied with a decorative stitch. By varying colors of thread, numbers of strands of thread, and decorative stitches, many looks can be achieved. The technique can be used to decorate garments or crafts.

MACHINE SETTING

TENSION - Buttonhole Symbol

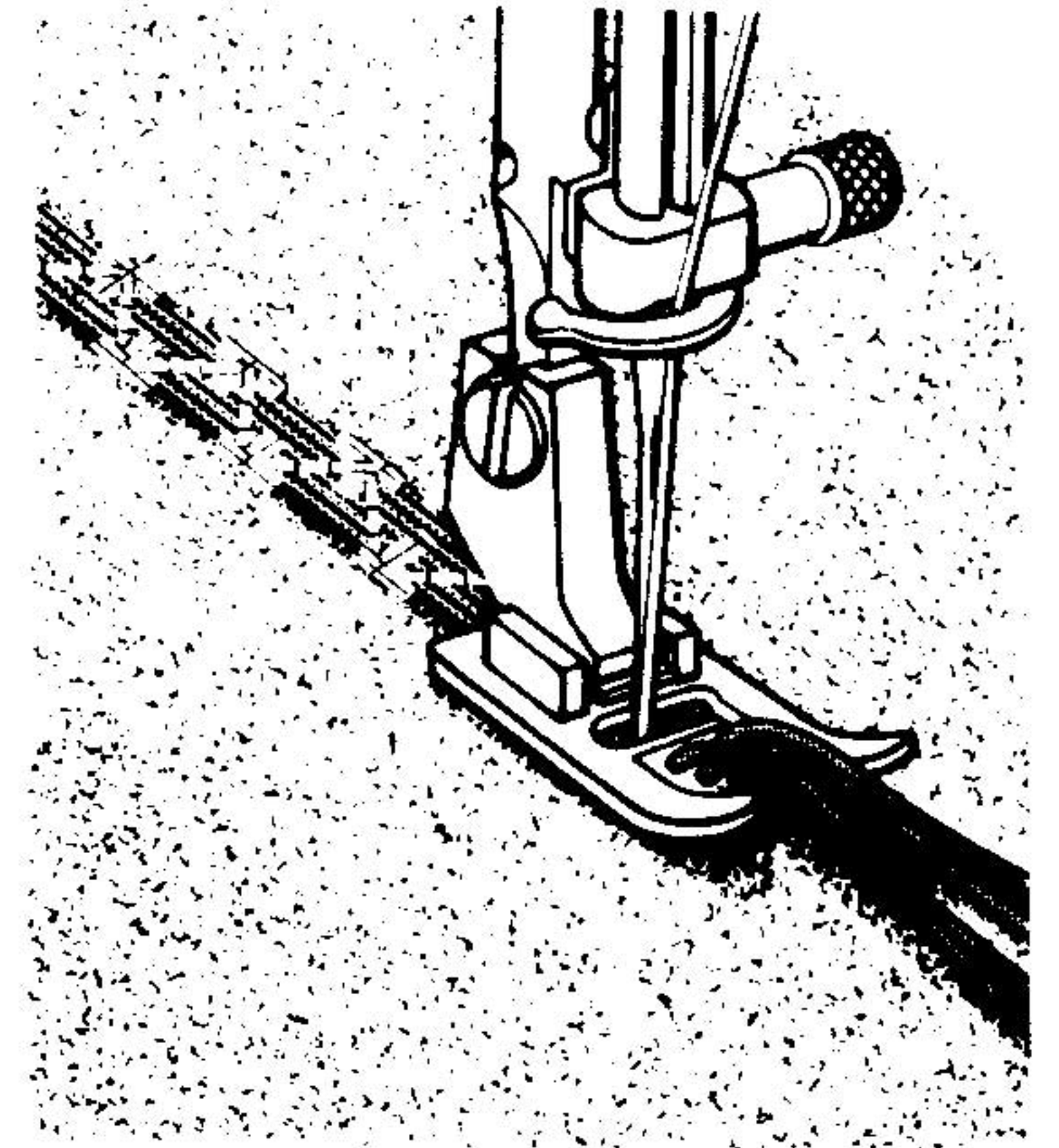
PRACTICE SAMPLE

6" x 6" denim

2 yards perle cotton

PROCEDURE

- Cut perle cotton into 5 lengths.
Thread one length through each hole in the foot, from top of foot, underneath and toward the back.
- Snap on foot.
- Use decorative stitch to sew cords in place.



NOTE To turn corners, leave needle in fabric at outside of the turn, pivot and continue stitching.

Five strands of perle cotton may be sewn together to produce a narrow belt.

A design to follow may be drawn on the right side of a firm, tightly woven fabric.

OVERCAST FOOT 411 85 27 01

The Overcast Foot will prevent the fabric's edge from curling when overcasting or seaming in lighter weight fabrics.

MACHINE SETTING

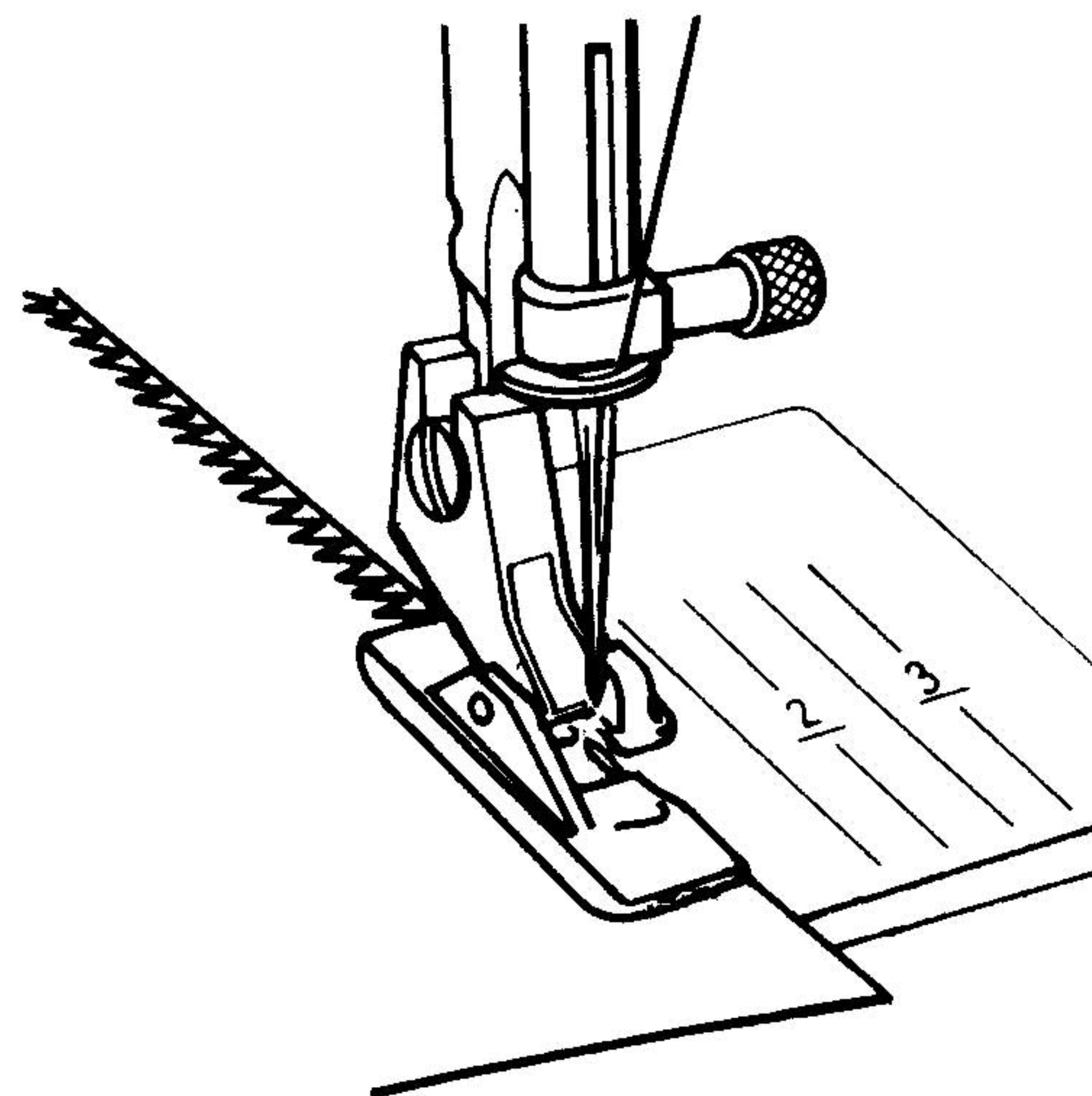
SS - Zig-Zag
SL - 2.0 mm
SW - 4.6 mm

PRACTICE SAMPLE

6" x 6" medium-weight woven

PROCEDURE

- Align foot with the metal projection resting on fabric edge.
- Stitch.



PIPING FOOT 411 85 10 01

Allows cording to be covered easily and quickly because the stitching can be close to the edge of the cording. Groove on the bottom of the foot also makes it easy to stitch finished piping between two layers of fabric.

MACHINE SETTING

SS - Straight Stitch
SL - 2-3 mm

PRACTICE SAMPLE

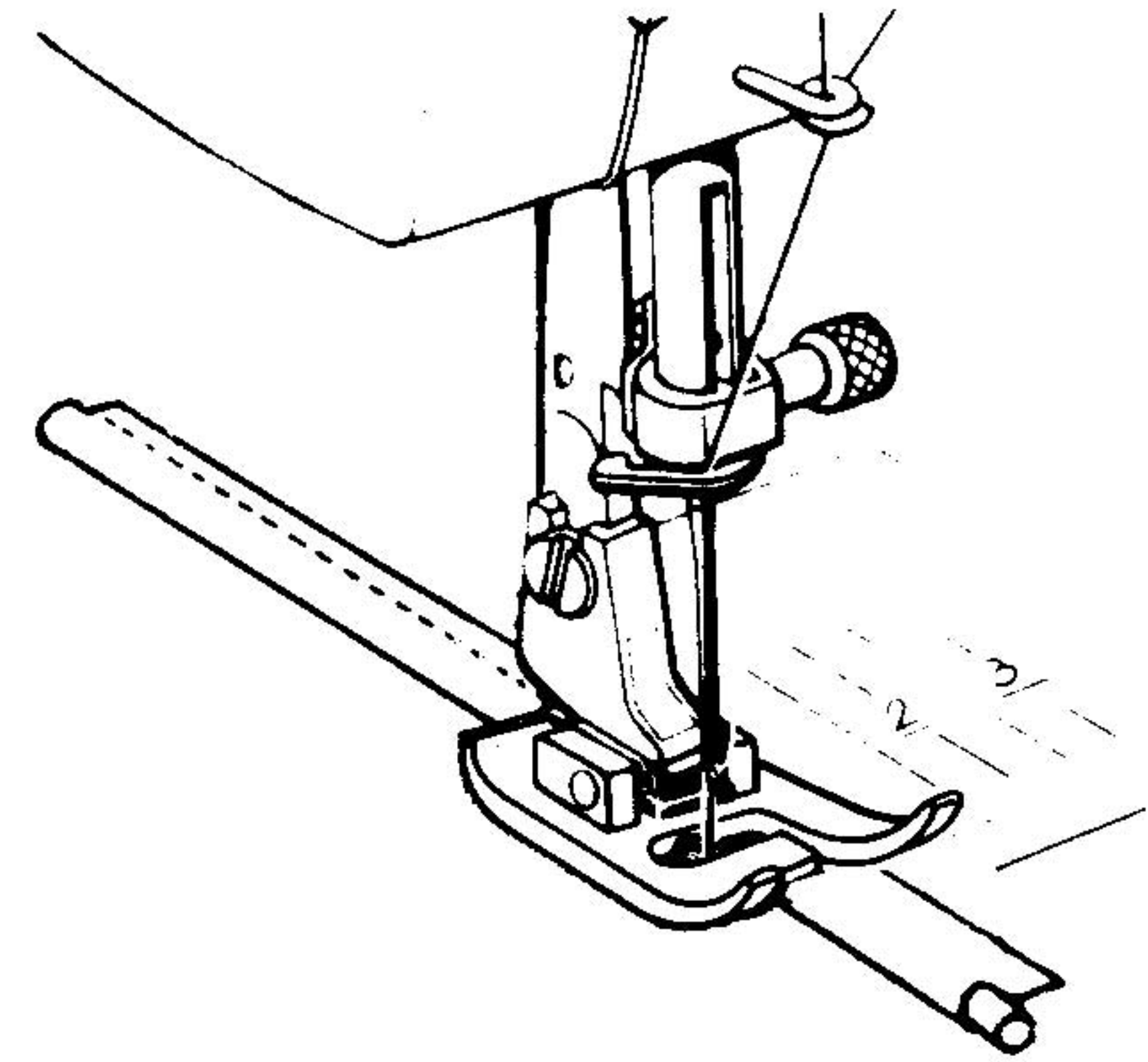
6" x 6" medium-weight woven, cut in half
6" cording
6" bias tape

PROCEDURE

- Place cording in center of bias tape or bias strip. Fold strip around cording.
- Place bias tape and cording under foot with fold of bias tape to left. Cording will ride in the groove of foot.
- Straight stitch, securing cord between fabric.
- Place piping between two pieces of fabric, right sides together. Center groove of foot over piping with seam allowance to the right. Stitch.

NOTE: When working with sharp curves and corners, sew piping to right side first, stitching along seam line. Put right sides together and use previous stitching line as a guide to sew piping between layers.

With some fabrics it is possible to make the piping and sew it into the seam in one step.



NARROW HEMMERS 411 85 22 01, 411 85 17 01

The Narrow Hemmers are used on lightweight fabrics to make small hems which are suitable for scarves, tablecloths, napkins, shirt hems, curtains, ruffles and flounces.

PROCEDURE FOR POSITIONING FABRIC IN HEMMER-FOLDED METHOD

- Fold beginning of fabric's edge to look like finished hem.
- Sew a few stitches along inside folded edge.
- With needle down and presser foot up, pull edge of fabric into foot. Lower presser foot.
- Continue sewing. To guide hem into foot easily, put left index finger in hem and use right hand to hold edge of fabric at an angle.

STITCHING TECHNIQUE

- Sew 4 short stitches diagonally into the corner of the fabric at the place you wish to begin the hem. Leave the thread tails long.
- Holding the thread tails in your left hand and fabric in the right, lift the threads into the scroll and pull through until the fabric is under the needle. Lower the presser foot.
- As you begin to sew, hold up the fabric with your left hand and feed it into the scroll for more even feeding.

NARROW HEMMING FOR 5/64" HEM

MACHINE SETTING

SS - Straight Stitch

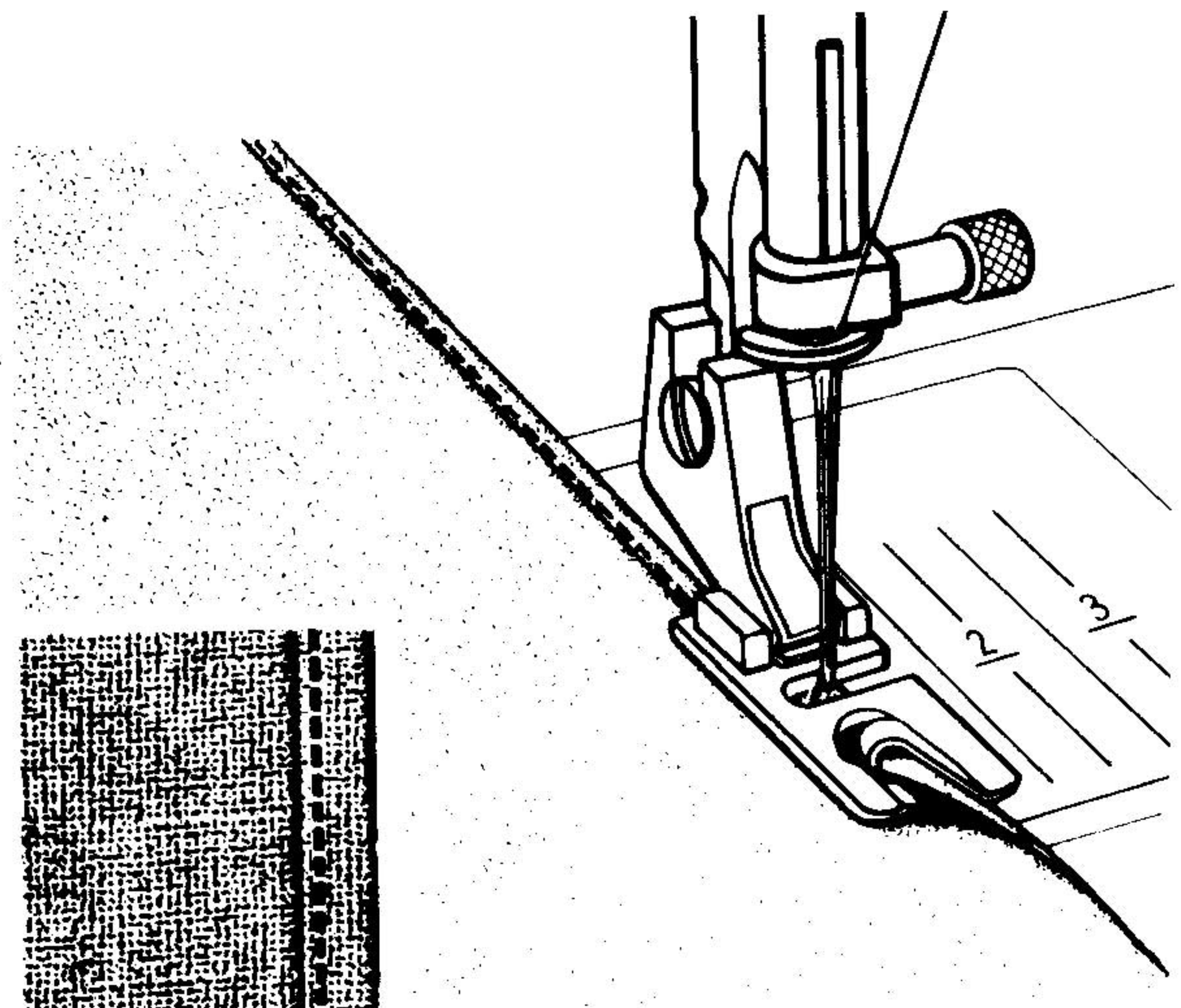
FOOT - Narrow Hemmer, 411 85 22 01

PRACTICE SAMPLE

6" x 6" lightweight woven

PROCEDURE

- Position fabric in scroll.
- Stitch hem.



411 85 22 01

NARROW HEMMING FOR 3/16" HEM

MACHINE SETTING

SS - Straight Stitch or
Decorative Stitch

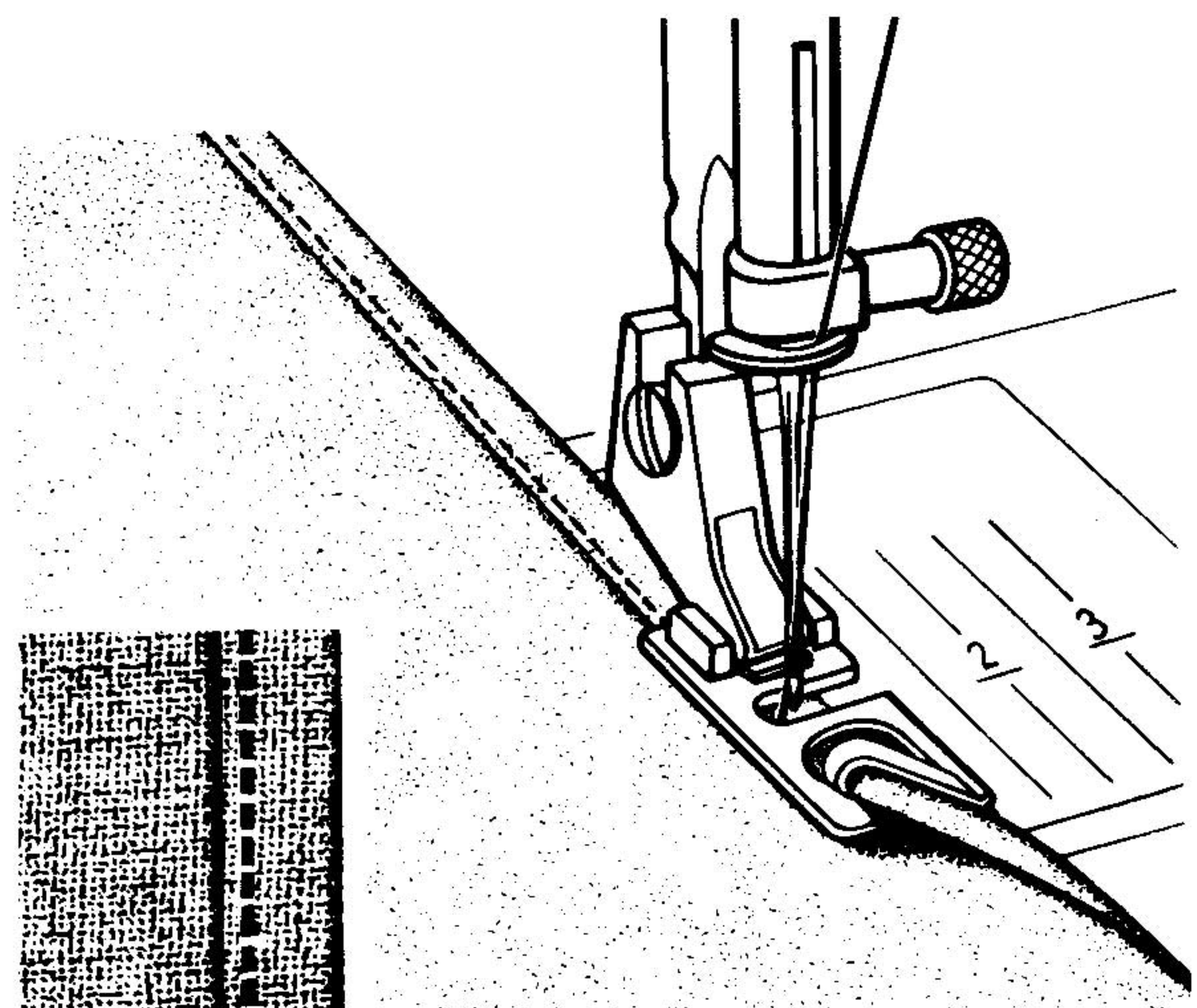
FOOT - Narrow Hemmer, 411 85 17 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Position fabric in scroll.
- Stitch hem.



411 85 17 01

ROLLED HEMMERS 411 85 20 01, 411 85 24 01

HEMMING WITH 1/8" SCALLOPS

MACHINE SETTING

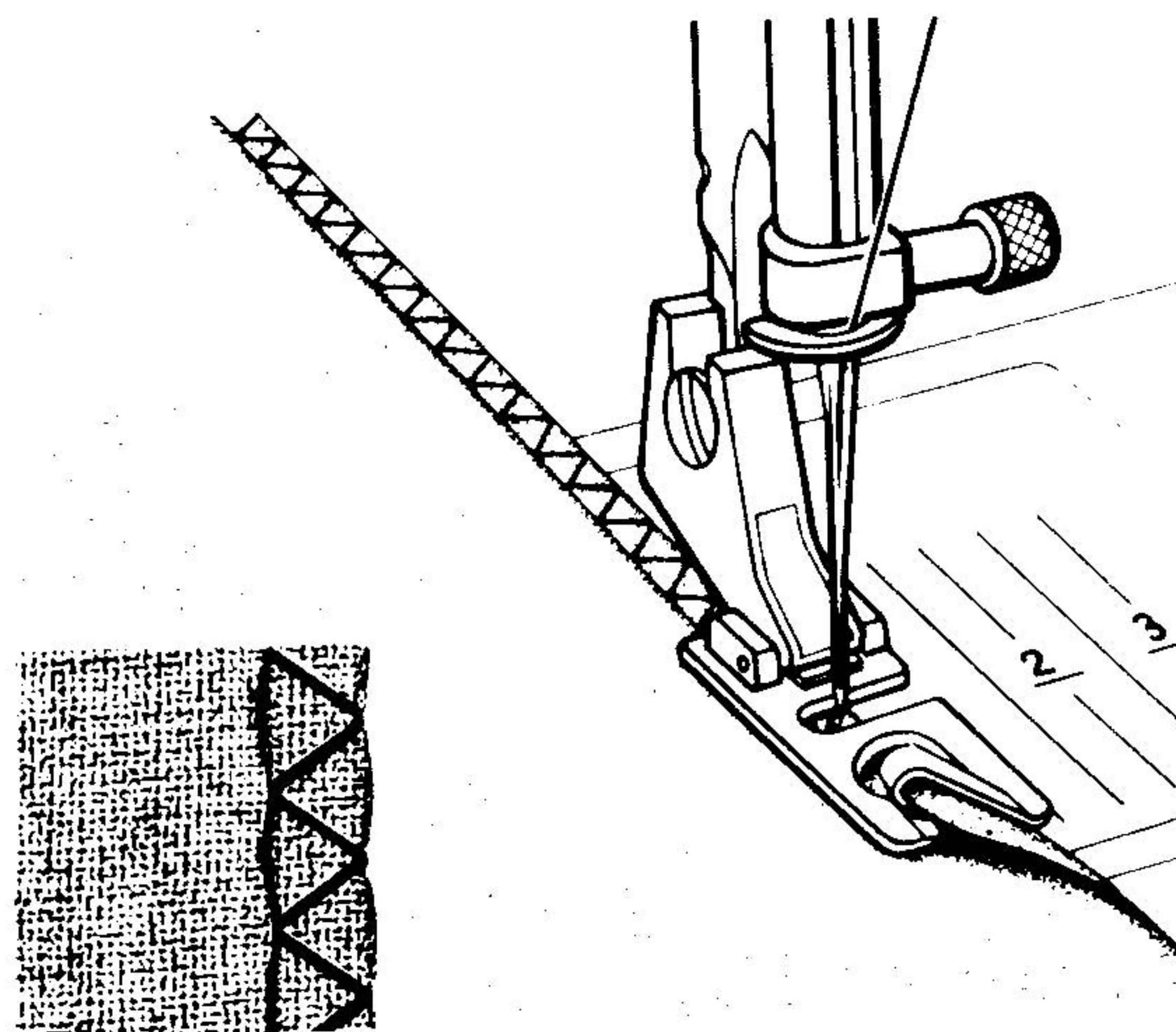
TENSION - 7
SS - Zig-Zag
SL - 4-4.5 mm
SW - 3.8 mm
FOOT - Rolled Hemmer, 411 85 20 01

PRACTICE SAMPLE

6" x 6" lightweight knit

PROCEDURE

- Position fabric in scroll.
- Stitch hem.



411 85 20 01

HEMMING WITH A NARROW ROLLED HEM

MACHINE SETTING

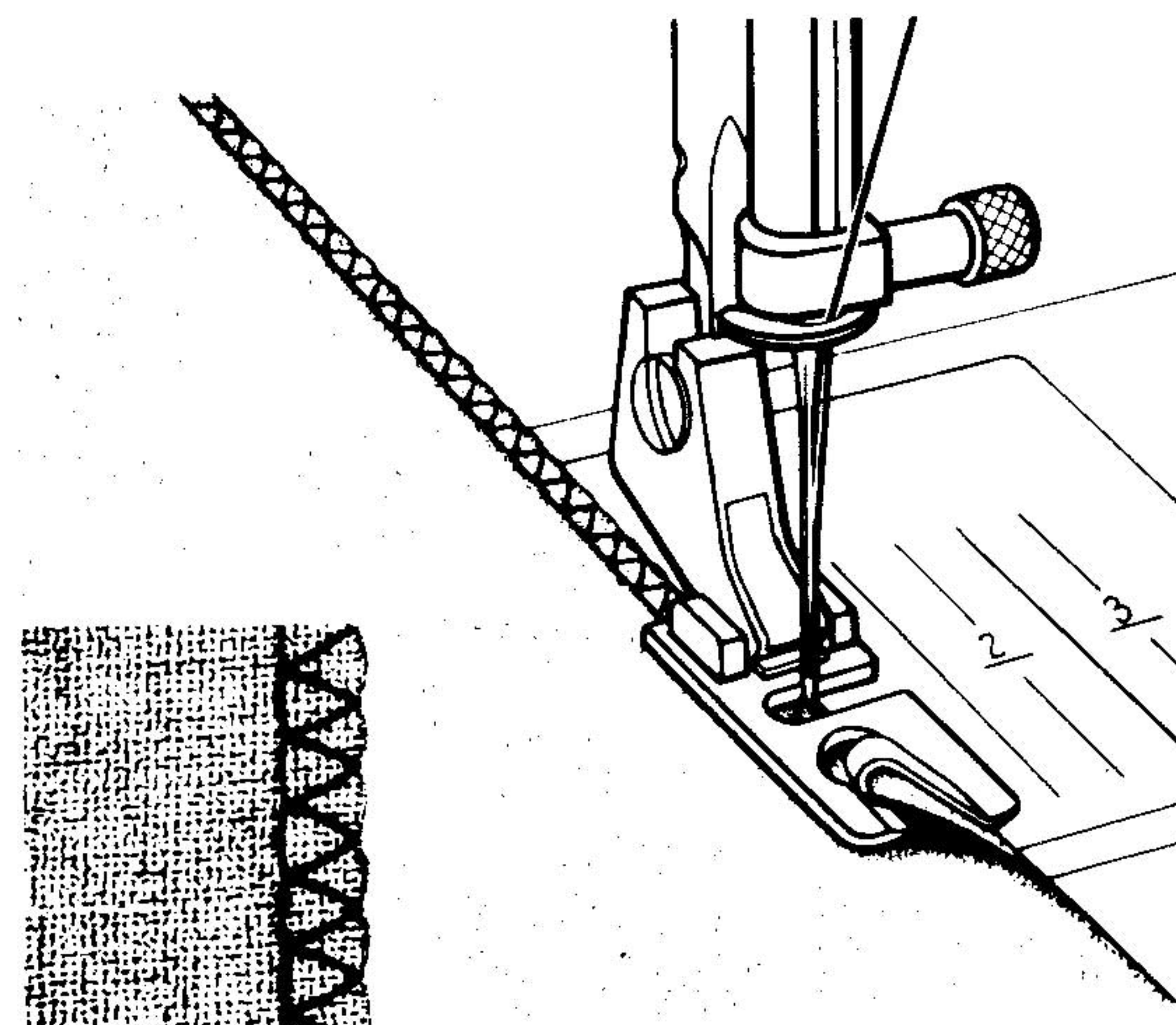
TENSION - 7
SS - Zig-Zag
SL - 2-3 mm
SW - 3.0 mm or 3.8 mm
FOOT - Rolled Hemmer, 411 85 24 01

PRACTICE SAMPLE

Use sample from previous exercise.

PROCEDURE

- Position fabric in scroll
- Stitch hem.



411 85 24 01

NOTE: Corners - Trim off corner 1/8" outside hem lines. Proceed with hemming each side, holding thread tails taut when starting to sew.

ROLLER PRESSER FOOT 411 39 01 01

The grooved rollers on this foot aid in feeding the fabric when sewing on coarse knits, leather imitations, plastics and vinyls.

MACHINE SETTING

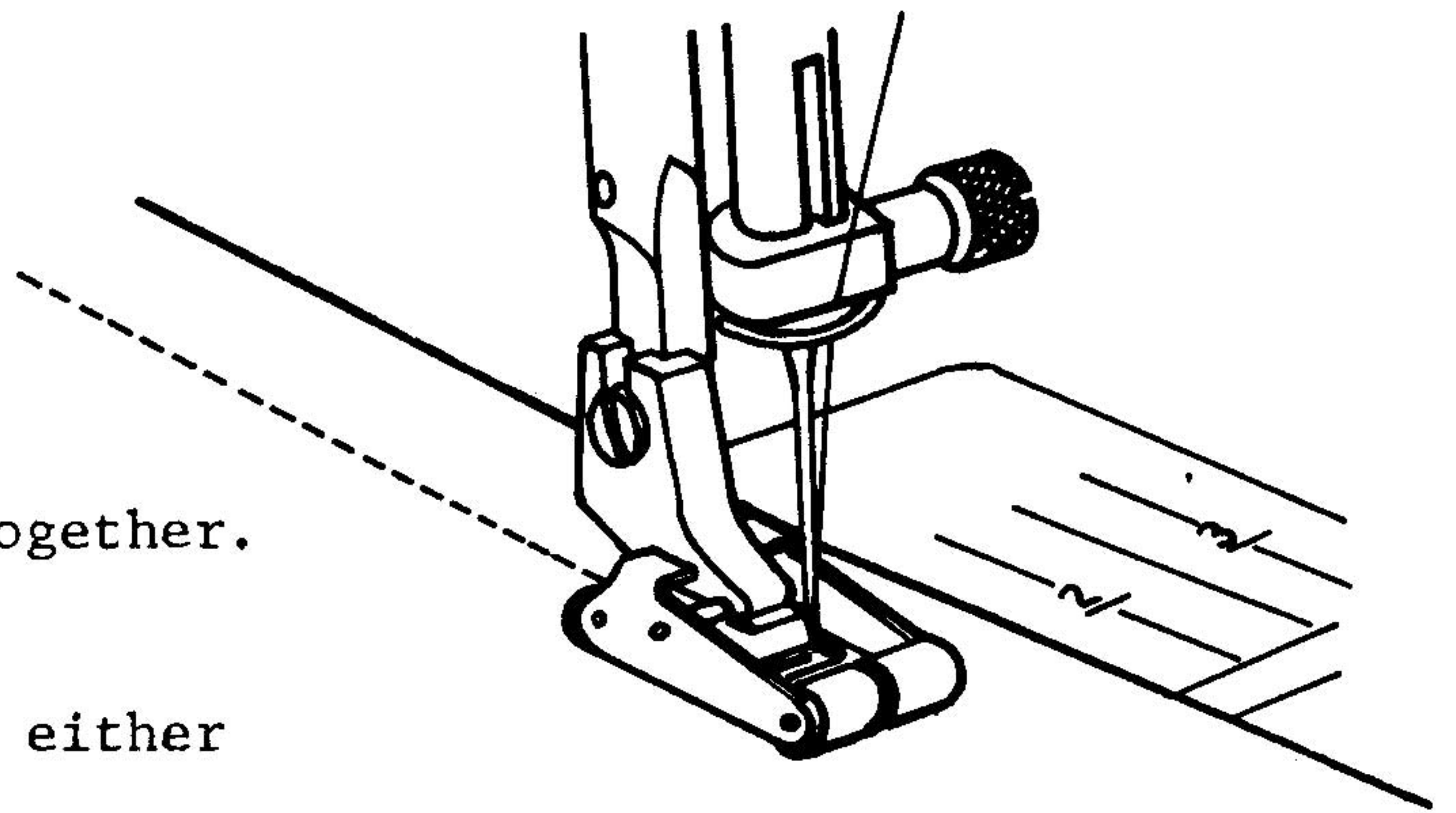
SS - Straight Stitch

PRACTICE SAMPLE

6" x 6" vinyl, cut in half

PROCEDURE

- Place right sides of fabric together.
Stitch a 5/8" seam allowance.
- Open seam allowance.
- Top stitch with a SL - 4 down either side of the seam allowance.



SPECIAL MARKER FOOT 411 85 03 01

The Special Marker Foot has been designed to transfer pattern markings to the fabric of a garment. With a little imagination, this foot can be used for decorative sewing as well.

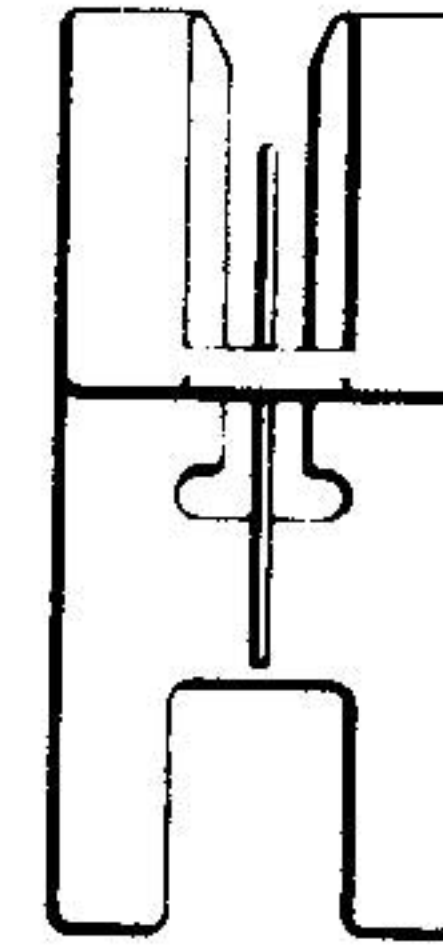
TAILOR TACKING

MACHINE SETTING

SS - Zig-Zag
SW - 2.3 mm
FEED DOG - Down

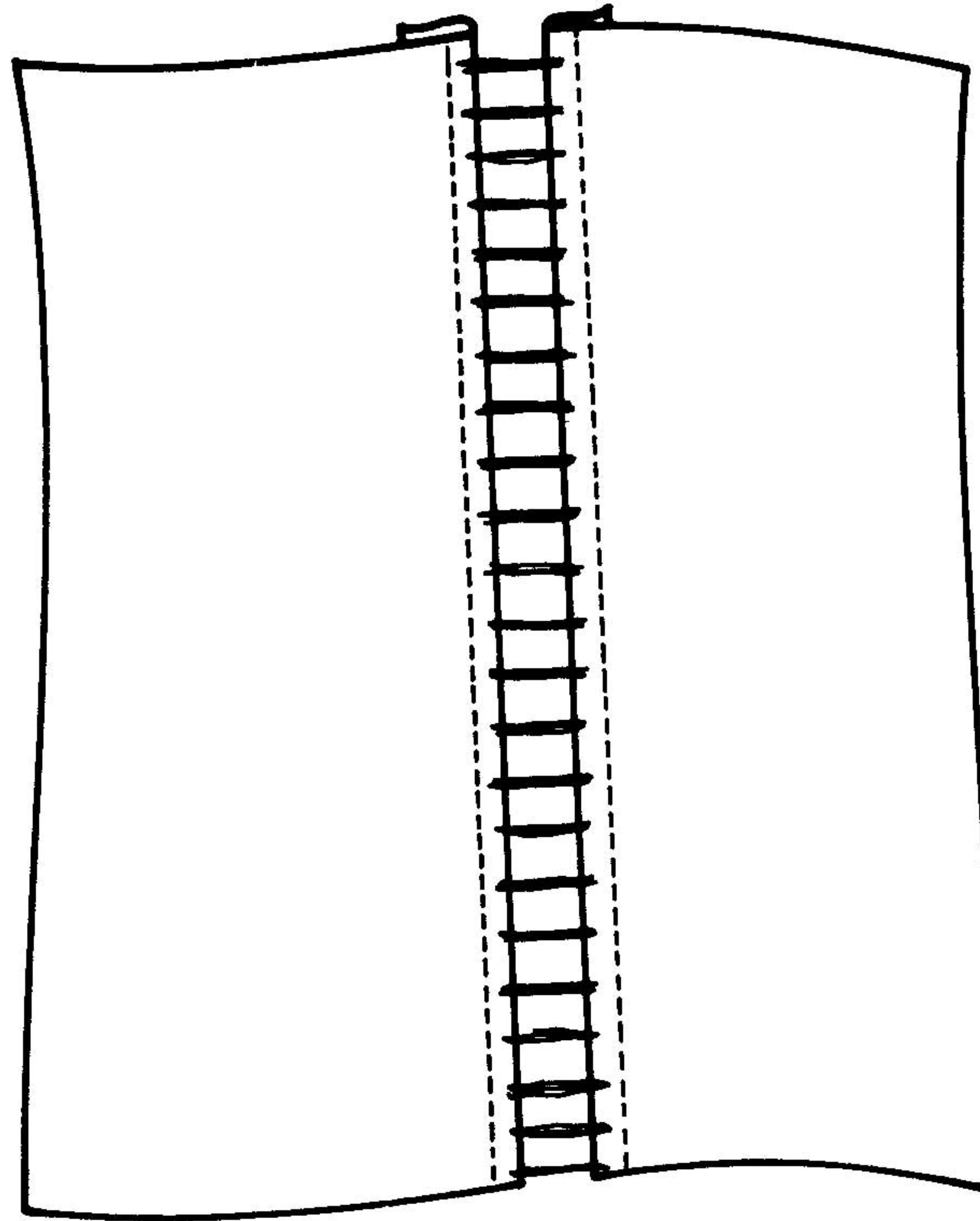
PRACTICE SAMPLE

6" x 6" medium-weight woven,
cut in half



PROCEDURE

- Sew 3 or 4 stitches on each place where markings are desired.
- After markings are all done, separate fabric pieces and cut the threads. The tailor tacks indicate the pattern markings.



FAGGOTING OR LADDER STITCH

When pulled open, this makes see-through decorative seams. Used for swimwear and decorative seams in garments.

MACHINE SETTING

TENSION - Normal, Buttonhole Symbol (test) or below

SS - Ric Rac Stitch, C-8

SW - 3.0 mm

FOOT - Special Marker Foot, 411 83 03 01

PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half

PROCEDURE

-Right sides together, stitch with a 5/8" seam allowance.

Marking Foot leaves thread loops on fabric.

- "Pull" seam open so loops go into seam; fabric pieces will stand apart.

-Stitching down either side of design through both layers will keep the seam allowance in place.

TATTING STITCH

This decorative seam is excellent for side seams, princess-line seams and decorating blouses.

MACHINE SETTING

TENSION - Buttonhole Symbol

SS - Zig-Zag

SL - .5 mm

SW - 3.0 mm

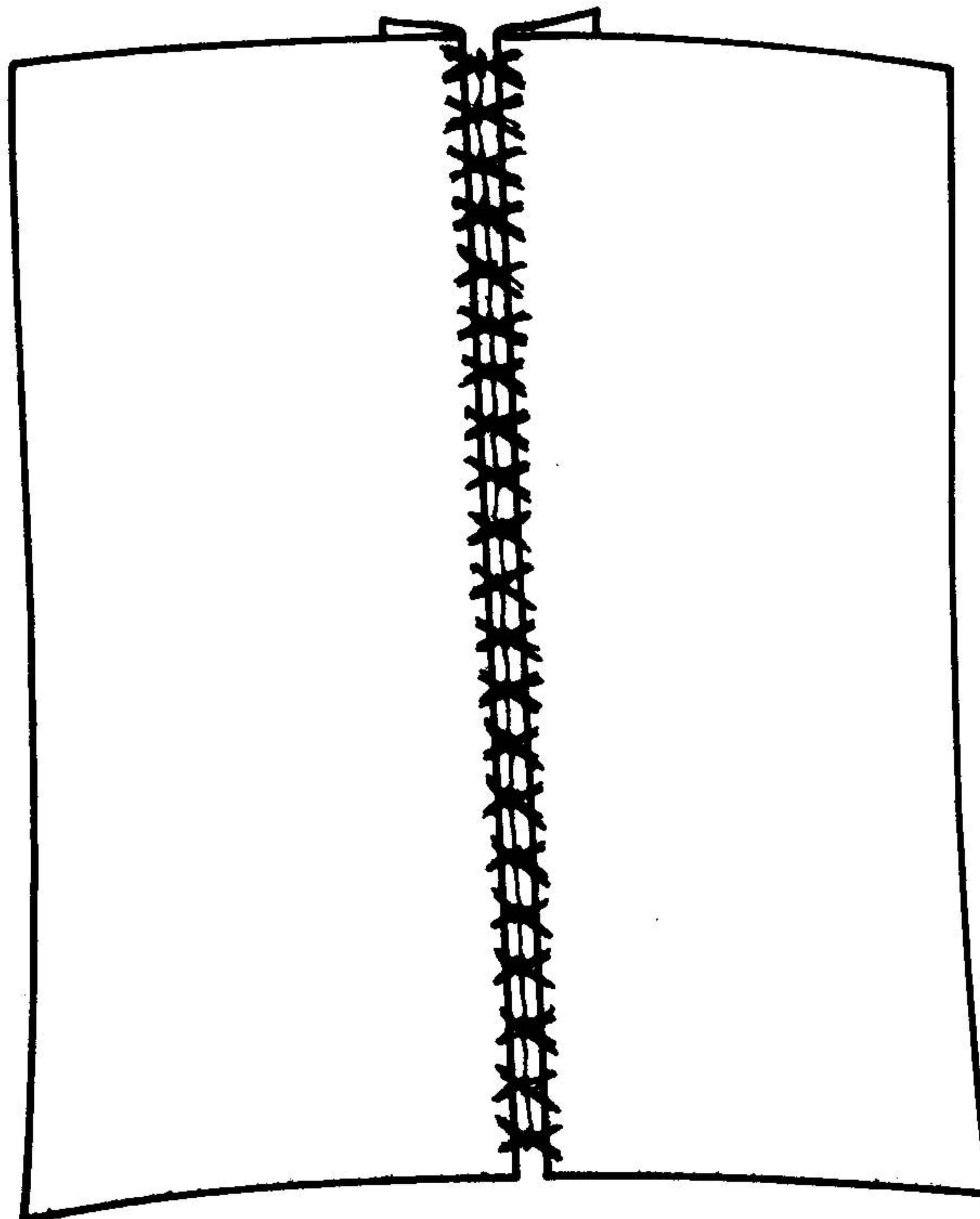
FOOT - Special Marker Foot, 411 83 03 01

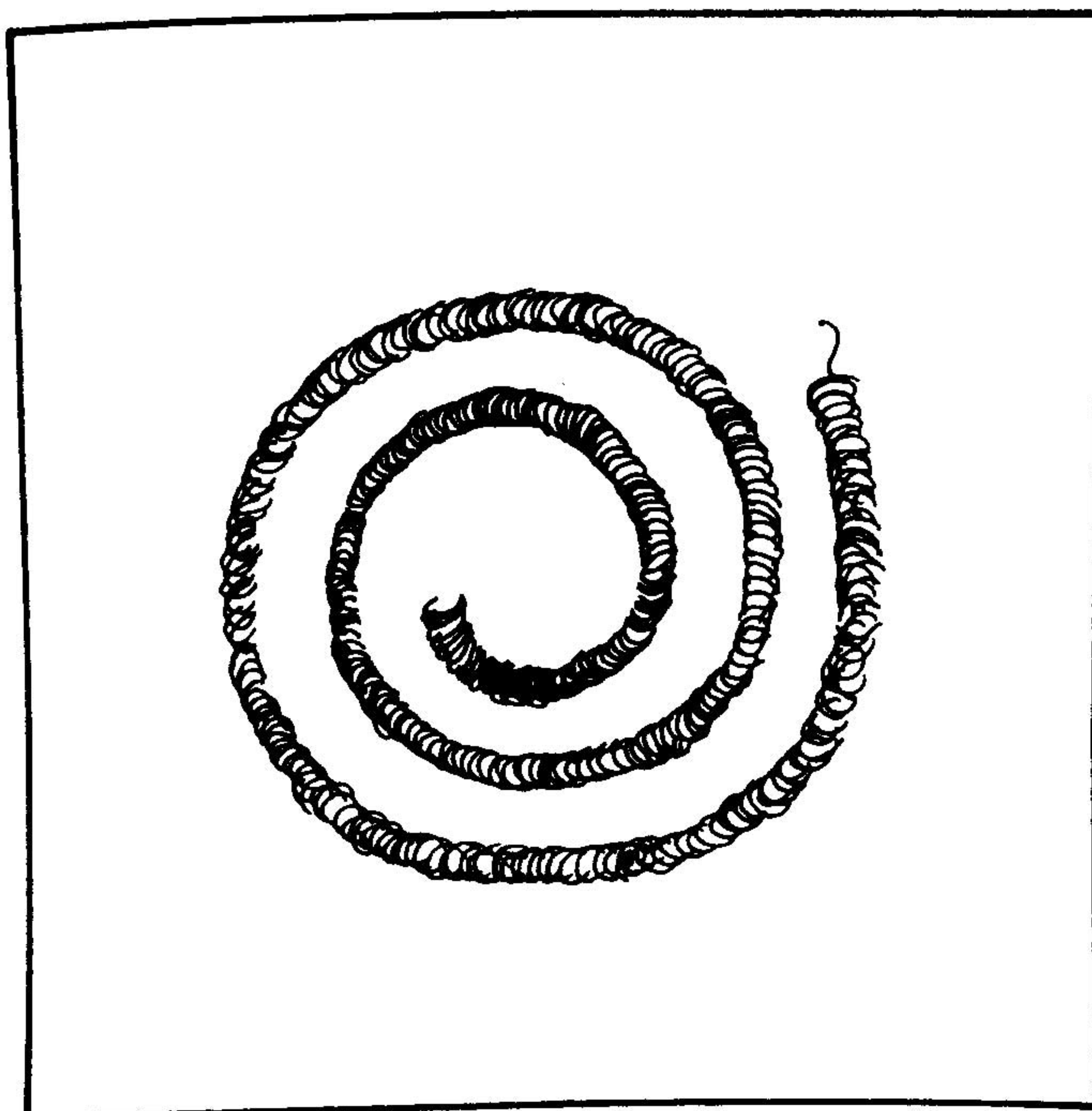
PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half

PROCEDURE

- Stitch a 5/8" seam allowance with right sides together. Press open.
- Select A-8, set Tension at normal and attach the Standard Foot A.
- Stitch down the center of the opened seam allowance.





DECORATIVE LOOPS

This gives a soft, fuzzy effect, excellent for flowers and a fur-look for appliques.

MACHINE SETTING

TENSION - Buttonhole Symbol

SL - .5 mm

SW - 3.0 mm

FOOT - Special Marker Foot, 411 83 03 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

-Sew in a spiral to form flower. To sew a tight circle, release the pressure slightly.

SPECIAL ACCESSORIES

CIRCULAR SEWING ATTACHMENT 401 58 13 01

Complete circles can be sewn using a variety of decorative stitches with the Circular Sewing Attachment. Overlapping or singular circles can be sewn to decorative crafts, clothing or home decorations. Adjusting the attachment provides for different sized circles.

MACHINE SETTING

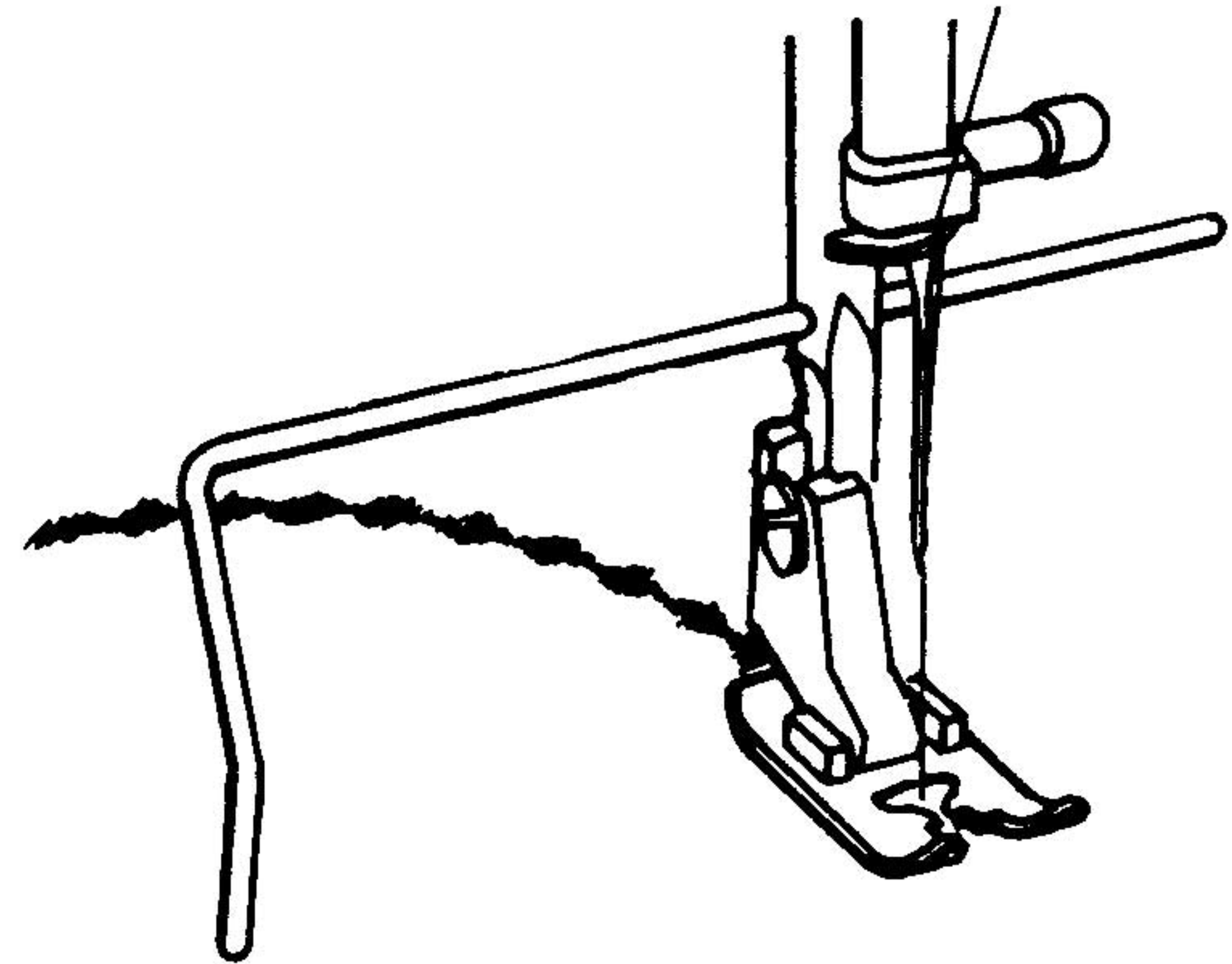
TENSION - Buttonhole Symbol
SS - Decorative Stitch
FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

- Place thumb tack in center of fabric with point up.
- Slide attachment into presser bar from the left to right. Place fabric under foot so tack will fit into leg of attachment.
- Tighten attachment screw.
- Lower presser bar and stitch.



NOTE: Various accessories may be used to achieve a variety of decorative effects, i.e., 5-Hole Cord Foot, Special Marker Foot, Raised Seam Foot, Braiding Foot, Double and Triple Needles.

Place lightweight and medium-weight fabrics in embroidery hoop.

EYELET PLATES 411 58 55 01 (4 mm), 411 58 55 02 (6 mm)

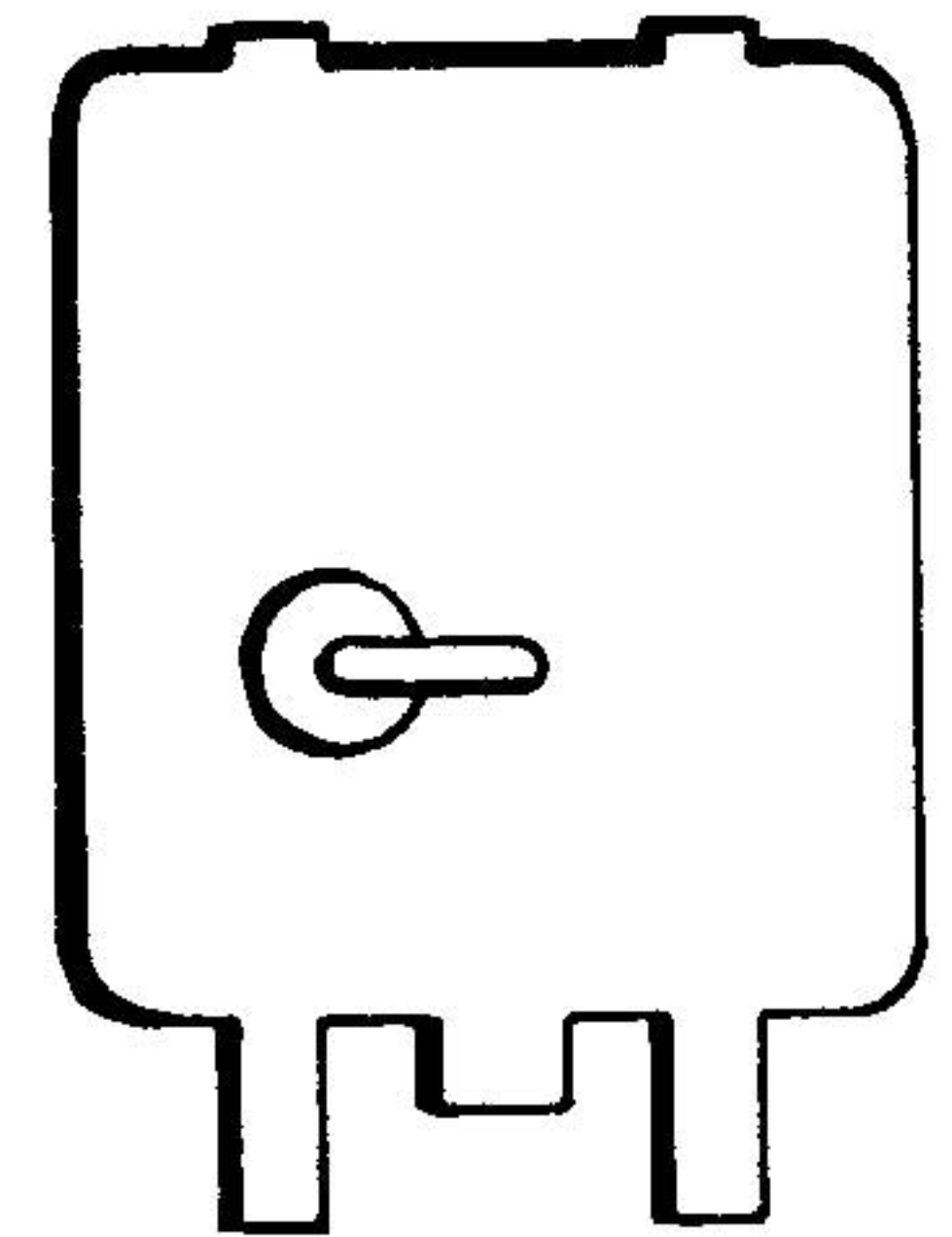
Eyelets for laced blouses, vests, drawstring hoods, belts and utility uses can be easily made with Viking's Eyelet Plates.

MACHINE SETTING

TENSION - Buttonhole Symbol
SS - Zig-Zag
SL - 0
SW - 3.8 mm
FEED DOG - Down
FOOT - None

PRACTICE SAMPLE

6" x 6" denim
Lightweight thread or machine embroidery thread



PROCEDURE

- Remove presser foot ankle.
- Snap eyelet plate over feed dog. Projection should be to left of stitch opening. Attach the eyelet plate by sliding the hooks at the rear of the plate into the feed dog slots, and then pressing down the front of the plate.
- Make a small hole in fabric using a buttonhole knife.
- Position fabric under needle so that hole fits over projection on eyelet maker.
- Using top thread, pull up bobbin thread. Lower needle and wrap threads around projection on eyelet plate twice. (Check to see that presser bar is down.)
- Stitch around hole and over threads by quickly turning the fabric in a 360 degree circle. Use the Button Reed to hold fabric flat.
- Increase SW to 4.6 mm $\frac{3}{8}$ and stitch around hole a second time, this time moving fabric slower so that stitches will be satiny.

HEM STITCH FORK 401 53 67 01 and RUG FOOT 411 29 64 01

This is used to join two pieces of fabric together, producing a decorative open effect. It can be used for open work seams in garments and for decorative touches on napkins.

MACHINE SETTING

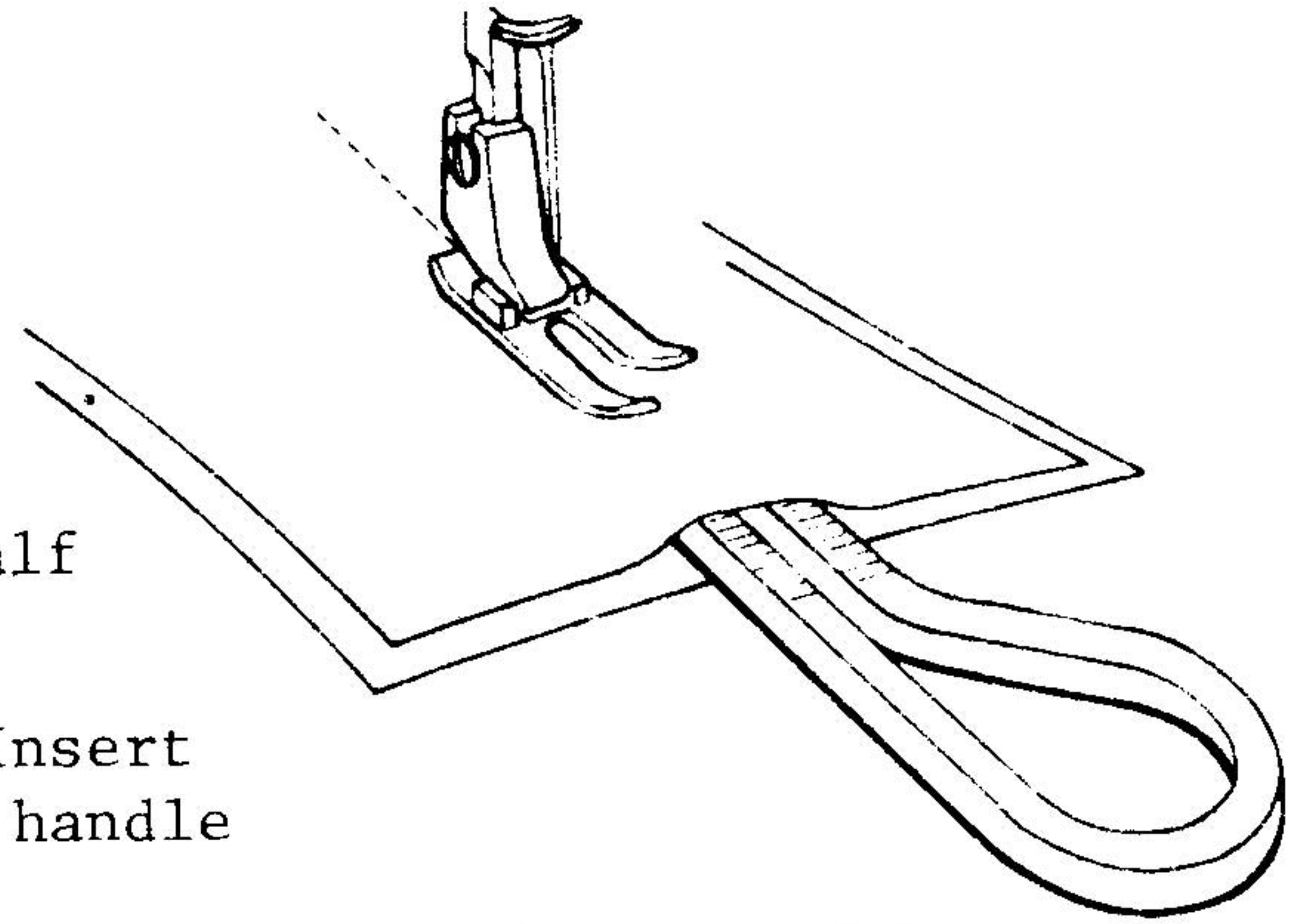
TENSION - Buttonhole Symbol or less
SS - Straight Stitch
SL - 4-6 mm
FOOT - Rug Foot 41-12-964

PRACTICE SAMPLE

6" x 6" medium-weight woven, cut in half

PROCEDURE

- Place fabric right sides together. Insert hemstitcher between layers with loop handle in front of needle.
- Stitch between legs of hemstitcher, holding top and bottom fabric taut. When reaching loop handle, leave needle in fabric, raise presser foot, pull hemstitcher forward, lower presser foot and continue sewing.
- Pull cloth apart to expose hemstitching. A decorative stitch or straight stitch may be applied on each side of work to hold seam allowances open.



NOTE: The looser the tension and longer the stitch, the larger the Hem Stitch effect will be.

WEAVER'S REED 411 34 58 01, 02 and RUG FOOT 411 29 64 01

The Weaver's Reed is a tool used to stitch yarn onto cloth in loops, giving a fringed effect for trim, or to make hair for dolls, or repeated in rows to create a rya rug.

MACHINE SETTING

SS - Straight Stitch

PRACTICE SAMPLE

6" x 6" denim

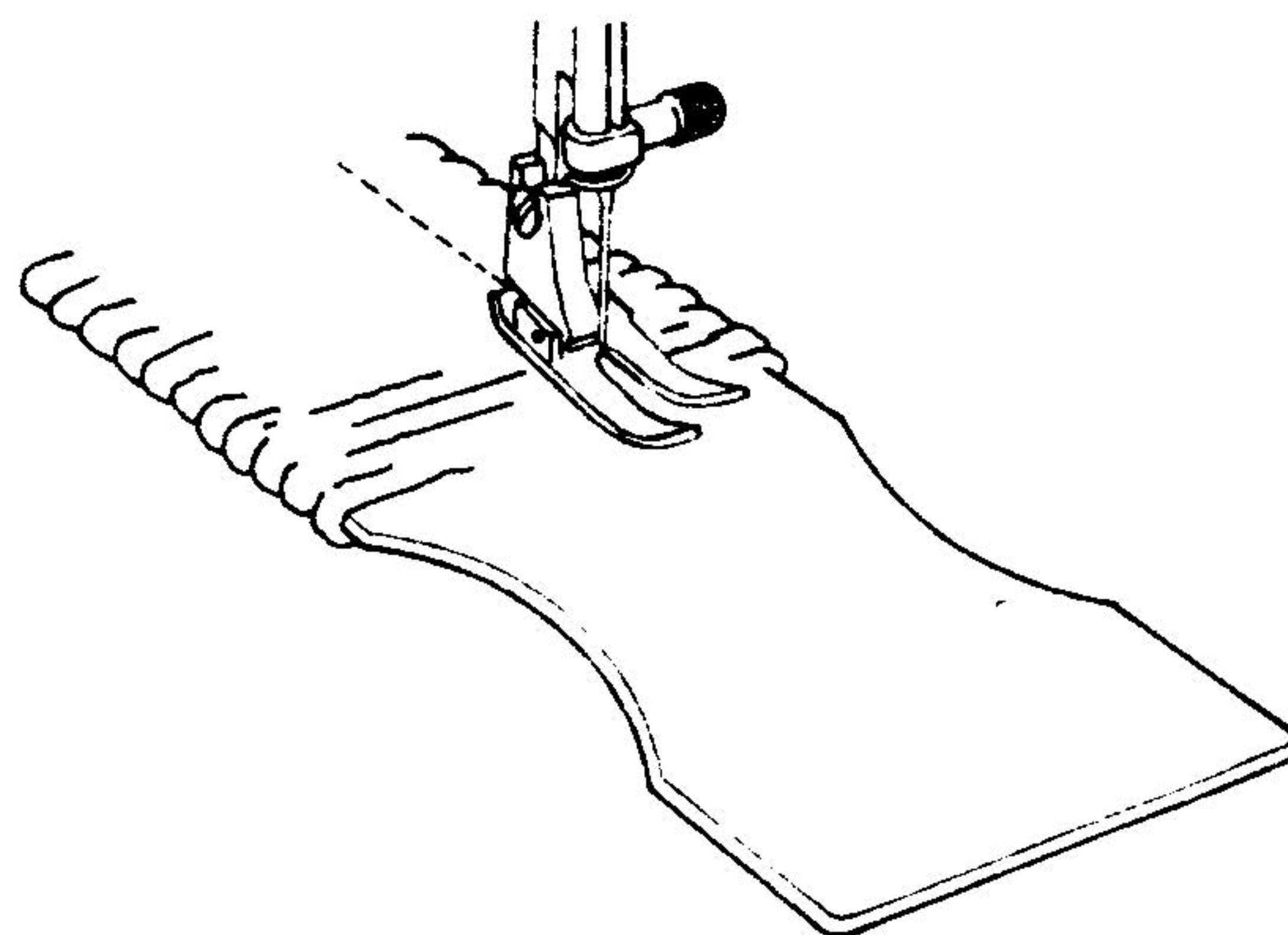
4 yards rug yarn

PROCEDURE

- Using a single or double strand of yarn, wrap reed loosely, pushing the yarn firmly together. Wrapping yarn too tightly around reed will cause slot to narrow, closing space to sew. Lock the end of reed to hold slot open and hold yarn in place.
- Align projection of Rug Foot in groove of reed. Stitch. Pressure may be released when using thick yarn.
- At end of reed, or when a color change is desired, stop. Leave needle in fabric, open clip at end of reed and pull reed forward. Wrap reed with more yarn and stitch.
- To sew several rows, straighten previous rows, lay reed under previous loops, pushing reed close. Stitch as before.

NOTE: To make a rug or wall hanging:

- Use rug canvas or heavy fabric marked every $\frac{1}{2}$ " for stitching lines.
- Draw design on backing and mark color changes.
- Roll backing tightly and place it to right of needle. As yarn is stitched on canvas, finished portion will be supported by table to left of needle.
- First two or three rows should be stitched with loops to left. Sew rest of rug with loops to right.
- Loops can be cut or left uncut.
- To facilitate stretching wall hanging on frame, leave 3" border of backing all around.
- To make a border for a rug, narrowly hem the backing fabric and sew five strands of the predominate rug color around the edges using a 3-step zig-zag stitch. This makes a finished edge so that backing fabric does not show.



TRIPLE NEEDLE 411 16 22 02

Constructed with the same bridge as the double needles. These needles are commonly used for multi-colored decorative seams. Zig-zag width should be reduced to eliminate breaking needle. Maximum stitch width is 1.5 $\frac{8}{16}$ with triple needle.

MACHINE THREADING

- Use a bobbin as third spool, under right thread spool.
- Run two threads on right side of tension disc, and third thread on the left.
- All threads pass through take-up lever.
- Run right thread through pigtail, left through black thread guide, and middle thread bypasses both guides.
- Thread through needles.



MACHINE SETTING

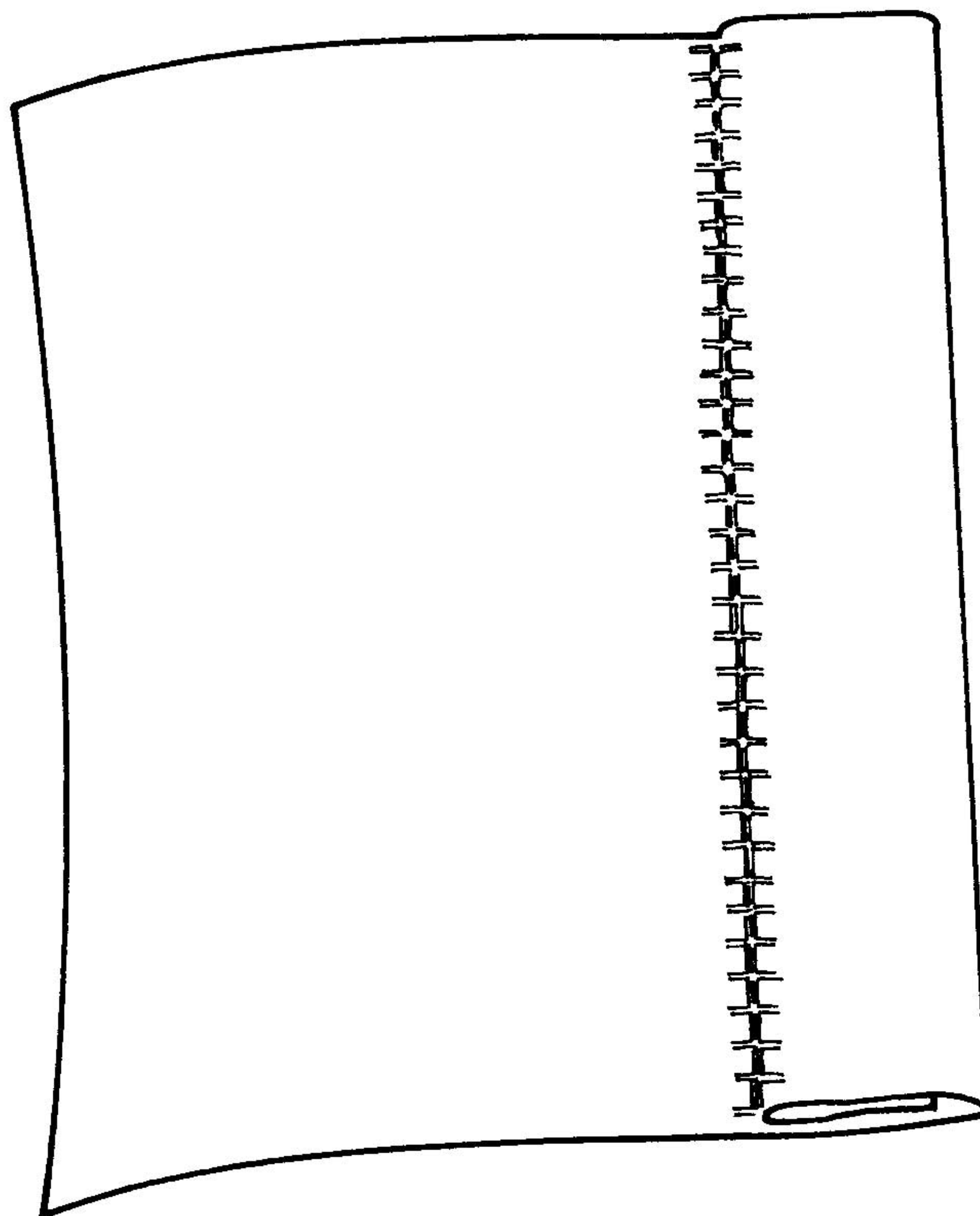
- SS - Zig-Zag or Decorative Stitch
- SL - 1
- SW - 1.5 mm maximum
- FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" denim

PROCEDURE

- Stitch.
- Experiment with other decorative stitches.
- REMEMBER: maximum stitch width is 1.5 $\frac{8}{16}$



WING NEEDLE 411 26 84 01

Use of the Wing Needle creates an attractive hem stitch effect. Also with the use of the Wing Needle and the Point de Paris stitch, a pulled thread technique can be used as an edge finish. Both techniques are ideal for placemats, tablecloths, napkins, curtains and clothing.

HEMSTITCHING

MACHINE SETTING

TENSION - Buttonhole Symbol (test sew for effect)
 SS - Point de Paris Stitch, C-7
 SW - 3.0 mm
 FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" organdy or crisp sheer
 Any lightweight thread or machine embroidery thread
 1 piece waxed tissue paper or stabilizer

PROCEDURE

-Turn up desired hem. On sheer fabric, a double hem looks better.
 -Stitch along top edge of hem with waxed tissue paper or stabilizer.
 -At end of row, leave needle in fabric and pivot fabric 180 degrees. Use reduction gear, and stitch again along previous line of stitching, piercing same center holes.

NOTE: Let machine feed fabric. Do not inhibit feeding!



PULLED THREAD TECHNIQUE

Used in making fringed edges on napkins, scarves and coarsely woven fabrics.

MACHINE SETTING

SS - Point de Paris Stitch, C-7

SW - 3.0 mm

FOOT - Utility Foot B, 411 73 88 01

PRACTICE SAMPLE

6" x 6" hopsacking

1 piece waxed tissue paper or stabilizer

PROCEDURE

- Pull thread where fringe would end to mark stitching line. Threads may also be pulled from inside edge of fabric.
- Position foot so that the fringe is to the left and the stitching line is under the left black line of foot. The stitches will pull the fringe together and the leg of the stitch will lock into the woven area.
- Place paper or stabilizer underneath. Stitch. Tear away backing and pull threads to fringe.

