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Check local SINGER address in phone book.

SINGER SEWING MACHINE COMPANY

Form 20340
Rev. (551)

INSTRUCTIONS

FOR USING

SINGER

ELECTRIC SEWING MACHINE

(P. H. Built-on Motor)

201-2

REVERSIBLE FEED

LOCK STITCH, FOR FAMILY USE

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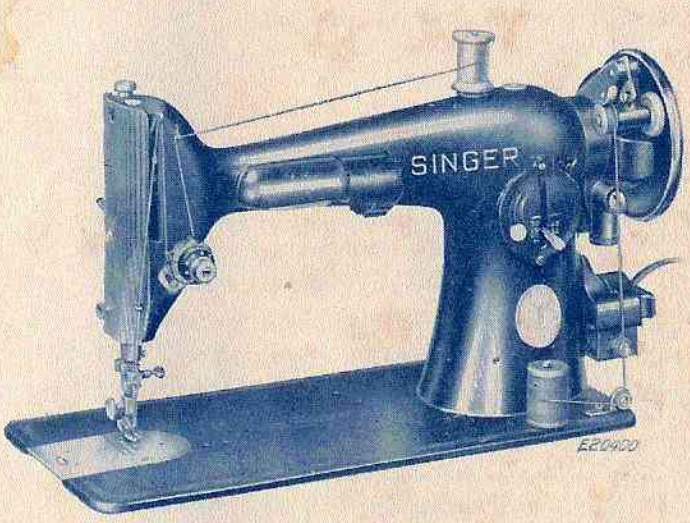
20340

INSTRUCTIONS FOR USING SINGER* ELECTRIC SEWING MACHINE

(P. H. Built-on Motor)

201-2



REVERSIBLE FEED
HORIZONTAL ROTARY HOOK
FOR FAMILY USE

*A Trade Mark of

THE SINGER MANUFACTURING COMPANY

TO ALL WHOM IT MAY CONCERN:

The improper placing or renewal of the Trade Mark "SINGER" or any other of the Trade Marks of The Singer Manufacturing Company (all of which are duly Registered Trade Marks) on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a SINGER factory or an authorized SINGER agency is forbidden.

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Needles in Containers marked "FOR SINGER MACHINES" are NOT SINGER made Needles. 2

DESCRIPTION

Machine 201-2, for family use, has a horizontal rotary sewing hook on a vertical axis and makes the lock stitch.

It has reverse feeding mechanism by means of which the machine stitches as readily in a reverse direction as it does in a forward direction.

It is especially designed for operation by electricity, having an electric motor built on the back of its arm. The motor drives the machine through spiral gears.

It is also equipped with an electric SINGER-LIGHT.

Before starting to darn or embroider, make the simple adjustment on the machine, as instructed on page 34.

SINGER SERVICE

Now that you have purchased your new SINGER, we do not want you to feel that your relations with us have come to an end. You are cordially invited to visit your SINGER Shop at any time for assistance in your sewing problems. You will be most welcome.

We hope, too, that you will make the SINGER Shop your headquarters for sewing supplies and service. Only there or through authorized bonded SINGER representatives can you secure warranted SINGER SEWING MACHINE OIL, SINGER MOTOR LUBRICANT, needles, belts, parts, etc., so important in getting the best results from your machine. And remember, only an authorized SINGER representative should be allowed to touch your machine when repairs or adjustments are required.

World-wide SINGER SERVICE has no equal. Use it!

Motor Can be Operated on Either Alternating Current or Direct Current

The electric motor, which is located at the back of the machine, can be operated on either alternating current or direct current as desired. The standard windings of the motor are for 110-120 volts, but motors can be furnished for any voltage between 95 and 250.

Special motors for 32 volts direct current, and for 50 volts alternating current and direct current, have also been developed and are available.

Points to Determine Before Connecting Motor to Electric Service Line

Obtain the following information from the Electric Light Company which supplies the electric current for the circuit to which the motor is to be connected:

1. If current is direct, what is the voltage? The voltage range stamped on the name plate of the motor must correspond to that of the circuit.

2. If current is alternating, in addition to the voltage, what is the number of cycles? The number of cycles stamped on the name plate of the motor must correspond to that of the circuit.

The voltage of any circuit and, if alternating current, the number of cycles, can be verified by looking at the name plate on service watt meter installed by the local Electric Light Company.

To Connect the Machine to Electric Service Line

Push the terminal plug at one end of the electric cord as far as it will go on the three-pin terminal block at the right of the machine as shown in Fig. 5. Attach the plug at the other end of the cord to the nearest electric outlet and the machine is ready for operation.

To Insure Perfect Action of the Machine

When turned by hand, the balance wheel must always turn over toward the operator.

Do not run the machine with the presser foot resting on the feed without cloth under the presser foot.

Do not run the machine when both bobbin case and needle are threaded, unless there is material under the presser foot.

Do not try to help the machine by pulling the fabric, lest you bend the needle. The machine feeds the work without assistance.

The slide over the bobbin case should be kept closed when the machine is in operation.

CAUTION

When you have finished your sewing, always disconnect the plug from the electric outlet.

SINGERLIGHT

To turn the SINGERLIGHT "on" or "off," a switch is conveniently located at the front of the three-pin terminal block, as shown at D, Fig. 5.

To Remove and Replace the Bulb

Do not attempt to unscrew the bulb. It is of the bayonet and socket type and does not unscrew.

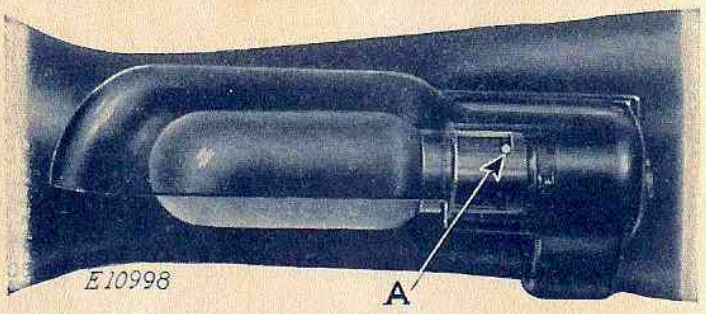


FIG. 2

To Remove the Bulb. Press the bulb into the SINGERLIGHT socket and at the same time turn the bulb over toward the machine as far as it will go, then withdraw the bulb.

To Insert a New Bulb. Press the bulb into the SINGERLIGHT socket and turn it over from the machine until the bulb pin (A, Fig. 2) enters the notch in the socket, as shown in Fig. 2.

To Operate the Machine

Raise the presser foot (B) by means of the presser bar lifter (C) to prevent injury to the foot (B) and feed (A).

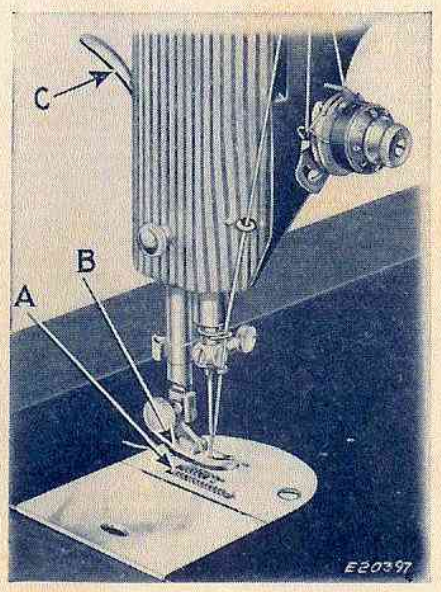


FIG. 3. END VIEW OF THE MACHINE

Place a piece of cloth under the presser foot and let the foot down upon it.

Turn on the electric current, press the knee lever to the right, or depress the treadle. As the pressure on the knee lever or treadle is increased, the speed of the machine is increased, the speed being controlled entirely by the amount of pressure on the knee lever or the treadle. Operate the machine in this way, without being threaded, until you have become accustomed to guiding the material and operating the knee lever or treadle.

To Remove the Bobbin

Draw to the left the slide in the bed of the machine and lift out the bobbin with the thumb and forefinger of the left hand, as shown in Fig. 4.

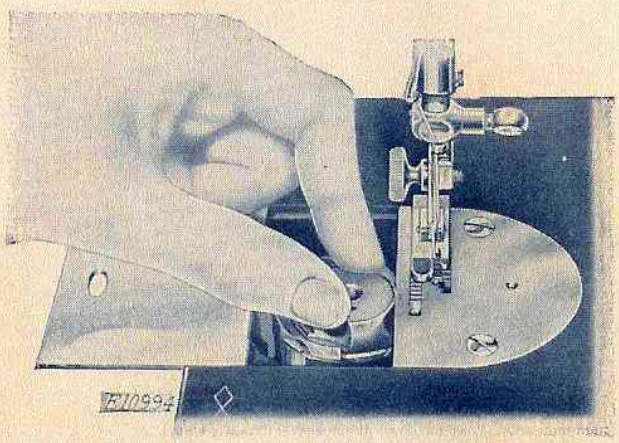


FIG. 4. REMOVING THE BOBBIN

To Wind the Bobbin

It is necessary to understand the stop motion (C, Fig. 5) by which the balance wheel (B, Fig. 5) can be released when required, thus permitting the winding of bobbins without running the stitching mechanism.

Release the balance wheel by turning the stop motion screw (C) over toward you. It is necessary to hold the balance wheel while loosening the stop motion screw.

Place the bobbin on the bobbin winder spindle and push it up closely against the shoulder, having the small pin in the shoulder enter the hole in the side of the bobbin. Put the spool of thread on the spool pin (1). Draw the thread under and between the tension discs (2) on the bed of the machine, then pass the thread up and through the hole (3) in the left side of the bobbin, from the inside. Press down on the bobbin and the bobbin winder latch (A, Fig. 5) will drop down and hold the bobbin winder pulley against the hub of the balance wheel. Then press the knee lever or the treadle the same as for sewing.

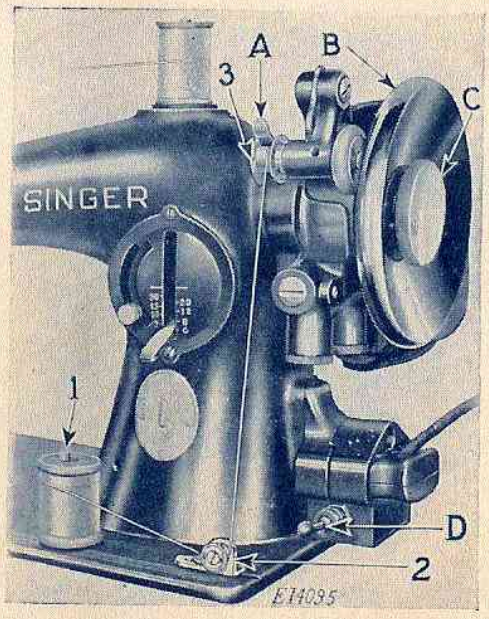


FIG. 5. WINDING THE BOBBIN

The end of the thread must be held by hand until a few coils are wound and should then be broken off. When sufficient thread has been wound upon the bobbin, the bobbin winder is automatically released from the balance wheel.

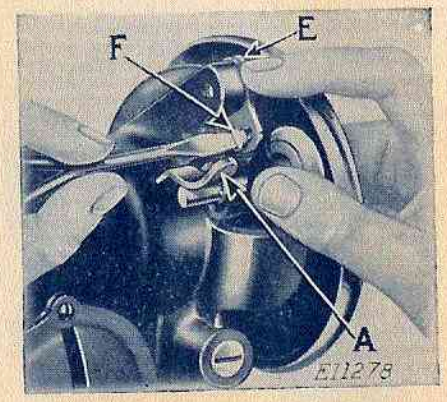


FIG. 6. ADJUSTMENT OF BOBBIN WINDER

If the pressure of the bobbin winder pulley against the hub of the balance wheel is insufficient for winding the bobbin, press down the bobbin winder until the latch (A) drops down and holds it, then loosen the adjusting screw (F). With the forefinger, push back the upper end of the slotted plate (E) as far as it will go, as shown in Fig. 6, and at the same time press the bobbin winder pulley against the hub of the balance wheel, then tighten the adjusting screw (F).

If the thread does not wind evenly on the bobbin, loosen the screw which holds the tension bracket (2, Fig. 5) in position on the bed of the machine and slide the tension bracket to the right or left, as may be required, then tighten the screw.

Bobbins can also be wound while the machine is sewing.

To Replace the Bobbin and Thread the Bobbin Case

Hold the bobbin between the thumb and forefinger of the left hand, the thread drawing on the bottom from right to left, as shown in Fig. 7.

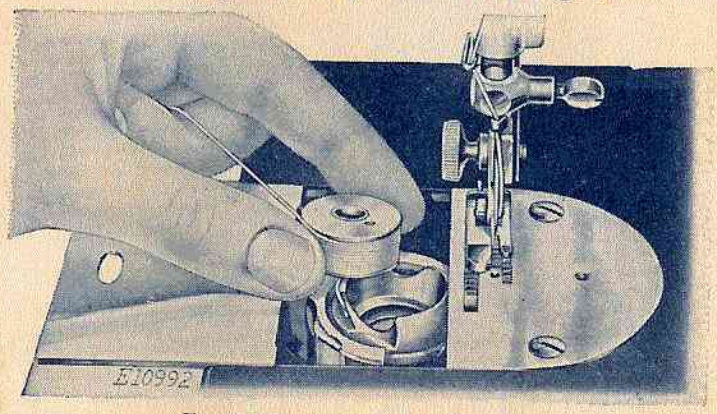


FIG. 7. REPLACING THE BOBBIN

Place the bobbin in the bobbin case and draw the thread into the slot (1, Fig. 8) in the bobbin case, as shown in Fig. 8.

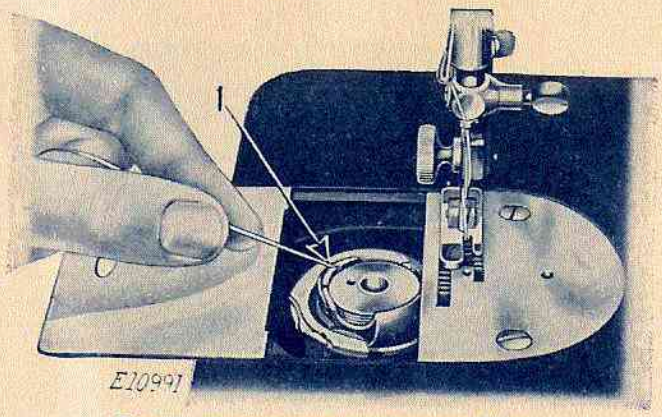


FIG. 8. THREADING THE BOBBIN CASE

Draw the thread toward you between the bobbin case and the tension spring until it passes the notch (2, Fig. 9) in the bobbin case, as shown in

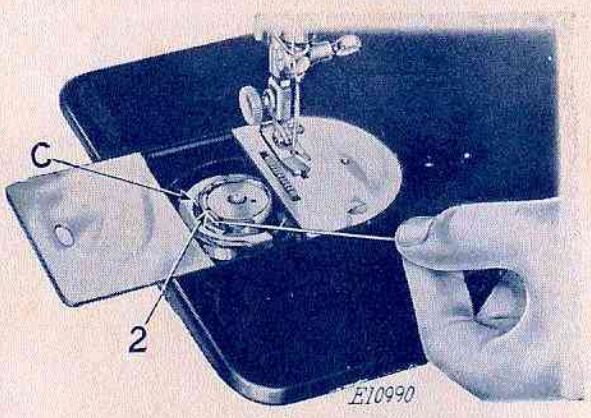


FIG. 9. BOBBIN CASE THREADED

Fig. 9. Then close the slide and at the same time draw the thread into the long notch in the right edge of the slide, as shown at (3, Fig. 10).

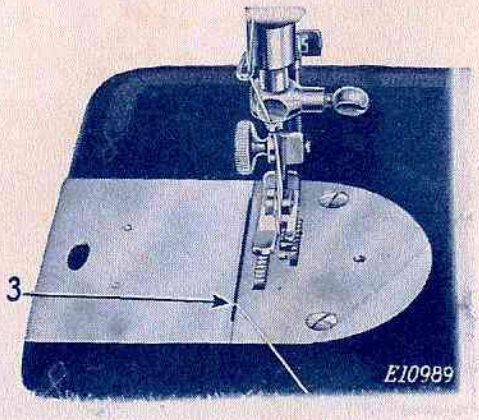


FIG. 10. UNDER THREADING COMPLETED

To Set the Needle

Select a needle to suit the size of thread being used. See inside of back cover.

Turn the balance wheel over toward you until the needle bar is at its highest position, and loosen the thumb screw (A, Fig. 11) in the needle clamp.

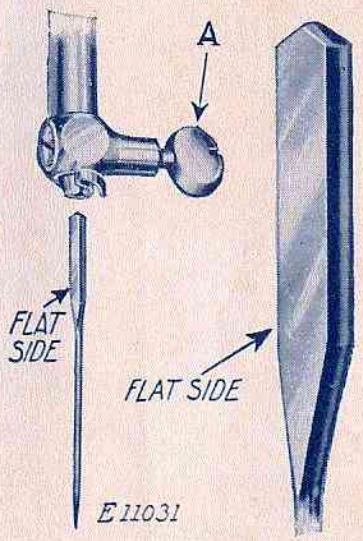


FIG. 11. POSITIONING OF NEEDLE IN NEEDLE CLAMP

Have the flat side of the shank of the needle toward the left as shown above and put the needle up into the clamp as far as it will go. Then tighten the thumb screw.

Upper Threading

(See Fig. 12)

Turn the balance wheel over toward you until the thread take-up lever (5) is raised to its highest position. Place the spool of thread on the spool pin at the top of the machine and pass the thread to the left through the thread guide (1), down, under and from right to left between the tension discs (2), the thread guard (X) guiding the thread between the discs. (See insert in Fig. 12). With the right hand, hold the spool to prevent it from turning, and, with the left hand, draw the thread up into the take-up spring (4) until the thread enters the retaining fork (3), then pass the thread from right to left through the hole in the thread take-up lever (5), down through the guide (6) on the face plate, into the wire guide (7) on the needle bar bushing, into the guide (8) on the needle clamp and **from right to left** through the eye (9) of the needle.

Draw about two inches of thread through the eye of the needle with which to commence sewing.

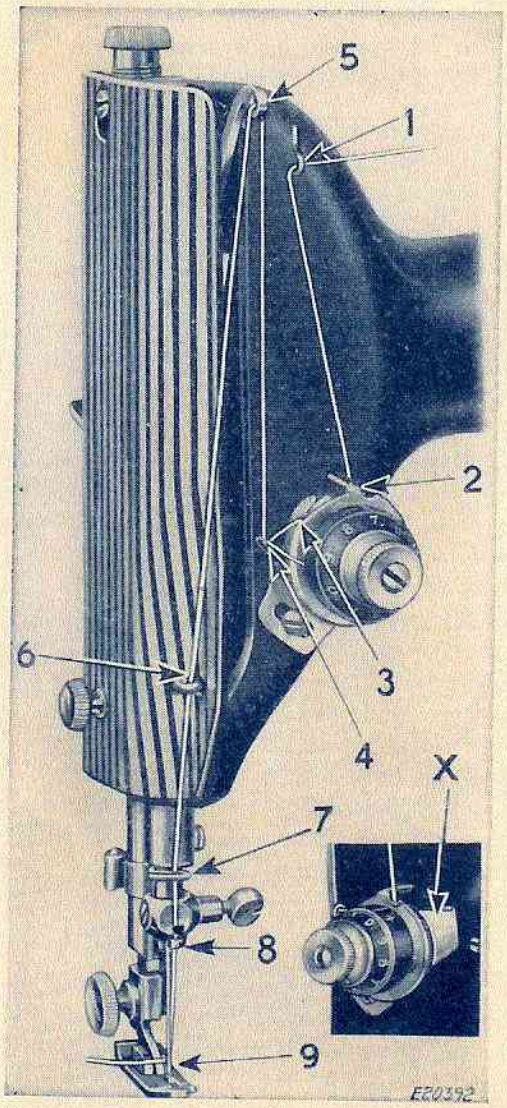


Fig. 12. Upper Threading

To Prepare for Sewing

With the left hand, hold the end of the needle thread, leaving it slack from the hand to the needle. Turn the balance wheel over toward you until the needle moves down and up again to its highest position, thus catching the bobbin thread. Draw up the needle thread and the bobbin thread will come up with it through the hole in the throat plate, as shown in Fig. 13. Lay both threads back under the presser foot diagonally across the feed, as shown in Fig. 13A, to the right or left, depending upon which side of the needle the material is to be located, so that when the presser foot is lowered, the threads will be firmly held between the feed and the presser foot.

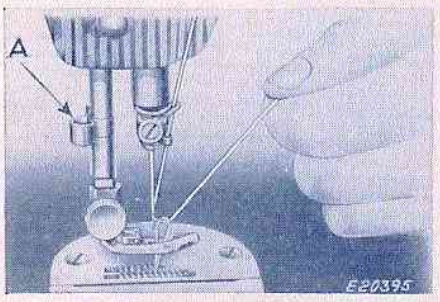


FIG. 13. DRAWING UP BOBBIN THREAD

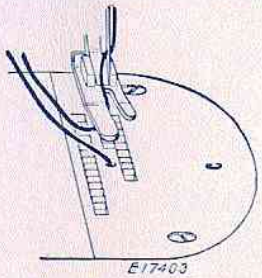


FIG. 13A. THREADS IN POSITION TO COMMENCE SEWING

To Commence Sewing

Place the material beneath the presser foot, lower the presser foot and commence to sew.

When sewing thick material, it may be necessary to turn the balance wheel over toward you by hand to start the machine. This should also be done if the machine stops when sewing across thick seams.

To Remove the Work

Stop the machine with the thread take-up lever (5, Fig. 12) at its highest position, raise the presser foot and draw the fabric back and to the left, pass the threads over the thread cutter (A, Fig. 13) and pull down lightly to sever them. Leave the ends of the threads under the presser foot.

To Turn a Corner

Stop the machine when the needle is at its lowest position. Raise the presser foot and turn the work as desired, using the needle as a pivot, then lower the presser foot.

To Regulate the Pressure on the Material

For ordinary family sewing, it is seldom necessary to change the pressure on the material. If sewing fine silk or flimsy material, lighten the pressure by turning the thumb screw (F2, Fig. 27) on the top of the machine to the left so that it screws up. To increase the pressure, turn this thumb screw to the right so that it screws down. The pressure should be only heavy enough to prevent the material from rising with the needle and to enable the feed to move the work along evenly. The heavier the material, the heavier the pressure; the lighter the material, the lighter the pressure.

To Regulate the Direction of Feed

To feed the goods **from you,** push down the stitch regulator lever (B, Fig. 14) as far as it will go.

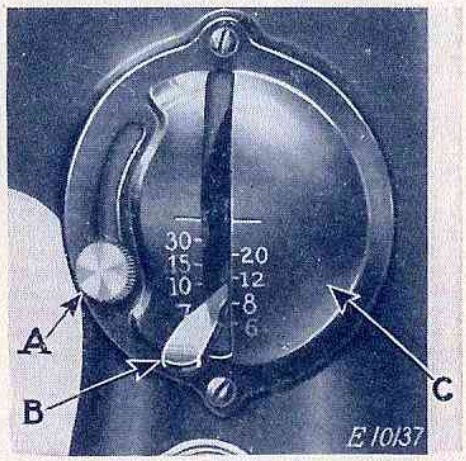


Fig. 14. Showing Lever for Reversing Direction of Feed and Regulating Length of Stitch

To feed the goods **toward you,** raise the stitch regulator lever (B) as high as it will go.

The direction of feed can be reversed at any point of a seam without removing the work from the machine.

Back tacking is therefore readily accomplished and the fastening of the ends of seams is made easy.

To Regulate the Length of Stitch

The machine can be adjusted to make from 6 to 30 stitches to the inch as indicated by the numerals on the stitch indicator plate (C, Fig. 14).

The number of stitches to the inch that the machine is set to make is indicated by the number which is in line with the upper side of the stitch regulating lever (B, Fig. 14).

To change the length of stitch, loosen the thumb screw (A, Fig. 14) and move it to the bottom of the slot, Then move the stitch regulating lever (B) until its upper side is in line with the number of the desired length of stitch. Now move the thumb screw (A) until the stitch regulating plate touches the lever (B), then tighten the thumb screw (A).

The machine will make the same number of stitches to the inch in reverse direction when the lever (B) is moved to its highest position.

Should forward stitching, only, be necessary, move the screw (A) down to the bottom of the curved slot and firmly tighten it. The length of the forward stitch can then be changed by moving the lever (B) downward for a long stitch or upward for a short stitch. In this case the lever should not be raised higher than the top line in the scale.

Basting

The longest stitch made by the machine, No. 6 on the stitch indicator, is found satisfactory for basting, after loosening the tension on the needle thread so that the stitches may be easily pulled from the material.

Machine basting is firmer and more even than that done by hand in addition to being much quicker.

To Sew Flannel or Bias Seams

Use a short stitch and as light a tension as possible so as to leave the thread loose enough in the seam to allow the goods to stretch if necessary.

Tensions

For ordinary stitching, the needle and bobbin threads should be locked in the center of the thickness of the material, thus:

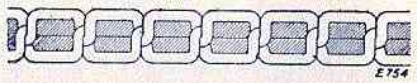


FIG. 15. PERFECT STITCH

If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper side of the material, thus:

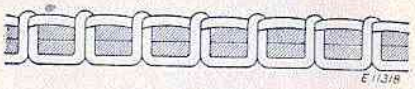


FIG. 16. TIGHT NEEDLE THREAD TENSION

If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will lie straight along the under side of the material, thus:

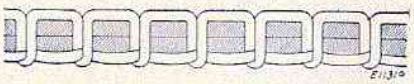


FIG. 17. LOOSE NEEDLE THREAD TENSION

Caution—It is important for the tension thumb nut (B, Fig. 18) to have a firm fit on tension stud (O, Fig. 19, page 22) to keep the numbered dial (D) in the position set for the required tension. To remedy a loose fit of the nut, remove parts B, D, E, F and G, Fig. 19, and slightly spread the stud, then reassemble the parts as instructed on pages 22 to 25 inclusive.

To Regulate the Needle Thread Tension

The tension on the needle thread can be regulated only when the presser foot is down.

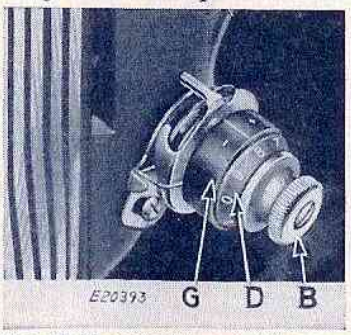


FIG. 18. NEEDLE THREAD TENSION

The numbered dial (D, Fig. 18) is marked with numbers ranging from 0 to 9 which indicate different degrees of tension that can be produced. The numbers do not denote a particular size of thread. By noting the number which is opposite the center line between the plus and minus signs, on the indicator (G) when set for a satisfactory tension on the work being stitched, the work can be readily reverted to when a change is made in the tension or size of thread.

To increase the tension, turn the thumb nut (B) over to the right until the desired number on the numbered dial (D) is opposite the center line, the higher numbers denoting increased tension.

To decrease the tension, turn the thumb nut (B) over to the left, the lower numbers indicating less tension.

The tension indicator (G) is marked with the signs + and —, which also indicate the direction in which to turn the thumb nut (B) for more or less tension.

To Regulate the Bobbin Thread Tension

The tension on the bobbin thread is regulated by the screw (C, Fig. 9) in the bobbin case tension spring. To increase the tension, turn the screw (C) over toward you. To decrease the tension, turn this screw over from you.

When the tension on the bobbin thread has been once properly adjusted, it is seldom necessary to change it, as a correct stitch can usually be obtained by varying the tension on the needle thread.

To Disassemble the Needle Thread Tension

Turn the thumb nut (B, Fig. 19) to the left until it stops at "0" on the numbered dial, then

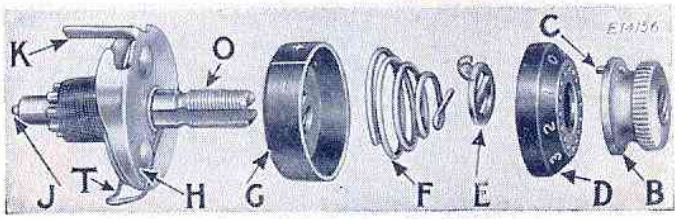


Fig. 19

press in the dial to disengage the pin (C) in the thumb nut from the dial, and remove the thumb nut and dial, stop washer (E), tension spring (F), indicator (G) and tension disc assembly (H), which includes the thread take-up spring, thread guard plate and two discs.

Note. It is not necessary to remove the stud (O, Fig. 19) from the machine arm in order to disassemble the thread tension. It is shown removed, in Fig. 19, only for the purpose of illustration.

To Reassemble the Needle Thread Tension

First make sure that the tension releasing pin (J), only the end of which is shown in Fig. 19, is in place in the stud (O).

Place the two tension discs (L, Fig. 20) with the flat thread-bearing sides of the discs together in position on the thread guard (M). Then pass the

eyelet (N) of the thread take-up spring under the thread guard, having the coils of the spring above the tension discs as shown in Fig. 20.

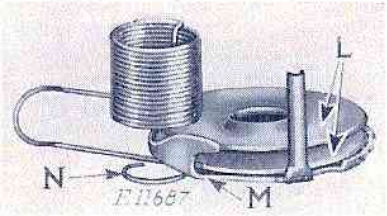


Fig. 20

Guide the tension disc assembly onto the stud so that the extension (K, Fig. 19) of the thread guard enters the hole in the machine arm, and the tail (inside the coil) of the thread take-up spring enters one of the grooves in the stud. Next replace the indicator with the large open side facing the

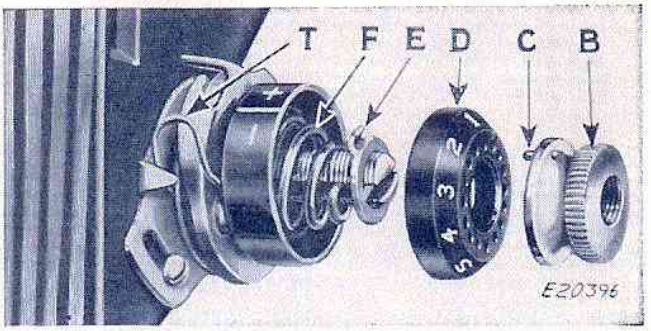


Fig. 21

end of the stud so that the plus and minus marks will be at the top (with the minus sign at the left) and hold the parts, thus assembled, against the shoulder of the stud. Then insert the tension spring (F, Fig. 19) in the indicator with the first (half) coil of the spring straddling the lower half of the stud. Guide the stop washer (E) onto the stud so that the extension will be above the tension stud.

If the spring and stop washer are in correct position, the extension (S) will clear the first (half) coil of the tension spring as shown in Fig. 22.

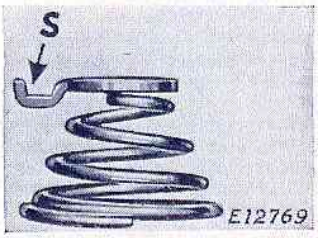


FIG. 22

Next place the numbered dial on the stud so that the numeral 2 is opposite the stop washer extension, then push the dial to compress the spring so that the thumb nut can be turned onto the stud, carefully guiding the pin in the thumb nut into one of the holes of the numbered dial. Then proceed to adjust the tensions as follows:

To Adjust the Needle Thread Tension

Lower the presser bar and turn the numbered dial (D) to bring the numeral "1" opposite the center line between the plus and minus signs on the tension indicator (G). Press the numbered dial inward as far as it will go, and turn the thumb nut (B) until the pin (C) engages one of the holes in the numbered dial. Turn the thumb nut, together with the numbered dial, to the left. This should cause the numeral "0" to stop opposite the center line if the tension is properly assembled. Now insert the pin (C) of the thumb nut (B) in different holes of the numbered dial until one is found which gives a **slight perceptible tension** on No. 50 mercerized thread when the thumb nut is turned to

the extreme left and the numeral "0" is opposite the center line. This tension gradually increases with the turn of the thumb nut to the right, providing a full range of tensions from light to heavy with one revolution of the thumb nut.

To Adjust the Tension on the Thread Take-up Spring

The tension on the thread take-up spring (T, Fig. 21) should be just sufficient to take up the slack of the needle thread until the eye of the needle reaches the goods in its descent.

If the tension on the thread take-up spring requires adjustment, remove the tension disc assembly, disengage the end of the spring from the groove in the tension stud, revolve the spring and place its end in the groove which produces the correct tension.

To Adjust the Bobbin Thread Tension

First adjust the needle thread tension, as instructed on page 24 and above. Then, using No. 50 mercerized thread in both the needle and the bobbin, and using two thicknesses of thin material under the presser foot, turn the numbered dial, by means of the thumb nut, to bring the numeral "3" opposite the center line. A few stitches should now be made in the material and then examined to see if the stitch is properly locked in the center of the material; if not, proceed to regulate the tension on the bobbin thread as instructed on page 21.

A wide range of materials and threads can now be accommodated without further adjustment of the bobbin thread tension.

Any change in tension, required to obtain a proper stitch to suit different materials being sewn, can be made by a slight adjustment of the tension on the needle thread only.

HINTS

Machine Working Heavily. If the machine runs hard after standing idle for some time, use a little kerosene in the oiling places, run the machine rapidly, then wipe clean and oil. See following pages.

To Avoid Breaking Needles. See that the presser foot or attachments are securely fastened by the thumb screw. Do not sew heavy seams or very thick goods with too fine a needle. A large needle and thread to correspond should be used on heavy work (see inside of back cover).

See that the needle is not bent, and avoid pulling the material when stitching.

Breaking of Needle Thread. If the needle thread breaks it may be caused by:

Improper threading.
Tension being too tight.
The thread being too coarse for size of needle.
The needle being bent, having a blunt point, or being set incorrectly.
Bent thread take-up spring.

Breaking of Bobbin Thread. If the bobbin thread breaks it may be caused by:

Improper threading of bobbin case.
Tension being too tight.

Skipping of Stitches. The needle may not be accurately set into the needle bar or the needle may be blunt or bent. The needle may be too small or too large for the thread in use.

Free Instruction for using the machine is gladly given at any SINGER Shop.

To Oil the Machine

To insure easy running, the machine requires oiling and if used continuously it should be oiled

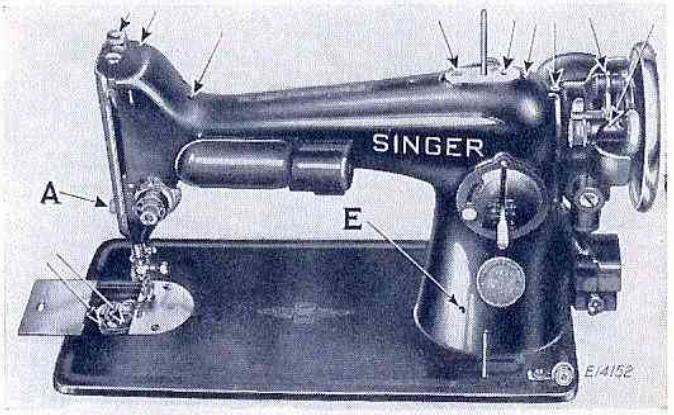


FIG. 23. FRONT VIEW, SHOWING OILING POINTS

each day. With moderate use, an occasional oiling is sufficient. Oil should be applied at each of the places shown by unlettered arrows in Figs. 23 to 28, inclusive. One drop of oil at each point is sufficient. Also apply a few drops of oil at (E, Fig. 23) and at (D2, Fig. 26). Oil holes are provided in the machine for bearings which cannot be directly reached.

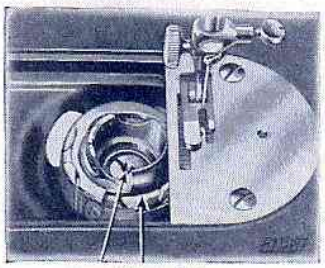


FIG. 24
VIEW OF SEWING HOOK
SHOWING OILING POINTS

Draw to the left the slide in the bed of the machine. See that the thread take-up lever (5, Fig. 12) is at its highest position, then apply oil to the sewing hook race in the bobbin case and oil hole as indicated by the arrows in Fig. 24 then close the slide.

At the back of the machine is a round cover plate, fastened by a thumb screw. Loosen the thumb screw and turn the cover plate upward and fasten by tightening the screw. Turn the balance wheel over toward you until connecting rod (B, Fig. 25) is at its highest position. Then apply a few drops of oil through the hole in top of the machine, to the wick which is retained in the cap of the connecting rod as shown in Fig. 25. Also oil the other moving parts inside, then turn cover plate down and fasten as before.

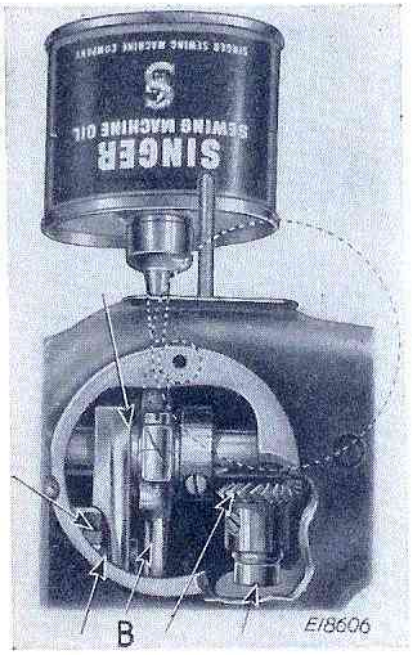


FIG. 25. OILING POINTS AT THE BACK OF THE MACHINE

Remove thumb screw (A, Fig. 23) near lower end of face plate and loosen screw (G2, Fig. 27) near upper end of face plate, then raise the face plate and slip it off over the head of screw (G2). Apply one drop of oil at each of the places indicated by unlettered arrows in Fig. 27, then replace the face plate and fasten it as before.

To reach the parts underneath the machine bed, turn the machine back on its hinges and apply oil to the oil holes and bearings indicated by the unlettered arrows in Fig. 28.

The gears concealed by gear cover (E2, Fig. 28) are oiled through oil hole (E, Fig. 23).

The gears concealed by gear cover (D, Fig. 26) are oiled through the space just above this cover, as indicated by arrow (D2) in Fig. 26. After oiling the gears at (D2), rotate the balance wheel toward you to distribute the oil on these gears.

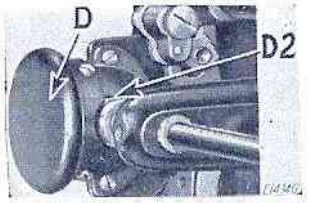


FIG. 26

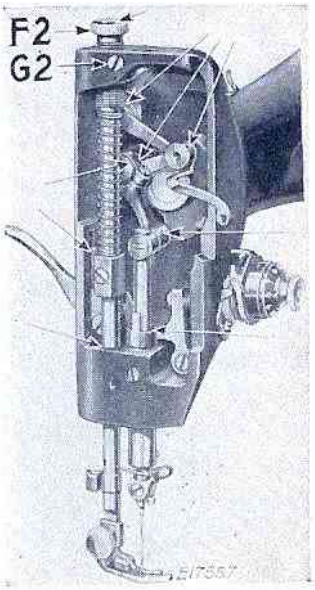


FIG. 27. END VIEW SHOWING OILING POINTS

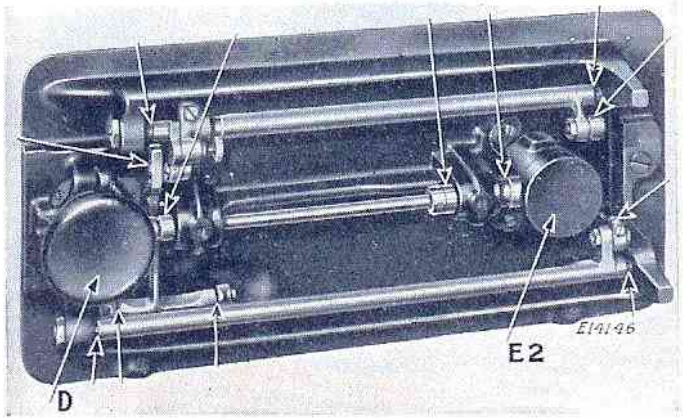


FIG. 28. OILING POINTS IN BASE OF MACHINE

To Lubricate the Motor

USE ONLY SINGER MOTOR LUBRICANT FOR LUBRICATING THE MOTOR. A tube of this lubricant is sent with the machine.

The SINGER MOTOR LUBRICANT is a specially prepared non-flowing compound which is not affected by varying temperatures. It is the only lubricant which will positively lubricate the motor. Other lubricants, including oil or ordinary grease must not be used for lubricating the motor, as they are harmful for this purpose.

When the machine is shipped from the factory, the two motor grease cups (A, Fig. 29) are filled with sufficient **SINGER** MOTOR LUBRICANT for approximately one year's use, under ordinary circumstances.

At least once a year thereafter, turn the machine back on its hinges and remove the two thumb screws from the two grease cups (A) and clean out the interior of the cups. Then insert the tip of the motor lubricant tube into the grease cups as shown in Fig. 29 and, while holding the tube firmly against the bottom of the grease cups, squeeze about a quarter of a tube of the lubricant into each cup, then replace and tighten the thumb screws.

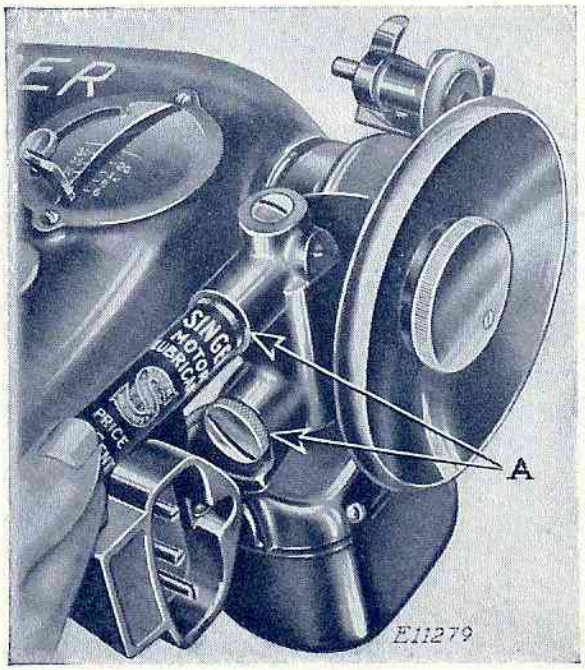


FIG. 29. LUBRICATING THE MOTOR

To Clean the Stitch Forming Mechanism

After considerable use, the stitch forming mechanism in the bed of the machine may become clogged with lint and, as this may interfere with the perfect operation of the machine, it should be removed.

It is rarely necessary to remove the bobbin case to clean out accumulated lint, but when required, the bobbin case may be removed and replaced as instructed below:

To Remove the Bobbin Case

(See Fig. 30)

The bobbin case may be easily removed from the machine without taking off the throat plate, although for the purpose of illustration the throat plate and feed dog are shown broken away in Fig. 30.

Remove the bobbin from the bobbin case. Turn the balance wheel over toward you until the end of the hook ring (E) is toward the front of the machine, as shown in Fig. 30. Insert the blade of the small tension screwdriver No. 120378, which is furnished with the machine, into the slot (C) between the ring and the edge of the spring, as shown in Fig. 30. With a downward pressure, turn the screwdriver one-half turn to the right so that the screwdriver will drop into the slot and unlock the spring. With the right hand, hold the balance wheel to prevent its turning, and, with the left, place the screwdriver against the edge of the slot in the ring and push it around in a direction opposite to the hook rotation until the circular cutout (B) is opposite the spring (D). The ring and bobbin case may then be lifted out.

To Replace the Bobbin Case

(See Fig. 30)

When replacing the parts, first place the bobbin case into position with the finger (A) in the opening

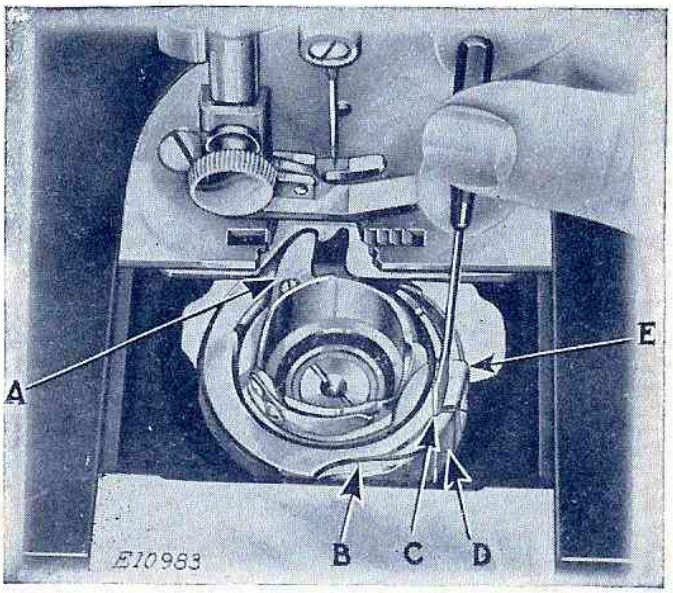


Fig. 30. Bobbin Case in Position
(Throat Plate Broken Away to Show Correct Location of Finger A)

in the position plate under the feed dog as shown in Fig. 30. Turn the bobbin case back and forth slightly to make sure that it is properly seated, then place the hook ring (E) in position with the cutout (B) opposite the spring (D). Press the ring into place and turn it in the direction of hook rotation until the spring locks it in position. Then replace the bobbin.

Darning or Embroidering

When darning with fine thread, the use of Darning Foot 121094 is recommended. This Darning Foot can be purchased at any SINGER shop or from any SINGER salesman.

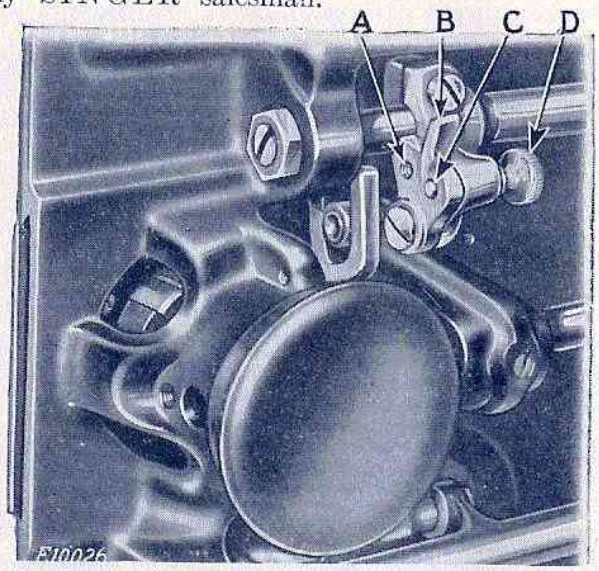


FIG. 31. ADJUSTMENT FOR DARNING OR EMBROIDERING

Turn the machine back on its hinges. Unscrew the thumb screw (D, Fig. 31), which is located in the lower hole (C) in the feed lifting crank (B). Move the feed lifting crank (B) down so that the thumb screw (D) will enter the proper hole (A). Having inserted the screw in this hole, tighten it firmly. The feed is thus rendered inoperative and will not interfere with the free movement of the work. Bring the machine forward into place.

Move the stitch regulator lever (B, Fig. 14) to its neutral position at the center of the slot.

Remove the presser foot and let down the presser bar lifter to restore the tension on the needle thread which is released when the lifter is raised.

Draw up the bobbin thread as instructed on page 16.

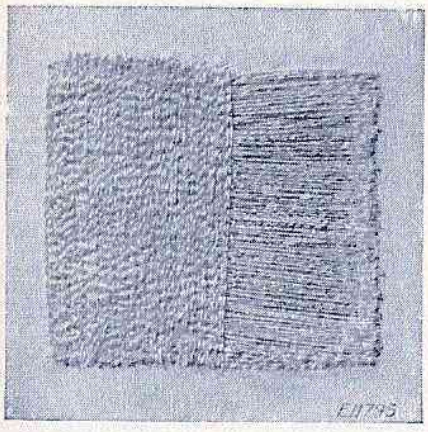


FIG. 32. DARNING IN PROCESS

When darning flat work, it is advisable to use embroidery hoops to hold the work.

Place the work in the machine, having the unworn part near the hole under the needle. Commence the darning by making a line of stitches across the hole a little longer than the width of the hole. Continue making parallel lines of stitches across the hole, moving the work backward and forward and at the same time gradually moving the work sidewise until the hole is covered with lines of stitches running across the hole. Then commence as before and move the work lengthwise of the hole until the stitches across the holes are completely covered and the darn is finished.

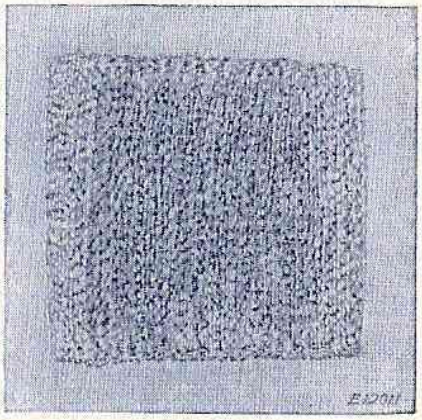


FIG. 33. DARNING FINISHED

When you have finished the darning or embroidery, raise the presser bar lifter and replace the presser foot. Turn the machine back on its hinges and replace and firmly tighten the thumb screw (D) in the lower hole (C) in the feed lifting crank (B) as shown in Fig. 31. Bring the machine forward into place and it is ready for regular stitching.

Stockings and socks, underwear, etc., can be more conveniently darned on the machine with the **SINGER** Darner which can be purchased at any SINGER Shop or from any SINGER salesman.

Advantages of Machine 201-2 for Darning or Embroidering

In practically all earlier types of sewing machines if the stitching is reversed, as in darning or embroidery, a knot is formed on the under thread at each stitch, resulting in a poor appearance of the under side of the embroidery or darn. The 201 machine and other late designs of SINGER machines are free from this defect.

INSTRUCTIONS FOR USING THE ATTACHMENTS

THE FOOT HEMMER

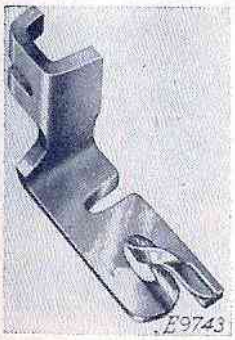


FIG. 34. THE FOOT HEMMER

The Foot Hemmer (Fig. 34) is attached to the machine in place of the presser foot. Raise the needle to its highest position, loosen the thumb screw which clamps the presser foot to the presser bar and remove the presser foot. Attach the Foot Hemmer to the bar, taking care to tighten the screw firmly so that the Hemmer will not become loose when the machine is running. Turn the balance wheel slowly to make sure that the needle goes through the center of the needle hole and that the lower thread is properly pulled up.

How to Start the Hem at the Very Edge

How to start the hem at the very edge of the material is of great importance in learning to use the Hemmer. If the hem is not started at the edge and the material is pulled bias, a perfect hem cannot be made.

There are several ways of starting the hem at the edge, but the most practical one is as follows:

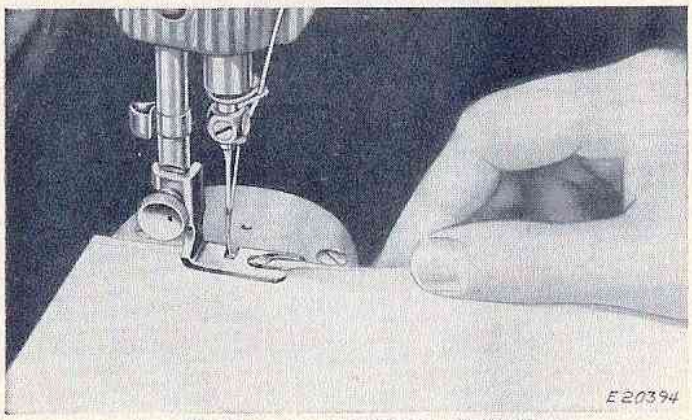


FIG. 35. STARTING A HEM AT THE EDGE

1. Fold over about 1/8" of the edge of the material at the starting point for a distance of about one inch.

2. Place the material in the Hemmer at an angle leading to the right at a point just beyond the fold.

3. Draw the material toward you through the Hemmer, as shown in Fig. 35, at the same time making the second fold at the very edge. Continue to draw the material through the Hemmer until the edge is just under the needle. Place the upper and lower threads together under the Hemmer foot and assist in starting of the hem by slightly pulling the threads from the back as the machine is run.

Making a Hem with the Foot Hemmer

The same width of material must be kept in the Hemmer at all times. After placing the correct

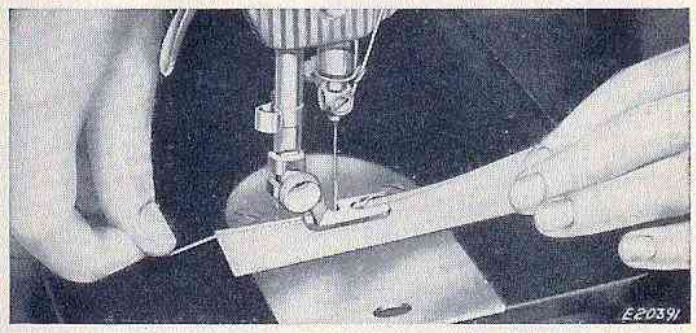


FIG. 36. MAKING A HEM WITH THE FOOT HEMMER

width of material in the Hemmer hold it in a straight line and you will find it quite easy to make a perfect hem. See Fig. 36.

Making a Hemmed Seam with the Foot Hemmer

The hemmed seam is very practical to use on underwear, or in fact on any garment where a straight seam is used and where a small double seam would be suitable.

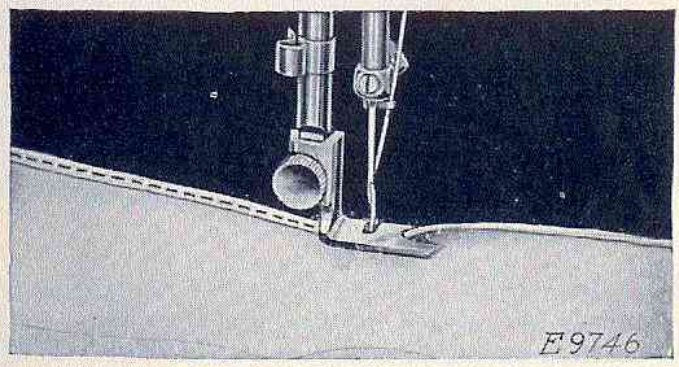


FIG. 37. MAKING A HEMMED SEAM

When using this seam, the garment must first be fitted and the edge of the material trimmed, allowing for about one-eighth inch seam. The two edges are placed together and inserted in the Hemmer in the same manner as a single hem. If the material is bulky, the edge of the upper piece of material may be placed about one-eighth inch in from the edge of the lower piece. See Fig. 37.

The free edge of a hemmed seam may be stitched flat to the garment if desired. First open the work out flat, then place the hem in the scroll of the Hemmer, which acts as a guide, holding the edge of the hem in position while it is being stitched.

If the seam is stitched flat to the garment one row of stitching is visible on the right side.

The hemmed seam may be used on muslin, lawn, percale, organdie or other fine materials where a narrow seam is desirable.

Hemming and Sewing on Lace in One Operation

Start the hem in the regular way and with the needle holding the hem in position, raise the presser

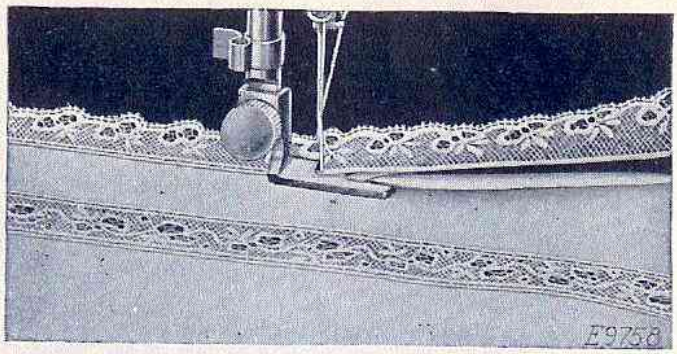


Fig. 38. Hemming and Sewing on Lace

bar sufficiently to allow the edge of the lace to be slipped in under the Foot Hemmer, at the same time bringing it up through the slot at the right of the Hemmer. See Fig. 38. Lower the bar, turn the

balance wheel and catch the edge of the lace with the needle. Guide the hem with the right hand and the lace with the left. Care should be taken not to stretch the lace as it is being fed into the Hemmer.

It is not practical to sew gathered lace on with the Foot Hemmer, as the fulled lace catches in the Hemmer slot.

A very attractive way of applying lace so that the stitching of the hem is not visible is to start the hem in the regular way, slipping the lace in from the left as you would the second piece of material when making a hemmed seam.

ADJUSTABLE HEMMER—Hemming

Remove the presser foot and attach the adjustable Hemmer in its place, as shown in Fig. 39. This

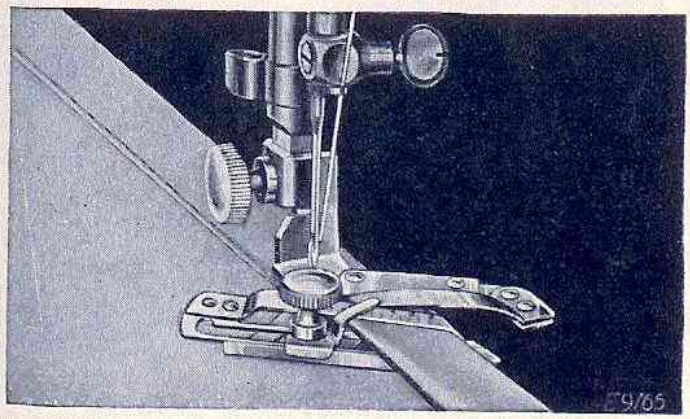


Fig. 39

Hemmer will turn hems from $\frac{3}{16}$" to $\frac{15}{16}$" wide. The adjustment is made by loosening the thumb screw on the Hemmer and moving the scale to the right or left until the hem turned is of the desired width. Place the cloth under the Hemmer and draw the

edge toward the left under the scale, as shown in Fig. 39. Draw the edge of the cloth back and forth until the hem is formed, stopping with the end under the needle. Lower the presser bar and commence to sew, being careful to guide the cloth in such manner as to keep the Hemmer full.

ADJUSTABLE HEMMER—Wide Hemming

To make a hem more than $\frac{15}{16}$" wide, loosen the thumb screw in the Hemmer and move the scale to the right as far as it will go, then swing it toward

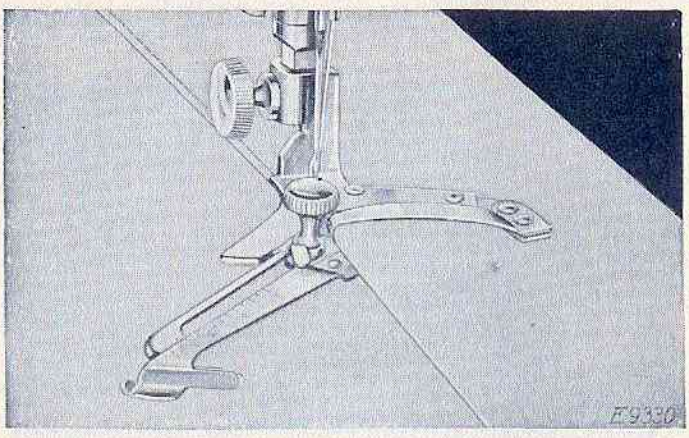


Fig. 40

you as shown in Fig. 40 and tighten the thumb screw. Fold and crease down a hem of the desired width; pass the fold under the extension at the right of the Hemmer, and the edge into the folder as shown in Fig. 40, and proceed to stitch the hem.

MULTIPLE SLOTTED BINDER

This multiple slotted Binder will apply **unfolded bias binding** $\frac{15}{16}$ inch in width and commercial **folded binding** in sizes **1, 2, 3, 4** and **5** to the seams or to the edges of garments. These sizes of folded binding are $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ and $\frac{1}{2}$ inch in width, respectively, and are fed through slots of corresponding sizes in the binder scroll. (See Fig. 41). Binding may be purchased in a variety of materials and colors.

For convenience in determining the correct width of **unfolded binding** ($\frac{15}{16}$ inch), this measurement is marked on the Binder, as shown in Fig. 41.

The two upright guide pins shown in Fig. 41 eliminate manual guiding of the binding.

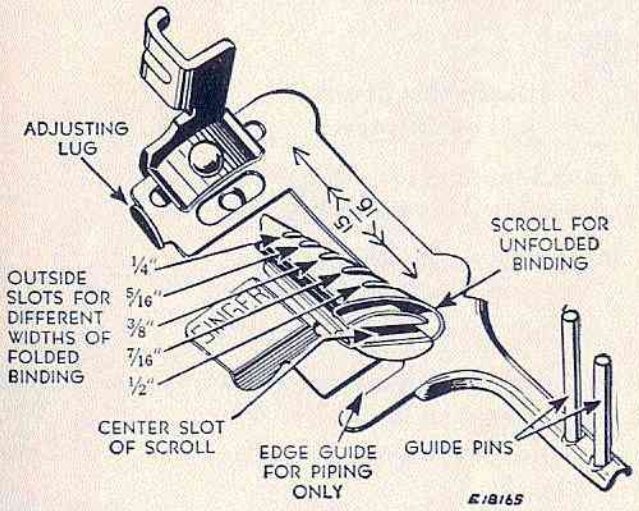


Fig. 41. Multiple Slotted Binder 160359

The wide range of bindings that can be applied with this Binder makes it useful for a large variety of work. It will be found particularly advantageous for making children's wear, lingerie, summer dresses, and other dainty articles which call for the narrower bindings.

As two different widths of binding of contrasting color can be fed through the Binder at the same time, attractive binding and piping effects can be produced in one operation.

To Attach the Binder

Raise the needle to its highest position, then attach the Binder to the presser bar in place of the presser foot.

See that the needle enters the center of the needle hole.

To Insert the Binding in the Binder

Cut all binding to a long point to the left, as shown in Fig. 42.

Folded Bias Binding must be inserted in the slot or slots of corresponding sizes. (See Fig. 45).

Unfolded or Raw Edge Bias Binding must be inserted in the open end of the scroll. (See Fig. 43).

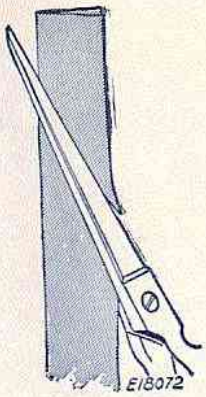


Fig. 42

After inserting the pointed end of the binding in the Binder, push it through until the full width of the binding is under the needle.

Guide the binding by means of the two upright pins, as shown in Figs. 43 and 45.

To Insert the Garment in the Binder

Place the edge to be bound as far to the right as it will go in the center slot of the scroll, as shown in Fig. 43, and draw it back under the binder foot.

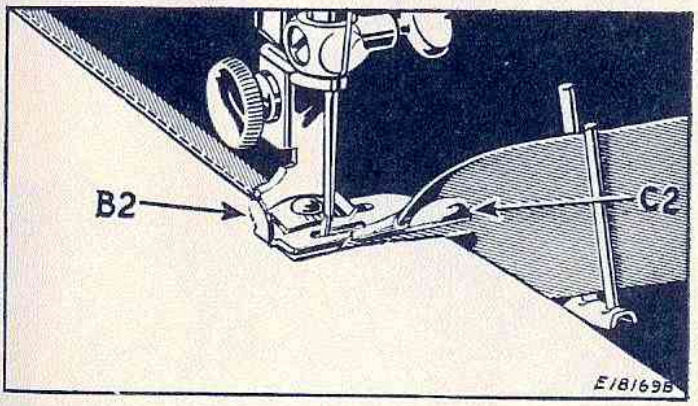


Fig. 43
Binding with Unfolded Binding

Lower the Binder by means of the presser foot lifter, and commence to sew. Keep the material well within the center slot of the scroll so that the edge will be caught in the binding.

To Adjust the Binder

To bring the inner edge of the binding closer to the stitching, move the scroll (C2, Fig. 43) to the right by means of the lug (B2, Fig. 43). This is the usual adjustment when binding straight edges.

When binding curves, move the scroll to the left to bring the inner edge of the binding farther from the stitching and allow for the sweep of the curve.

Piped Edge

To produce a **piped edge** on garments, move the lug (B2, Fig. 44) to the left to bring the stitching about midway of the folded binding.

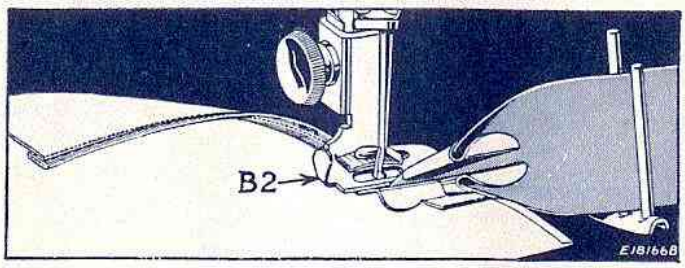


FIG. 44

POSITION OF GARMENT AND BINDING WHEN PIPING EDGES

Crease the raw edges of the garment toward the wrong side about 1/8 inch, and insert the folded edge, raw edges uppermost, into the edge guide on the Binder and **beneath** the binding.

When stitched, both sides of the garment will be finished, and the right side will show the piped edge.

Piping and Binding in One Operation

A garment can be piped and bound in one operation, as shown in Fig. 45.

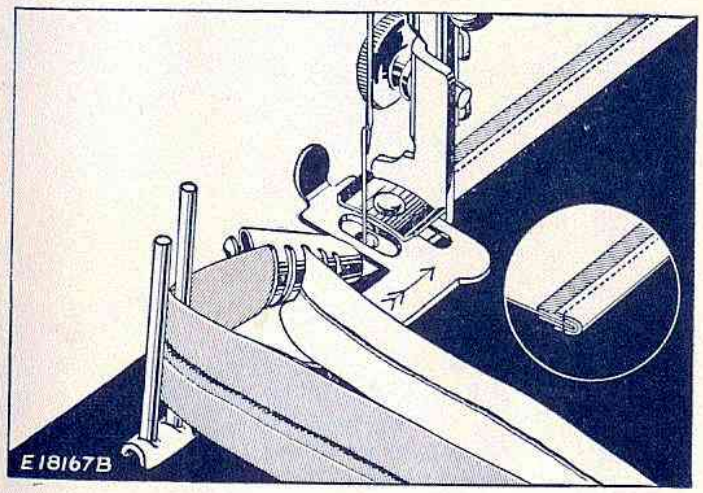


FIG. 45. PIPING AND BINDING IN ONE OPERATION

IMPORTANT: When piping and binding at the same time, as shown above, insert the **narrow width** of binding **first** in its slot, then insert the **wider width** in its slot. **Two consecutive widths should not be used at the same time.** That is, if No. 1 is used, the wider binding should not be smaller than No. 3. If No. 2 is used, the wider binding should be not less than No. 4. **Never use Nos. 1 and 2, or 2 and 3, etc., together.**

Use the upright guide pins to guide the wider of the two widths of binding, as shown in Fig. 45.

To Bind Outside Curves

Allow the edge to be bound to pass freely through the scroll without crowding against the scroll wall. The material must be guided from the back of the Binder and to the left, permitting unfinished edges to swing naturally into the scroll of the Binder.

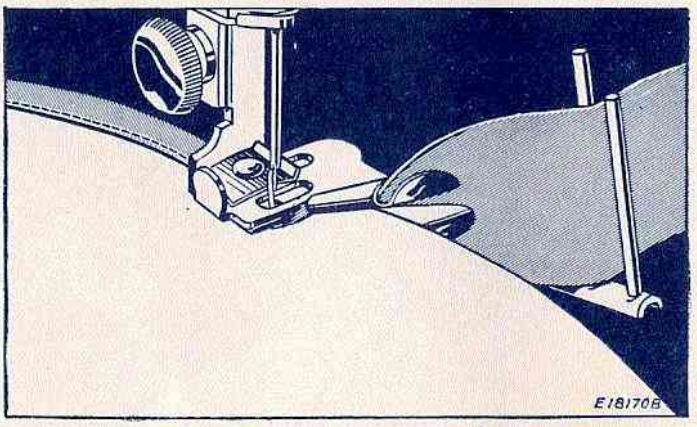


FIG. 46. BINDING AN OUTSIDE CURVE

Never pull the binding while it is being fed through the Binder, as this may stretch the binding, making it too narrow to stitch or to turn in the edges.

When binding curves, turn the material only as fast as the machine sews.

Do not push the material in too fast as this will pucker the edge.

Do not stretch the material as this will distort the edge so that the curve will not have the proper shape when finished.

If the stitching does not catch the edge of the binding, adjust the scroll slightly to the left.

To Bind Inside Curves

When binding an inside curve, straighten out the edge of the material while feeding it into the Binder, being careful not to stretch the material.

Soft materials like batiste or crepe de chine require a row of stitching added close to the edge of the curve before binding.

To Apply French Folds to Curves

Place material under Binder and stitch binding onto face of material, as shown in Fig. 47.

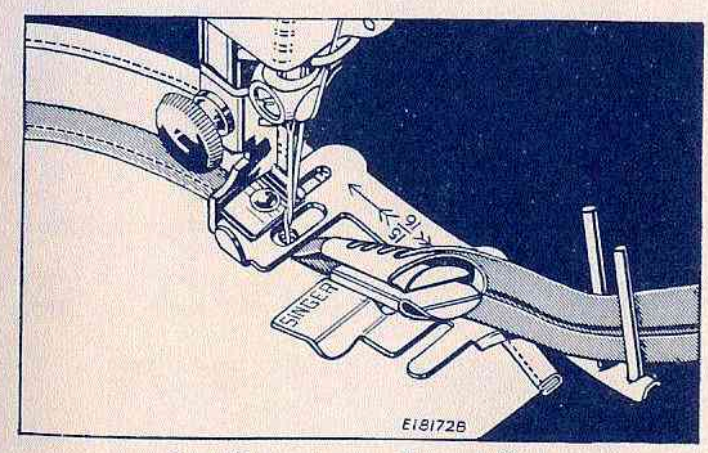


FIG. 47. APPLYING A FRENCH FOLD

For guidance in applying the rows of French folds, mark the material with a line of basting stitches or with chalk or pencil.

THE EDGE-STITCHER

This useful attachment is fastened to the machine in place of the presser foot, and will be found an indispensable aid whenever stitching must be kept accurately on the extreme edge of a piece of material. The slots, numbered from 1 to 5 in Fig. 48, serve as guides for sewing together laces, insertions and embroideries, sewing in position hemmed or folded edges, piping or sewing flat braid to a garment.

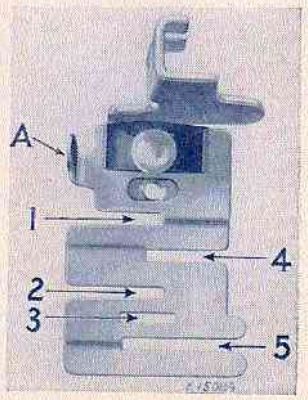


FIG. 48
THE EDGE-STITCHER

Adjusting the Edge-Stitcher

After attaching the edge-stitcher to the machine, turn the balance wheel slowly by hand to see that the needle goes through the center of the needle hole. The distance of the line of stitching from the edge of the material in the slots can be regulated by pushing the lug (A, Fig. 48) to the right or left. If it moves hard, put a drop of oil under the blue spring, then wipe it dry.

Sewing Lace Together with the Edge-Stitcher

It is difficult to sew two lace edges together even after basting, but the edge-stitcher makes it pos-

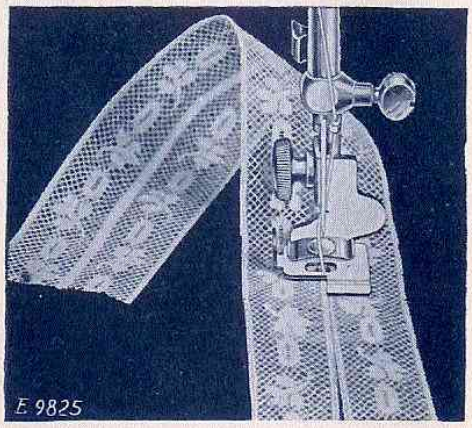


FIG. 49. SEWING LACE TOGETHER

sible to stitch on the very edge. Place one edge in slot 1 and the other in slot 4, and adjust lug (A, Fig. 48) until both edges are caught by the stitching. Hold the two pieces slightly overlapped to keep them against the ends of the slots. The thread tensions should be loose to avoid puckering of fine lace.

Lace and ribbon or other insertions can be set in by using the same slots (1 and 4, Fig. 48). The ma-

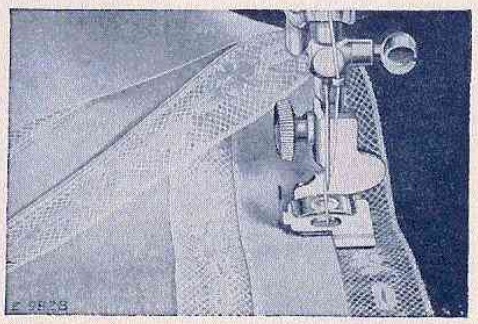


FIG. 50. SETTING IN LACE INSERTION

terial may be folded over before placing it in the slot so that a double thickness is stitched and will not pull out. The surplus material is trimmed away close to the stitching as shown in Fig. 50.

Piping with the Edge-Stitcher

Piping is very attractive if the correct contrasting color is chosen for the piping material. Place the piping with its finished edge to the left, in slot 3 (Fig. 48). Place the edge to be piped in slot 4, as shown in Fig. 51.

Piping should preferably be cut bias, and should be cut to twice the width of the slot (3, Fig. 48) in the edge-stitcher so that it can be folded once.

Applying Bias Folds with the Edge-Stitcher

Folded bias tape or military braid, used for neat and colorful trimming, may be sewn on by placing the garment under the edge-stitcher the same as under a presser foot, and placing the tape in slot 1 or 4 (Fig. 48). To make a square corner, sew until the turning point is reached, then remove the tape

from the attachment and form the corner by hand, replace it in the slot and continue stitching, as

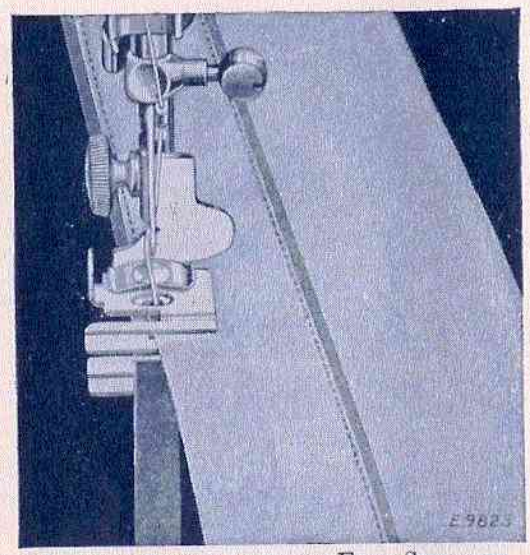
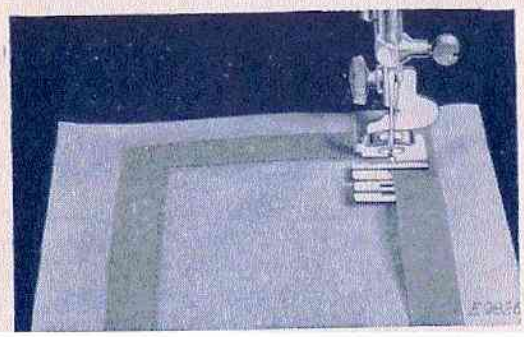


FIG. 51. PIPING WITH THE EDGE-STITCHER

shown in Fig. 52. To space two or more parallel rows, a guide line such as a crease, chalk mark or basting thread should be used.



Stitching a Wide Hem with the Edge-Stitcher

A wide hem on sheets, pillow slips, etc., may be stitched evenly with the Edge-Stitcher after the hem

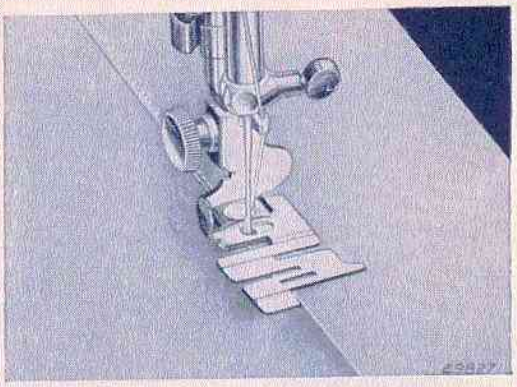


FIG. 53. MAKING A WIDE HEM

has been measured and the edge turned. Insert the edge in slot 5 as shown in Fig. 53 and adjust to stitch as close to the edge as desired.

Making a French Seam

An even French seam may be made by inserting the two edges to be joined, wrong sides together, in slot 1 or 2 and stitching close to the edge; then folding both right sides together and inserting the back of the seam into slot 1 again and stitching with just enough margin to conceal the raw edges. See Fig. 54

FIG. 54. A FRENCH SEAM

Tucking with the Edge-Stitcher

Dainty narrow tucking may be produced on the edge-stitcher by inserting creased folds in slot 1 as

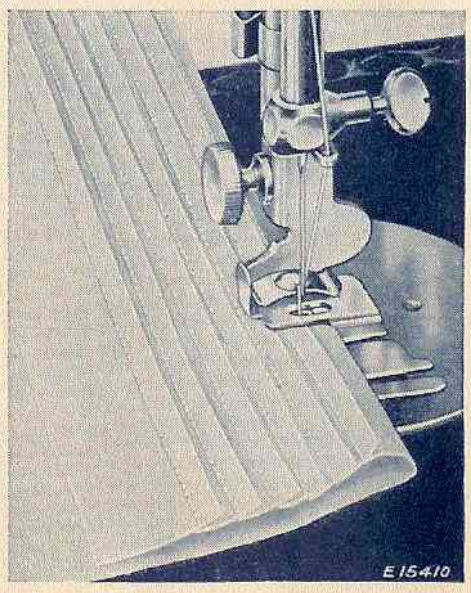


Fig. 55. Tucking with the Edge-Stitcher

shown in Fig. 55, and adjusting the edge-stitcher to right or left for the desired width of tuck, up to ⅛ inch. Successive tucks may be easily creased by folding the material at the desired distance from the previous tuck, and then running the length of the fold over a straight edge such as the edge of the sewing machine cabinet. The secret of good tucking lies in a light tension, short stitch, and fine thread and needle.

SHIRRING WITH THE GATHERER

The Gatherer is fastened to the machine in the same manner as the presser foot. Material placed under the Gatherer and stitched in the usual way will be slightly gathered. Any fabric that drapes well is especially suited for shirring with the Gatherer. Most shirring with the Gatherer is done with a long stitch and tight tension. To increase the fullness of the gathers, lengthen the stitch. To decrease the fullness, shorten the stitch.

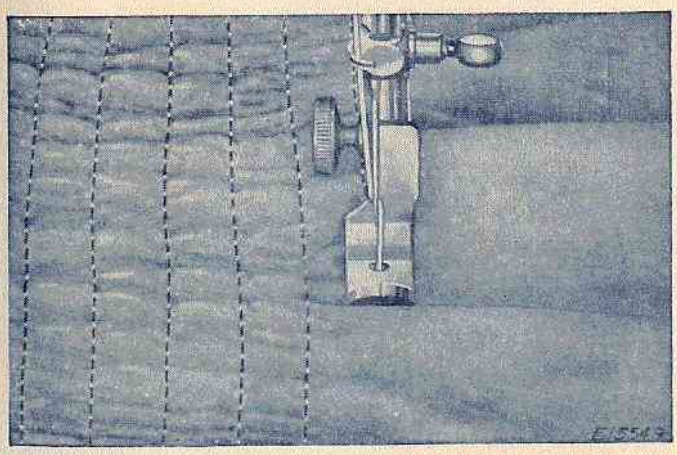


Fig. 56. The Gatherer in Operation

With the Gatherer, it is possible to shirr in narrow rows as shown in Fig. 56. The material may be guided as easily as when sewing with the presser foot. Fine materials, such as batiste, silk or net, may be very attractively shirred. Where only a slight fullness is required, as at the top of a sleeve or around the neck, the Gatherer will be found very convenient.

FIG. 57. SHIRRING

A very pleasing effect may be gained by using thread or embroidery silk of contrasting color on the bobbin. Fig. 58 shows a white organdie collar and cuff set with red and green smocking made with the gatherer, using fine crochet cotton or tatting thread on the top and white cotton on the bobbin.

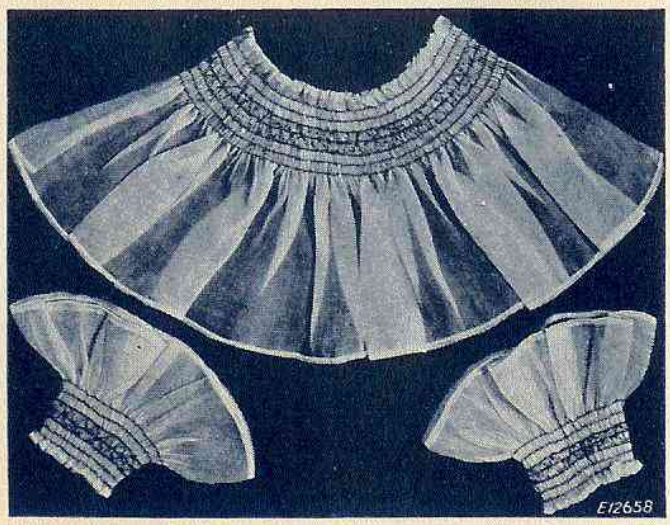


FIG. 58. SMOCKING

RUFFLER

Lines 1, 2, 3, 4 and 5 shown in Fig. 59 indicate where the material is to be placed for various operations, as follows:

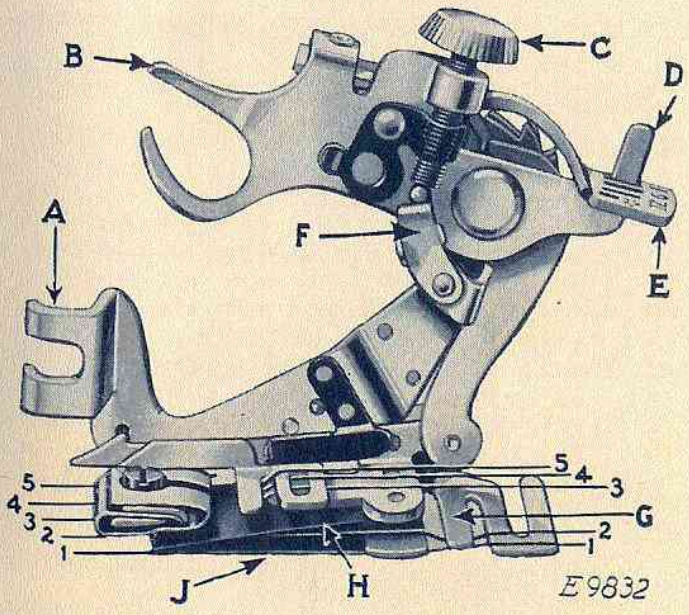


FIG. 59. THE RUFFLER AND ITS PARTS

Line 1—the correct position for the material to which the ruffled material is applied.
Line 2—material to be ruffled.
Line 3—the facing for the ruffle.
Line 4—the strip of piping material.
Line 5—the edge to be piped.

Refer to Fig. 59 when inserting the material in the ruffler.

The names and uses of the principal parts of the Ruffler are as follows:

(See References in Fig. 59)

A—Foot—the part by which the Ruffler is attached to the presser bar.

B—Fork Arm—the section that must be placed astride the needle clamp.

C—Adjusting Screw—the screw that regulates the fullness of the gather.

D—Projection—the part that projects through the slots in the adjusting lever.

E—Adjusting Lever—the lever that sets the Ruffler for gathering or for making a plait once at every six stitches, or once at every twelve stitches, as desired; also for disengaging the Ruffler, when either plaiting or gathering is not desired.

F—Adjusting Finger—the part which regulates the width or size of the plaits.

G—Separator Guide—the guide on the underside of the Ruffler, containing slots into which the edge of the material is placed to keep the heading of the ruffle even; also for separating the material to be ruffled from the material to which the ruffling is to be attached.

H—Ruffling Blade—the upper blue steel blade with the teeth at the end to push the material in plaits up to the needle.

J—Separator Blade—the lower blue steel blade without teeth, which prevents the teeth of the ruffling blade coming into contact with the feed of the machine, or the material to which ruffle or plaiting is to be applied.

To Attach the Ruffler to the Machine

Raise the needle bar to its highest position and remove the presser foot. Attach the ruffler foot (A, Fig. 59) to the presser bar by means of the thumb screw, at the same time placing the fork arm (B, Fig. 59) astride the needle clamp as shown in Fig. 60.

To Adjust the Ruffler for Gathering

The adjusting finger (F, Fig. 60) is not intended for gathering and should be moved forward or away from the needle, as shown in Fig. 60.

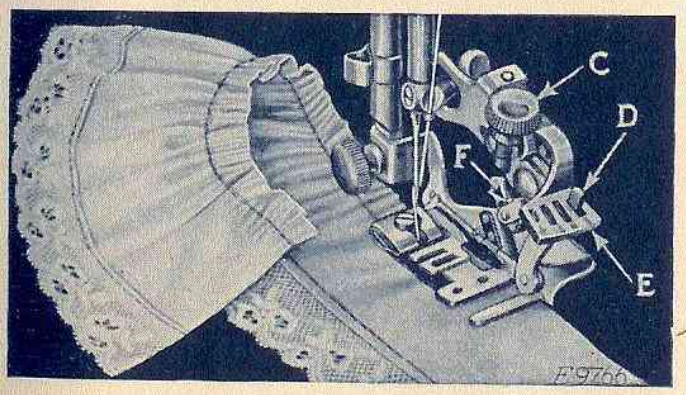


Fig. 60

Raise the adjusting lever (E, Fig. 60) and move it to the left so that the projection (D, Fig. 60) will enter the slot marked "1" in the adjusting lever (E) when the lever is released. The ruffling blade will then move forward and back once at every stitch. Insert the material to be ruffled between the two blue blades, following the line 2 in Fig. 59. Draw the material slightly back of the needle, lower the presser bar and commence to sew.

To make fine gathering, shorten the stroke of the ruffling blade by turning the adjusting screw (C, Fig. 60) upward; also shorten the stitch. To make full gathering, lengthen the stroke of the ruffling blade by turning the adjusting screw (C) downward; also lengthen the stitch. By varying these adjustments, many pleasing varieties of work can be accomplished.

To Make a Ruffle and Sew it to a Garment in One Operation

Insert the material to be ruffled between the two blue blades, as shown in Fig. 61 following the line 2, in Fig. 59. Place the garment to which the

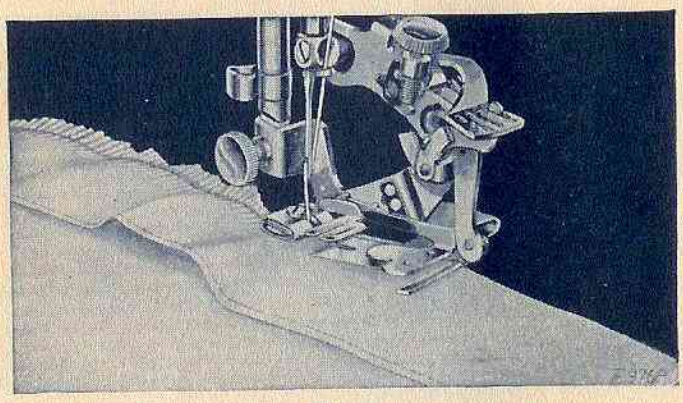


FIG. 61

ruffle is to be attached, under the separator blade, following the line 1, in Fig. 59. Proceed the same as for gathering.

The edge of the ruffled seam can be bound by using the binder.

To Ruffle and Sew on a Facing in One Operation

Insert the material to be ruffled between the two blue blades, following the line 2, in Fig. 59. Place the garment to which the ruffle is to be attached, under the separator blade, following the line 1, in Fig. 59. Place the material for the facing over the upper blue blade, as shown in Fig. 62, following the line 3, in Fig. 59. The facing may be straight or bias material. If the facing is to be on the right side of the garment, place the garment and

the ruffle so that the wrong sides are together. If the facing is to be on the wrong side, place the right sides of the garment and the ruffle together.

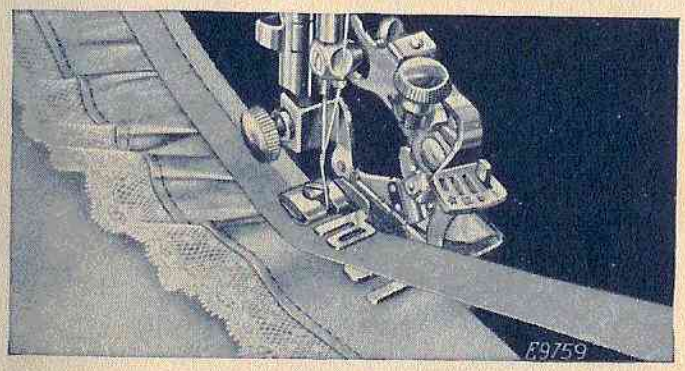


FIG. 62

Piping a Ruffle

Insert the material to be ruffled between the two blue blades, following the line 2, Fig. 59. This

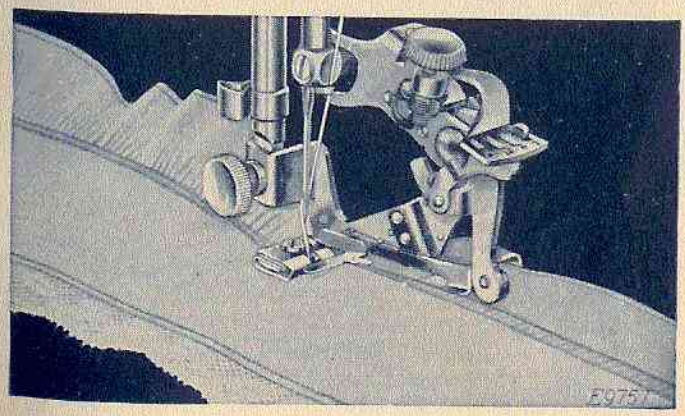


FIG. 63

material must not be over 1¼ inches wide, as it is carried through the ruffler with the finished

edge of the ruffle to the right of the attachment as shown in Fig. 63.

The material for piping must measure about ¼ inch wide when folded in the center and is usually cut on the bias. Place the piping material in the ruffler, following the line 4, in Fig. 59, with the folded edge of the piping to the right. The material to which the piping and ruffling are to be sewn should be folded on the edge and inserted in the ruffler, following the line 5, in Fig. 59.

To Adjust the Ruffler for Plaiting

Raise the adjusting lever (E, Fig. 64) and move it to the right so that the projection (D, Fig. 64)

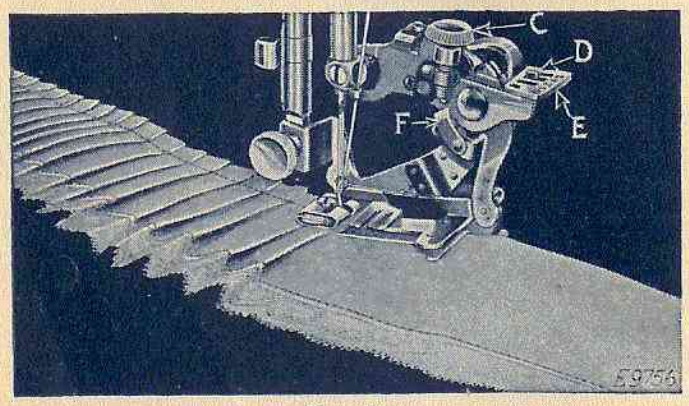


Fig. 64

will enter the slot marked "6" in the adjusting lever when the lever is released. The ruffling blade will then move forward and back once at every six stitches. To adjust the ruffling blade to make a plait once at every twelve stitches, place the adjusting lever (E, Fig. 64) so that the projection (D) enters the slot marked "12" in the adjusting lever. Insert the material to be plaited between the two blue blades, following the line 2 (Fig. 59). The size or width of plaits is regulated by the adjusting screw

(C, Fig. 64) and the adjusting finger (F, Fig. 64). To make a wider plait, move the adjusting finger (F) back or toward the needle and turn the adjusting screw (C) downward. To make a smaller plait, turn the adjusting screw (C) upward. The distance between plaits is regulated by the length of stitch.

To Adjust the Ruffler for Group Plaiting and Gathering

The ruffler can be adjusted for group plaiting by lifting the adjusting lever (E, Fig. 65) and moving

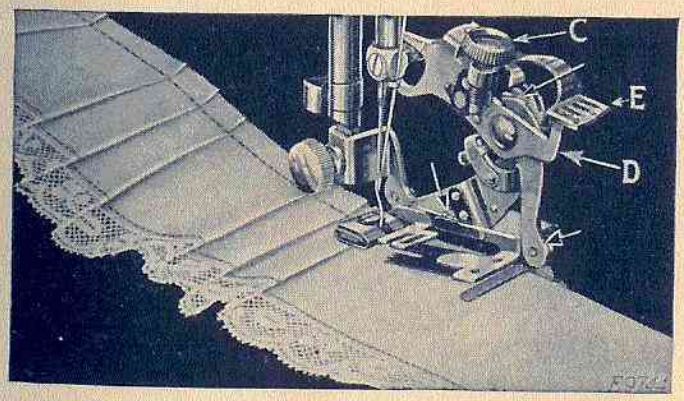


Fig. 65

it to the right so that the top of the projection (D, Fig. 65) enters the small slot indicated by the star on the adjusting lever. This should be done at the points where you wish to make the space between the plaits. The ruffler will then stop and plain stitching will be made. When the desired space has been made, adjust the lever (E) so that the projection (D) enters either the slot marked "6" or the slot marked "12." By alternately making groups of plaits and plain spaces, as shown in Fig. 65, very attractive work can be produced.

To Oil the Ruffler

Occasionally apply a drop of oil to the working parts of the ruffler at each of the places indicated by the unlettered arrows in Fig. 65. After oiling, operate the ruffler on a waste piece of material to prevent the oil soiling the work. If the ruffler does not plait evenly, a drop of oil may remedy the trouble.

SINGER Needles should be used in SINGER Machines. These Needles and their Containers are marked with the Company's Trade Mark "SIMANCO.*" 1

Needles in Containers marked "FOR SINGER MACHINES" are NOT SINGER made needles. 2

NEEDLES AND THREADS

For perfect stitching, the **thread** should be selected according to the fabric to be stitched and the **needle** must be the correct size for the thread which must pass freely through the eye of the needle.

CHART SHOWING THE RELATIONSHIP OF TYPES OF FABRICS, THREAD AND NEEDLE SIZES AND MACHINE STITCHES TO THE INCH

TYPES OF FABRICS	THREAD SIZES	NEEDLE SIZES	MACHINE STITCHES PER INCH	
			INSIDE SEAMS	TOP STITCHING
Filmy materials comparable to Net, Marquisette, Organdie, Ninon.	100 Cotton OO and OOO Silk	9	20	30
Sheer materials comparable to Lawn, Dimity, Voile, Batiste, Chiffon, Rayon, Sheer, Rayon Crepe.	80 to 100 Cotton O Silk	11	16	20
Lightweight materials comparable to Gingham, Chambray, Sheer Wool Crepe, Taffeta.	60 to 80 Cotton A and B Silk	14	12	18
Medium lightweight materials comparable to Poplin, Pique, Percale, Cretonne, Chintz, Faille, Bengaline, Wool Flannel, Wool Crepe, Wool Jersey.	50 to 70 Cotton B Silk	14	12	16
Medium heavy materials comparable to Crash, Gabardine, Rep, Corduroy, Velveteen.	40 to 50 Cotton C Silk	16	10	12
Heavy materials comparable to Sailcloth, Denim, Ticking.	30 to 40 Cotton 24 to 30 Cotton D Silk	18 19 18 or 19	8	10
Very heavy materials comparable to overcoating.	40 to 60 Linen 20 to 24 Cotton E Silk	21	6	8
Plastic materials.	Mercerized Cotton	11	10	12

When ordering needles, always specify "Class and Variety 15x1" and state the size and quantity required.