INSTRUCTIONS

for using

SINGER

SEWING MACHINE

Class 216 G

For Combined Zigzag and
Straight Stitching
For Household and Manufacture

THE SINGER SEWING MACHINE COMPANY

The use of a good

SPECIAL OIL

gives best results, in the use of your sewing maschine; by using such an oil, smooth running and satisfactory work and a long life for the machine are guaranteed.

For this reason, use

SINGER OIL

which is available in small glass bottles at all SINGER Shops.

Form 2760/652 Ru.
DIN A 6

INSTRUCTIONS FOR USING

SINGER

SEWING MACHINE

CLASS 216

FOR COMBINED ZIGZAG AND STRAIGHT STITCHING FOR HOUSEHOLD AND MANUFACTURING

NOTICE

The unauthorized use of the name SINGER or any similar protected trade marks of SINGER machines will be legally prosecuted, as will also the alteration of the SINGER name or the ornamentation, on used machines.

*A Trade Mark of

SINGER SEWING MACHINE COMPANY

SINGER Sewing Machine
Class 216

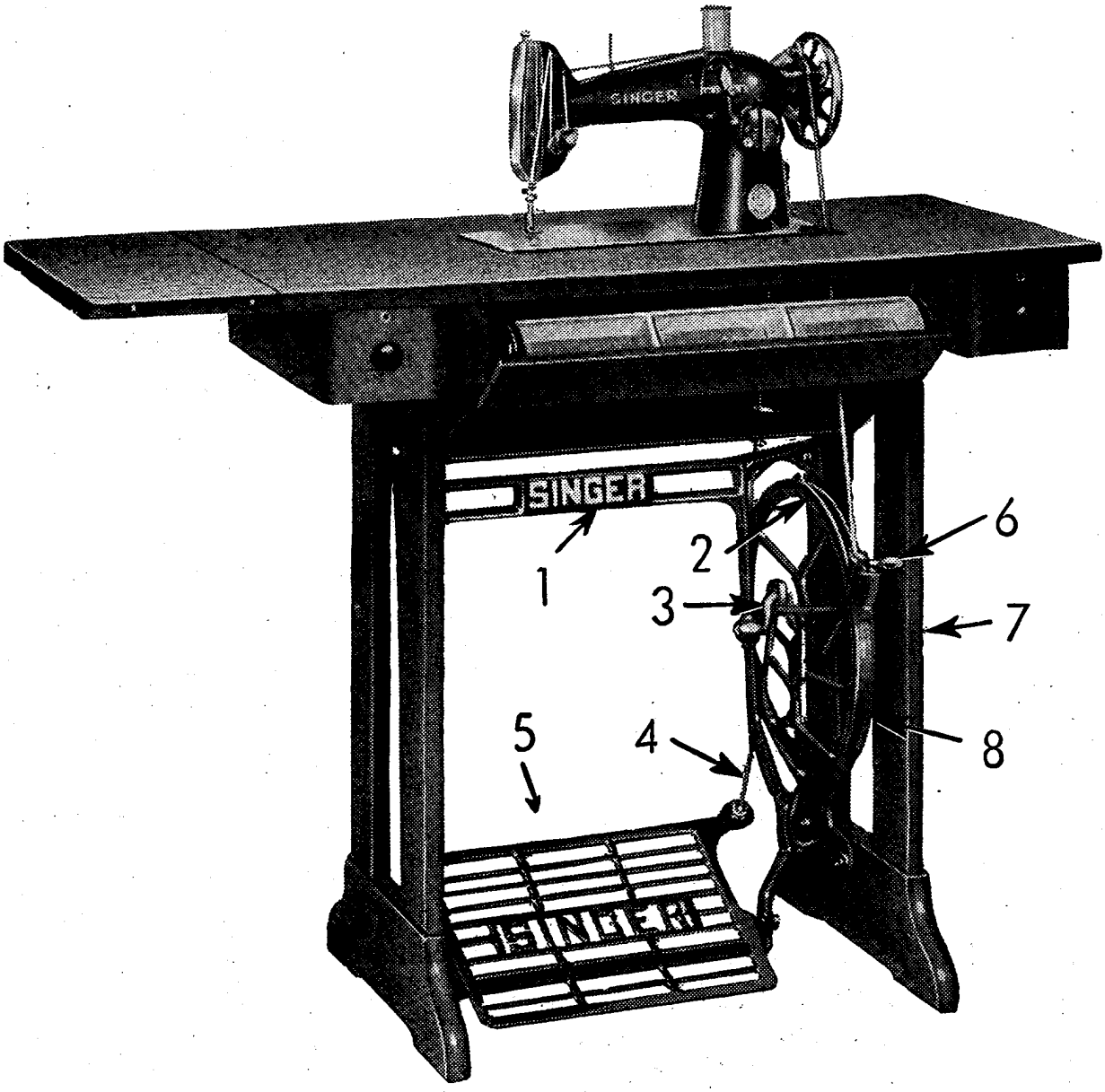


Fig. 1

Parts of the Machine Stand

1 Brace
2 Band Wheel
3 Band Wheel Crank
4 Pitman
5 Treadle
6 Bel Shifter
7 Leg
8 Dress Guard

Parts of the Singer Class 216

with identifying references of those parts which are used in this instruction book

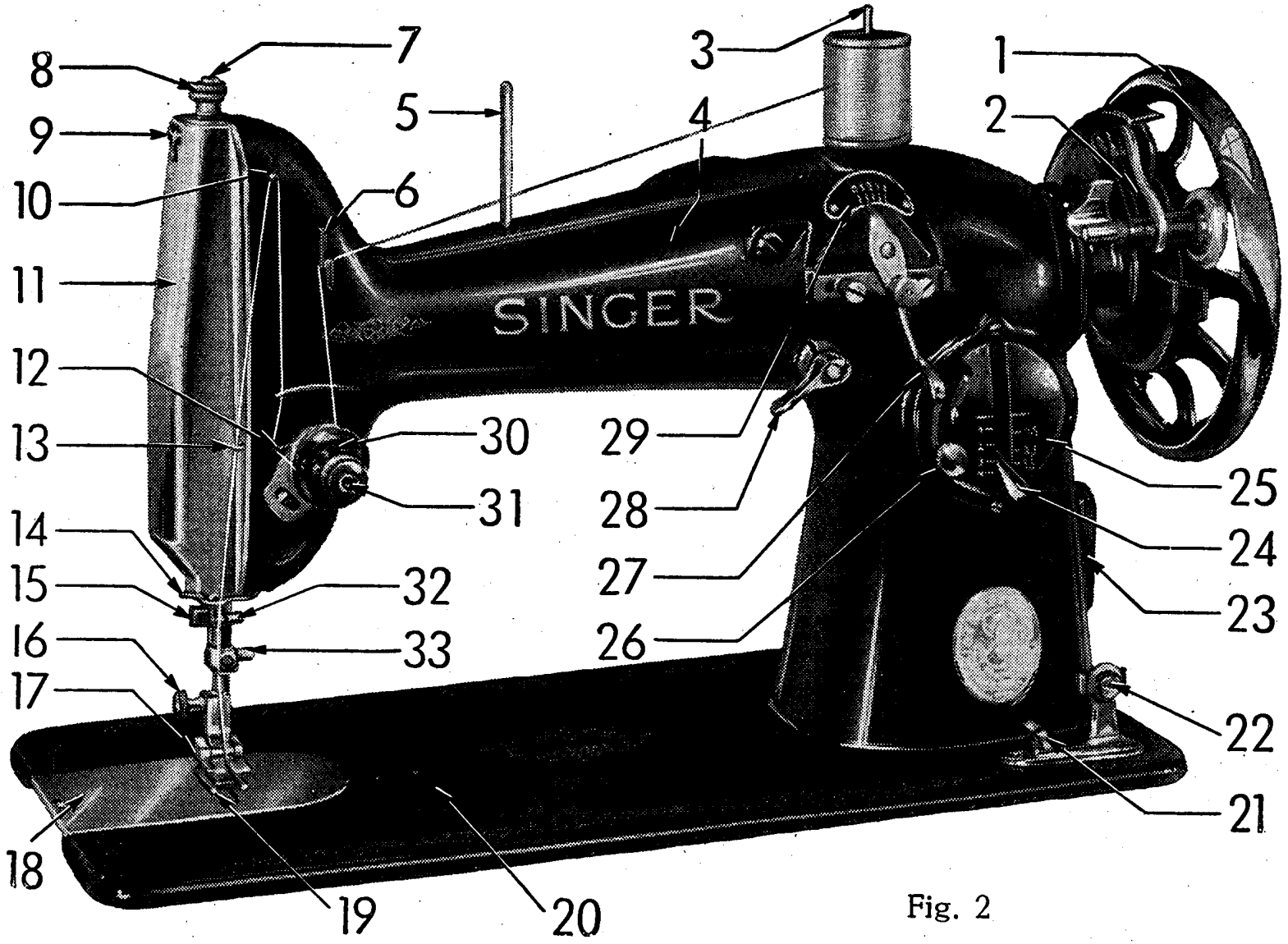


Fig. 2

Description of Parts as shown on Fig. 1 and 2

1. Balance Wheel
2. Bobbin Winder
3. Right Spool Spindle
4. Arm
5. Left Spool Spindle
6. Thread Guide
7. Presser Bar
8. Pressure Regulating Thumb Screw
9. Face Plate Set Screw
10. Thread Take-up Lever
11. Face Plate
12. Thread Take-up Spring
13. Face Plate Thread Guide
14. Thread Guide
15. Thread Cutter
16. Presser Foot Thumb Screw
17. Presser Foot
18. Throat Plate
19. Feed Dog
20. Bed Plate
21. Drop Feed Lever
22. Bobbin Winder Tension Discs
23. Motor Seat
24. Stitch Length Regulator
25. Stitch Length Scale
26. Stitch Length Set Screw
27. Bight Lever
28. Needle Position Lever
29. Bight Scale
30. Thread Tension with Scale
31. Thread Tension Regulating Thumb Nut
32. Needle Bar
33. Needle Clamp

Accessory Set (Fig 3)

	No.
Straight Stitching Foot	1
Button Sewing Foot	2
Buttonhole Foot	3
Ornamental zigzag stitching Foot	4
Zigzag and straight stitch cording and braiding Foot	5
Shell Hemmer	6
Felling Foot for straight stitching	7
Buttonhole knife	8
Buttonhole knife handle	9
Fibre Plate for cutting buttonholes	10
Adjustable cloth guide	11
Cloth guide screw	12
Needle Threader	13
Small Screw Driver	14
Large Screw Driver	15
Oil Can	16

Supplied at Additional Cost (Fig. 4)

Straight Stitch Plate	1
Curved cord covering Foot	2
Roll Hemmer	3

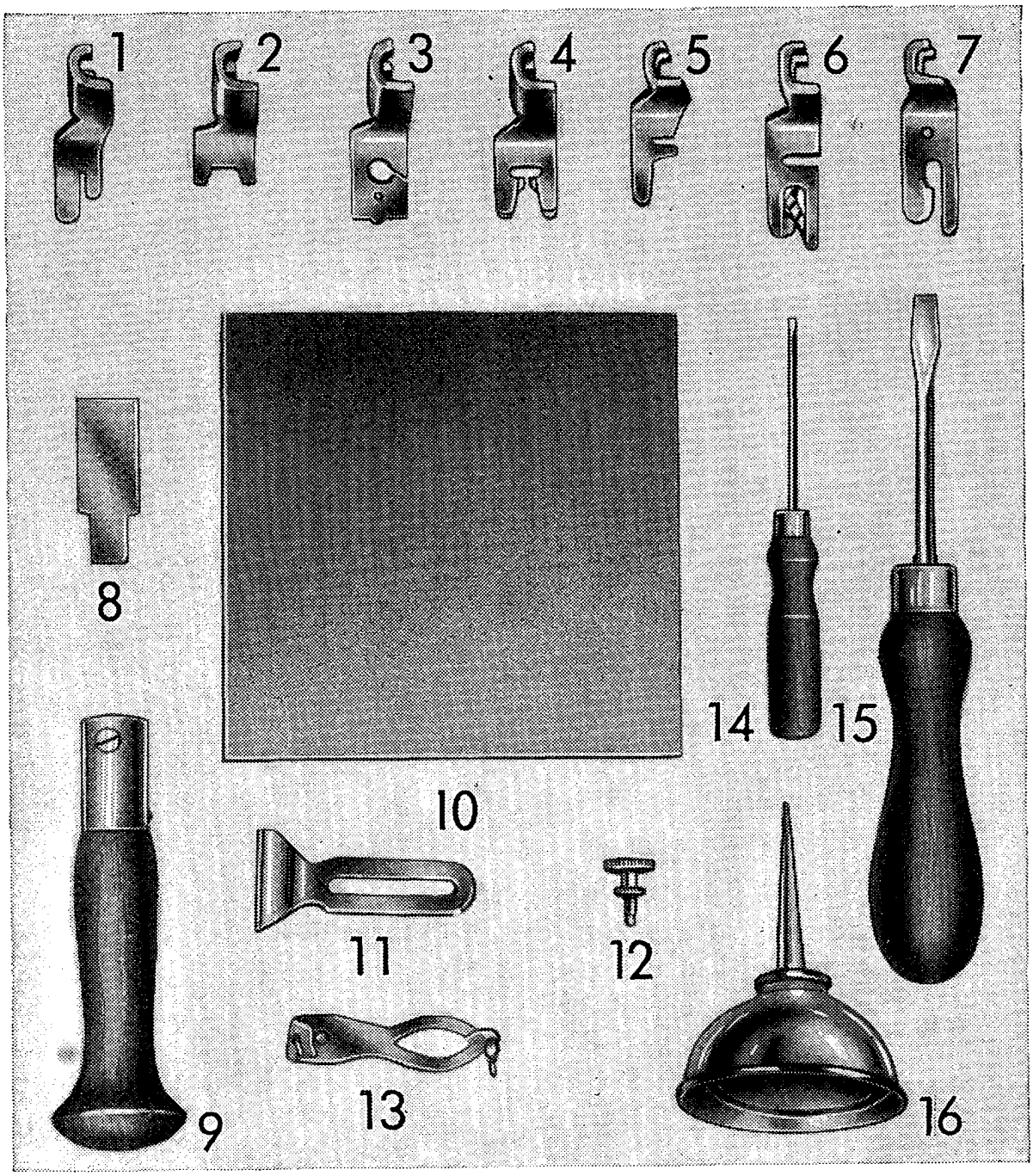


Fig. 3

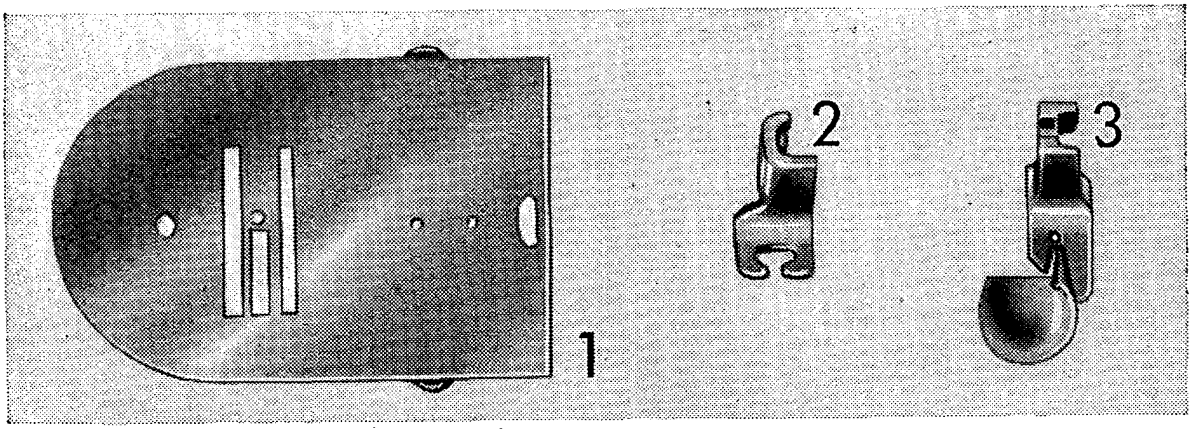


Fig 4

Embroidery Set (Fig. 5)

(Supplied at Additional Cost)

	No.
Throat Plate	1
Double cord guide for cording, embroidery, Madeira and Richelieu work	2
Spur Plate with 3¼ mm. spur	3
Spur Plate with 3¾ mm. spur	4
Punch for 3¼ mm. spur plate	5
Punch for 4¾ mm. spur plate	6
Mallet	7

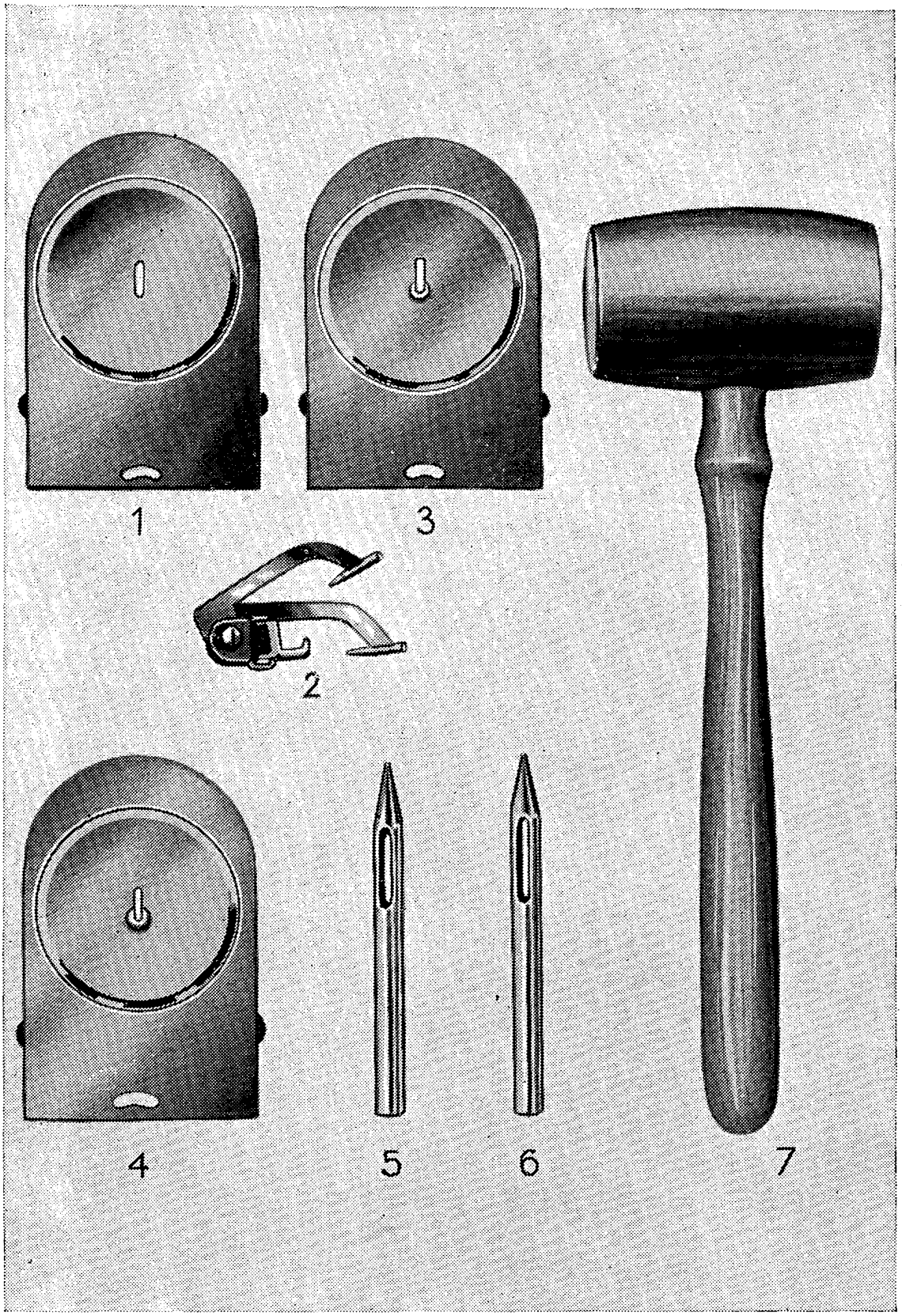


Fig. 5

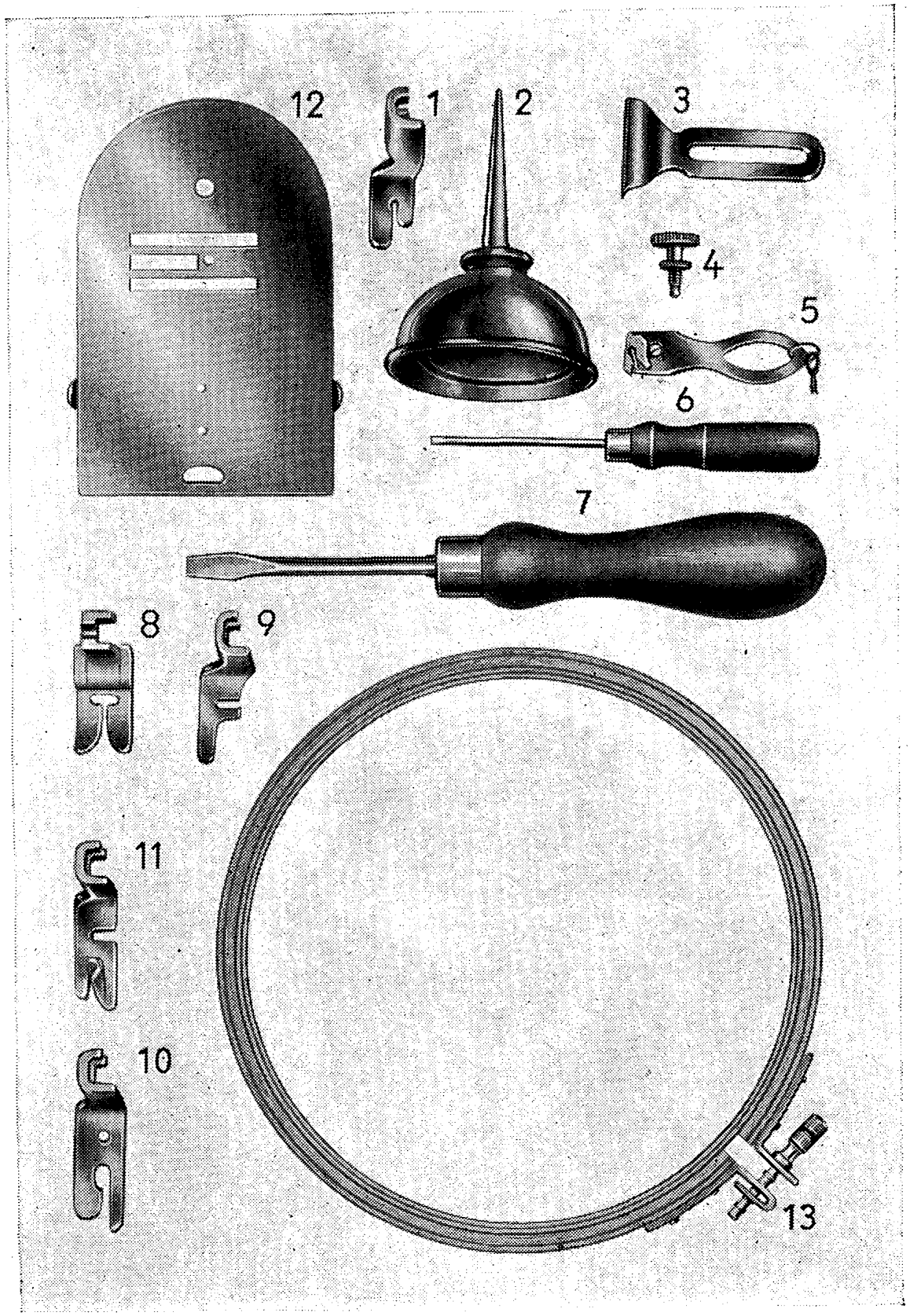


Fig. 5

Air Tucking Set (Fig. 6)

(Supplied at Additional Cost)

	No.
Two-Needle Clamp	1
Middle Tension Needle Disc	2
Foot for wide air tucks	3
Foot for medium air tucks	4
Foot for narrow air tucks	5
Traverse for wide air tucks	6
Traverse for medium air tucks	7
Tubular Traverse for wide air tucks with cords	8
Traverse Clamp	9
The needle used for the air tucking set is the round shank needle of Class 16 x 1 No. 9 or Nr. 10	11

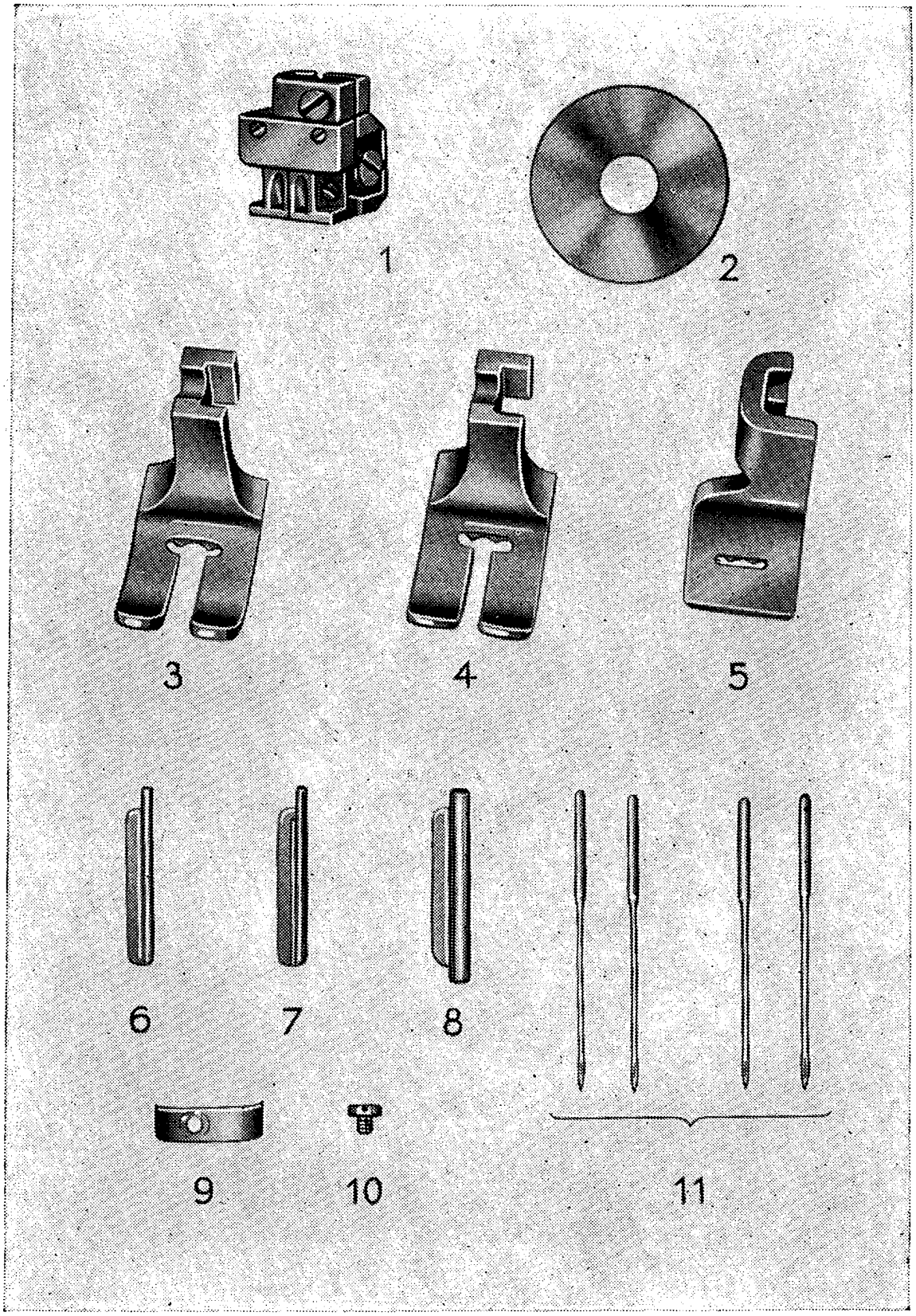


Fig. 6

Table of contents

I. GENERAL INSTRUCTIONS FOR USING THE MACHINE

Releasing the Balance Wheel

Before setting the machine in operation, the presser foot should be raised by means of the presser bar lifter, to prevent injury to the presser foot and the feed dog.

Next, one should become acquainted with the mechanism for releasing the balance wheel. This mechanism permits the beginner to practice using the treadle without actually running the machine. Releasing the balance wheel also permits bobbin re-winding without requiring the sewing work to be removed or the thread to be removed from the machine. The balance wheel is released as shown in Fig. 7, by holding the balance wheel in place with the left hand and, with the right hand, turning stop motion screw toward the operator until noticeable resistance is met.

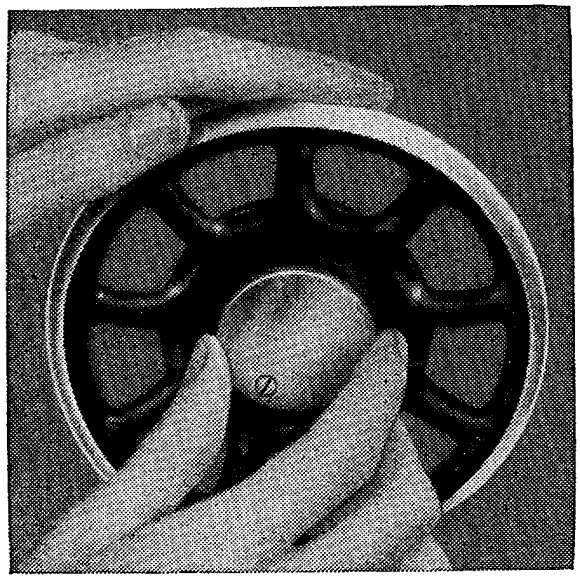


Fig. 7
Releasing the Balance Wheel

The Treadle of the Machine

After releasing the balance wheel, place the foot on the treadle of the machine, then turning the balance wheel over toward you, with the right hand, and by alternately pressing down with the heel and the toes try to attain a uniform motion of the driving wheel. As soon as the motion of the treadle has been well learned, and the machine can again be set in motion without turning the balance wheel in the wrong direction, the releasing mechanism (Fig. 7) is again tightened by turning the stop motion screw toward the right (away from operator) and the machine is again ready for sewing. Place a piece of material under the presser foot, lower the presser foot on the material and work in this manner with the unthreaded machine until the operation of guiding the material through the machine has been learned.

General Instructions

In order to obtain satisfactory work from the machine it is necessary to observe the following:

The balance wheel must be turned only in the direction of the operator.

When the machine is not being used the presser foot should be raised.

As long as there is no material under the presser foot the machine should not be run without threading the needle.

In order to avoid the breaking of the needle, do not pull on the goods while sewing. The work will be moved by the feed without assistance.

Kinds of Needles

The Class 216 Machine uses SINGER needles of

Class 15×1 (flat shank). To choose the correct needle size, see the charts on pages 63 and 64.

Quality of Needles (Fig. 8)

Since bad needles or needles of poor quality can easily break the thread, skip stitches and make uneven

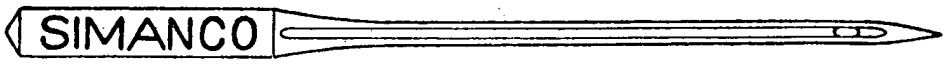


Fig. 8 SINGER Needles are stamped with the Company's Trade Mark „SIMANCO*"

raw edges in your sewing work, be sure to purchase your needles for this machine in a qualified SINGER Shop, where the needles of the correct size, for the type of work being done, can be purchased.

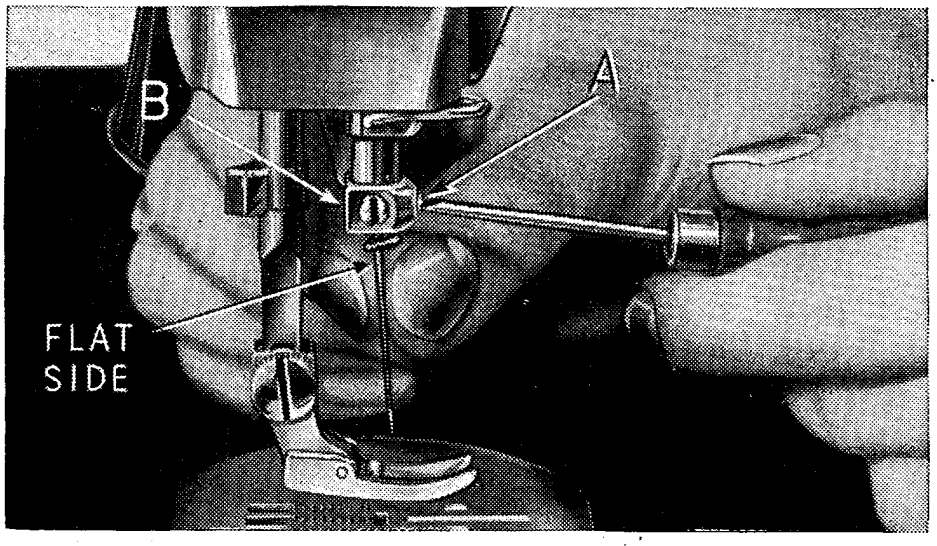


Fig. 9 To Set the Needle

To Set the Needle (Fig. 9)

Turn the balance wheel over toward you, until the needle bar is at its highest position. Loosen screw (A, Fig. 9) and insert the needle, as far up as it will go, into the clamp (B, Fig. 9) with its flat side toward the rear, and long groove of the needle towards you. Then tighten screw (A).

Threading the Needle (Fig. 10)

Place the spool of thread on the right spool spindle.

With the thread take-up lever (No. 5) and the presser foot both in their highest positions, thread the needle as follows:

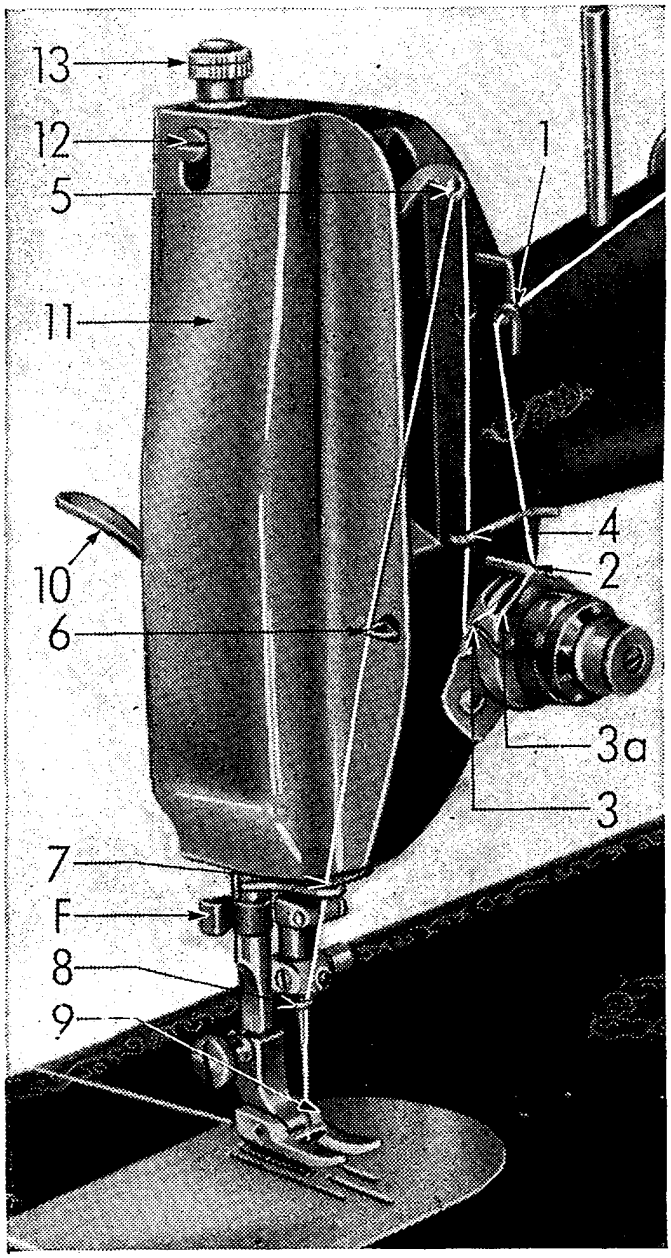


Fig. 10 Upper Threading

1. From right to left through the thread guide 1.
2. Down and from right to left between the tension discs 2.
3. From there lead the thread down and around and upwards into the loop of the take-up spring (3) and pull the thread taut until it slips behind the small retaining fork (3 a), (see also Fig. 22).
4. Upwards behind the thread guide No. 4.
5. From right to left through the eye of the take-up lever No. 5.
6. Down through the thread guide 6.
7. Behind the guide 7.
8. Through the thread guide 8, under the needle clamp.
9. And from **front to rear** through the eye of the needle 9.

Leave about 8 to 10 cm. (3 to 4 inches) of thread hang out of the eye of the needle.

SINGER Threader (Fig. 11)

To thread the needle use the needle threader (No. 13, Fig. 3). The presser foot is lowered and the needle bar is raised to its highest point. Hold the needle threader with the right hand so that it is behind the needle and its hook is to the right of the needle and let the hook of the threader slide down the short groove of the needle until it slips into the eye of the needle. Next, lead the hook as far as possible through the eye of the needle, place the thread into the hook and hold it as shown in Fig. 11.

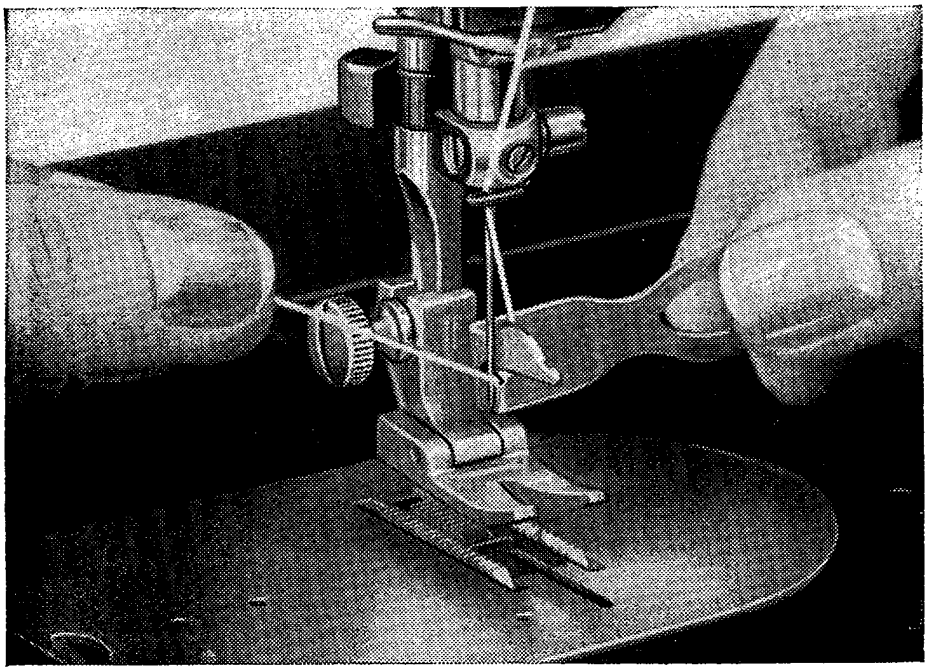


Fig. 11 The Use of the SINGER Needle Threader

While holding the threader horizontally and lifting slightly upward, draw the hook with the thread backwards out of the needle eye until the end of the thread is completely out of the hook. The needle is now properly threaded.

The Removal of the Bobbin (Fig. 12)

With the thread take-up lever at its highest point, grasp the bobbin case latch (K) in the lower part of the machine, with the thumb and forefinger of the left hand, and draw out the bobbin case. While the latch is open, the bobbin will remain in the case, upon releasing the latch and tilting the case, the bobbin will fall out.

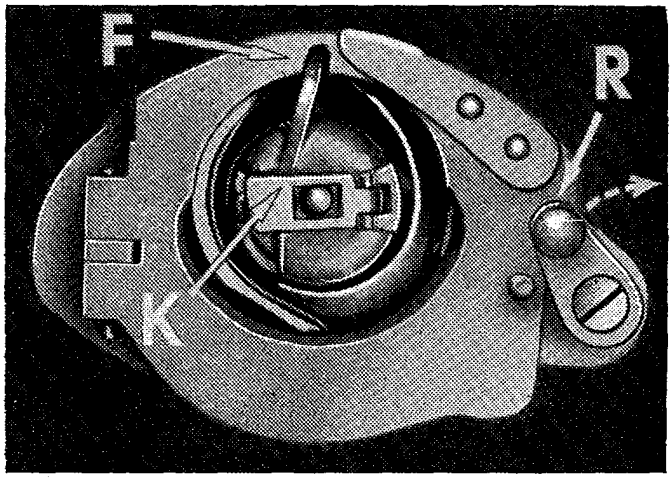


Fig. 12
The Removal of the Bobbin

To Wind the Bobbin

The balance wheel is released as described on page 13. Place a spool of thread on spindle 1, from which the thread is guided under and around tension discs up to the bobbin winder. Now pass the thread from the inside through the slot in the left side of the bobbin and press the bobbin on to the winder spindle 3. Lightly turn the bobbin and at the same time press it toward the bobbin winder spindle until the small pin in the bobbin winder spindle enters the slot in the right side of the bobbin. Next, press lever 4 downward so that the bobbin 5 will move downward and will be held fast in position for winding. The machine should then be set in motion as for regular sewing. The end of the thread is held fast with the hand for several turns of the bobbin, and then the starting end is broken off. As soon as enough thread is wound on the bobbin it will automatically disengage itself.

In case a full bobbin is not required the bobbin can be raised by lifting lever 5, at any time desired.

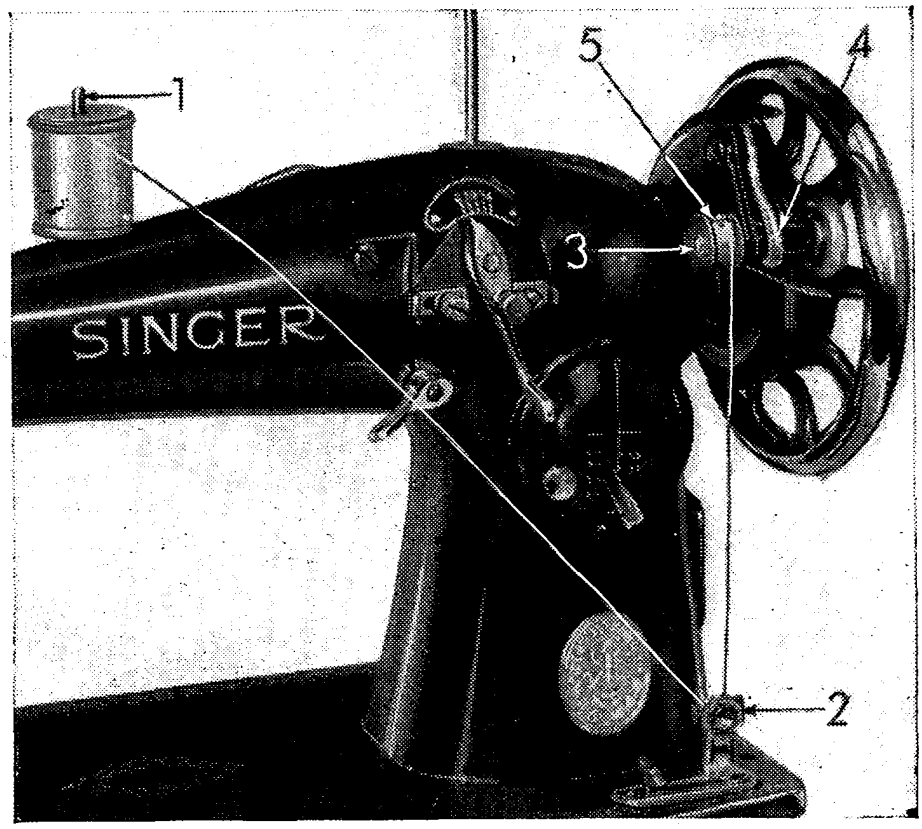


Fig. 13
Winding of
the Bobbin

If through any cause the pressure of the rubber ring against the ledge of the balance wheel is insufficient to wind the bobbin, loosen the screw (0, Fig. 14). Press the winder lightly until the rubber ring is in contact with the ledge of the balance wheel and keep it in this position until screw (0) has been tightened. The bobbin can also be wound while doing ordinary sewing.

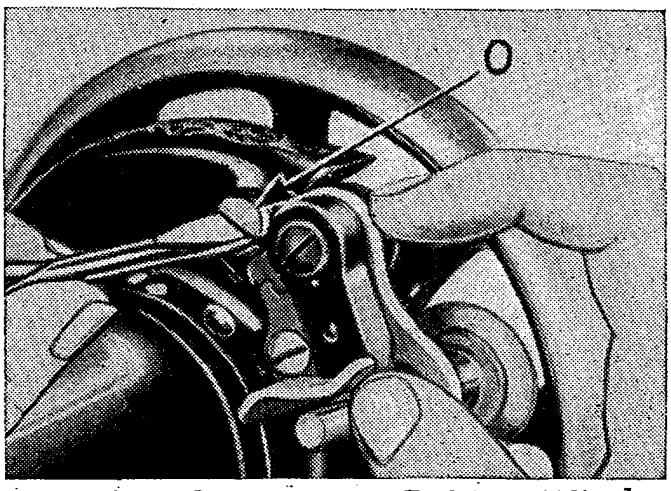


Fig. 14 Adjusting the Bobbin Winder

Threading the Bobbin Case (Fig. 15, 16, 17)

Hold the bobbin, which has been fully wound with thread, in the right hand so that the thread will run off from left to right (Fig. 15). With the left hand, grasp the bobbin case and place the bobbin into it (Fig. 15).

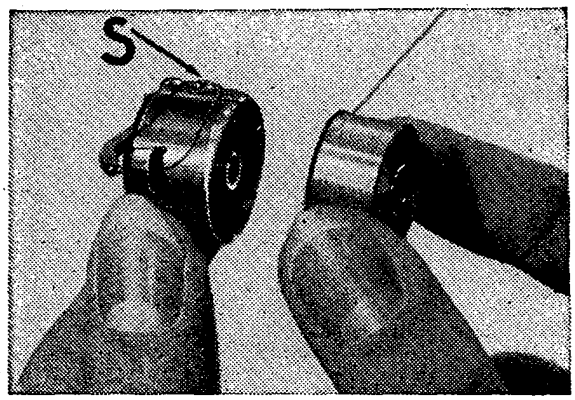


Fig. 15

Then pull the thread with the right hand through the slot in the edge of the bobbin case (Fig. 16) and further to the left

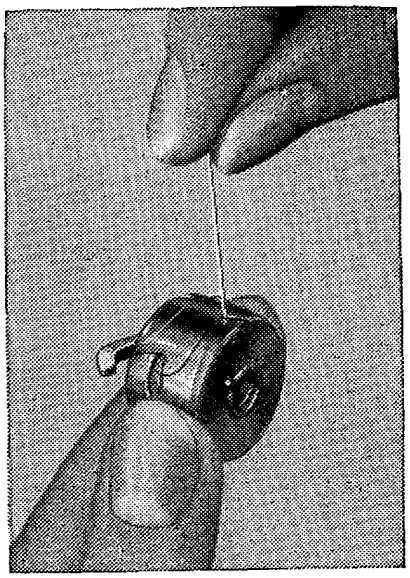


Fig. 16

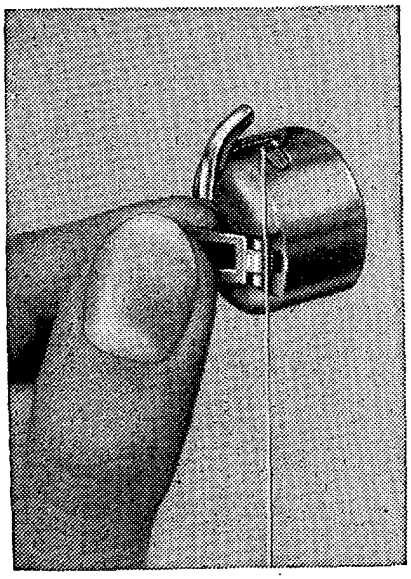


Fig. 17

under the tension spring. Let the end of the thread hang down, next to the position finger of the bobbin case, as shown in Fig. 17.

To Replace the Bobbin Case

After threading, hold the bobbin case by the latch between the thumb and forefinger of the left hand, and replace it on the center stud of the shuttle body, so that the position finger (F, Fig. 12) fits into the notch of the shuttle race. The bobbin case must be pressed

firmly into the shuttle race so that upon releasing the latch it will snap into the groove of the center stud, for only then is it protected from falling out.

To Prepare for Sewing (Fig. 18)

Hold the end of the needle thread loosely in the left hand, and turn the balance wheel over toward you until the needle moves down and up again to its highest point, thus catching the bobbin thread. By

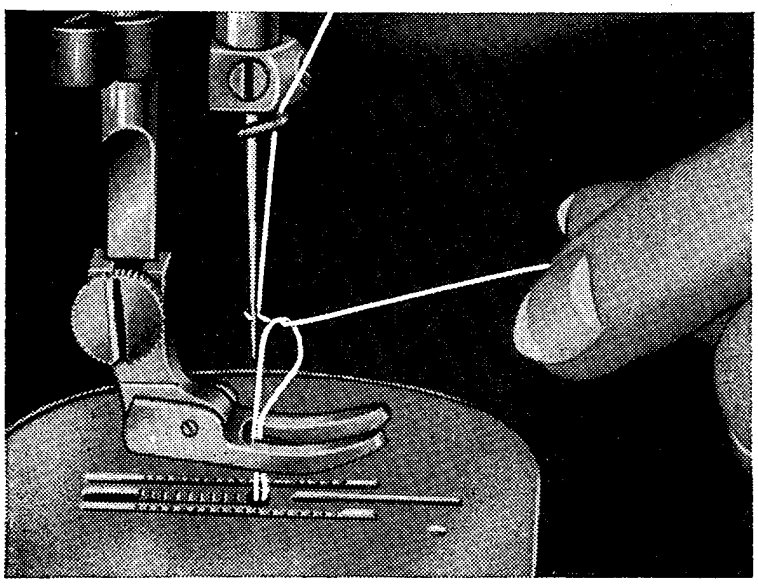


Fig. 18
Drawing up te
Bobbin Thread

pulling the needle thread, the bobbin thread is brought up to the surface (Fig. 18). After the bobbin thread has been pulled out to the top, the ends of both threads are placed back under the presser foot, so that they cross over the feed dog diagonally, either towards the right or the left.

To Commence Sewing

Place the material beneath the presser foot, lower the presser foot and begin to sew holding the two threads by pressing them against the bed plate, while the first few stitches are being made.

Do not pull the material along in order to aid the feeding, since this might bend the needle or even break it. The machine feeds without any assistance.

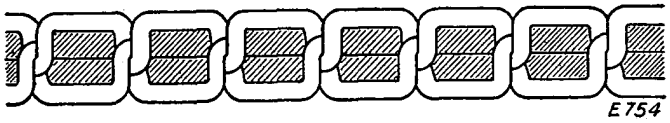
To Remove the Work

As soon as the thread take-up lever has reached its highest position, raise the presser foot, draw the fabric back and to the left, pass the threads over the thread cutter (F, Fig. 10) and pull lightly to sever them. The ends of the threads are again placed under the presser foot as described above in "To Commence Sewing".

Thread Tensions

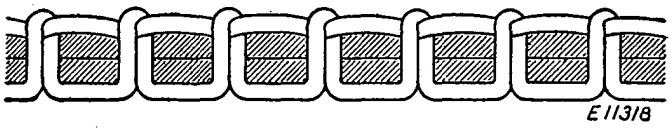
For ordinary sewing the interlocking of the needle and bobbin threads must take place in the middle of the sewing work as shown below:

Fig. 19
Correct Sewing



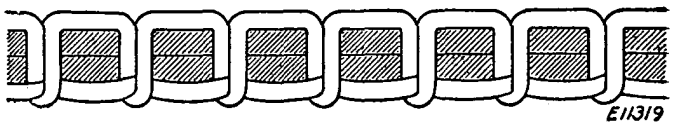
If the tension on the needle thread is too tight or the tension on the bobbin thread is too loose, then the needle thread will lie straight along the upper surface of the material as illustrated in Fig. 20.

Fig. 20
Too Tight Needle Thread Tension or Too Loose Bobbin Thread Tension



If the tension on the bobbin thread is too tight or that of the needle thread is too loose, then the bobbin thread will lie straight along the under-side of the material, as shown in Fig. 21.

Fig. 21
Too Loose Needle Thread Tension or Too Tight Bobbin Thread Tension



To Regulate Thread Tensions (Fig. 22)

The tension under which the threads are sewn is of the greatest importance for the appearance of the stitches and the firmness of the seam. Some goods or types of work require more and some less tension, therefore, the operator must become acquainted with the regulating of the tensions.

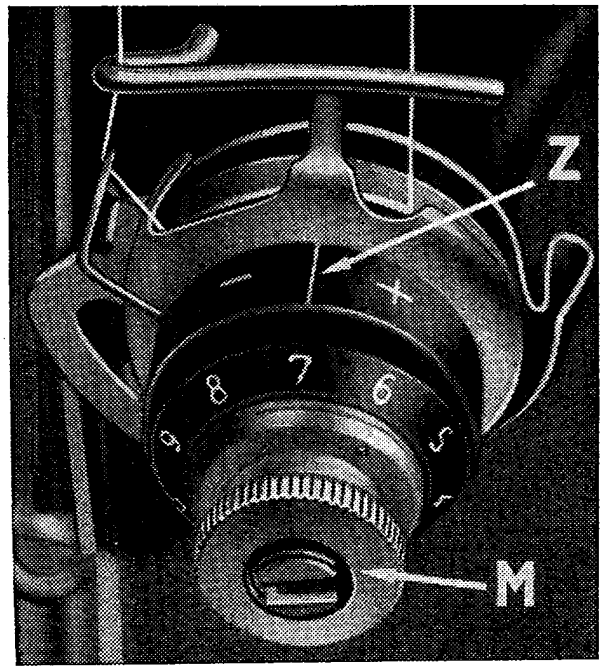


Fig. 22 To Regulate the Tensions

The correct stitch can generally be produced simply by regulating the needle thread tension only.

This tension can be changed only when the presser foot is down. By turning the regulating thumb nut (M, Fig. 22) the tension of the needle thread can be increased or decreased. If the thumb nut (M) is turned to the right, to the plus sign, the higher numbers will be indicated by the indicator mark (Z), that is, the tension will be increased. If the tension is to be decreased, the thumb nut (M) must be turned toward the left to the minus sign, so that the lower numbers appear opposite the mark (Z). By noting the number at the indicator mark, the previously set tension can quickly be reset every time a change is required.

The tension on the bobbin thread is properly set by the fabric and except for exceptional cases does not

require changes. Should it be found necessary to change the bobbin thread tension, it can be regulated by the screw (S, Fig. 15). Here again an increase in tension is attained by turning the screw to the left.

To alter the Length of Stitch

By means of the stitch regulator, as shown in Fig. 23, the machine can produce stitches between 0 and 4 mm. in length. The desired length of stitch is attained by loosening the thumb screw (A) and by pressing it to the bottom of the slot. The stitch regulating lever (B) is then placed so that its upper side is in line with the number of the desired stitch length. Finally, move the thumb screw (A) back up again until the stitch regulating plate touches the lever, then tighten the screw. The machine will now make the indicated length of stitch in a forward direction.

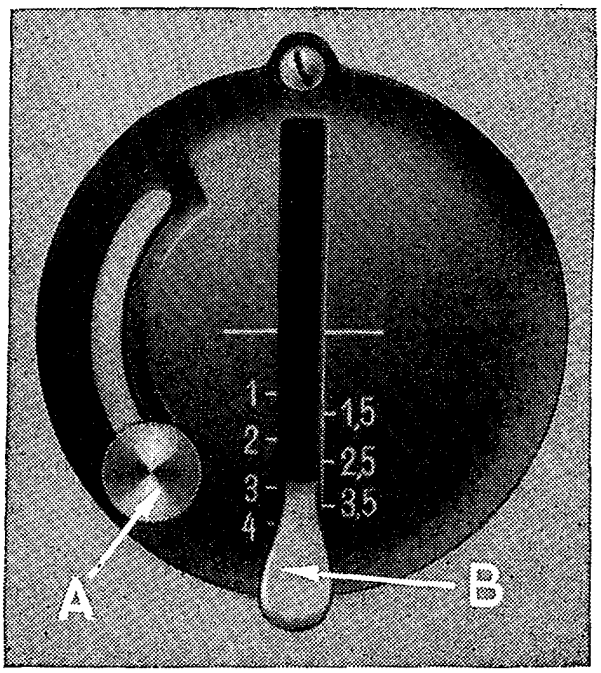


Fig. 23
Stitch Setting Mechanism

Reverse Feed

The change from forward to reverse feed is brought about by lifting the stitch regulating lever (B, Fig. 23), which is pressed downward for forward feeding, as high as it will go, until it touches the top contact point. The machine will then sew the same number

of stitches in reverse. A change to the contrasting direction of feed can be made at any time during sewing.

Regulating the Presser Foot Pressure on the Material

For ordinary sewing the pressure on the material seldom requires change. If sewing fine silk or flimsy material, lighten the pressure, by turning the thumb screw (13, Fig. 10) 2 or 3 complete turns upward, that is, turn to the left. To increase the pressure, turn the screw down into the machine, that is, to the right.

To Turn a Corner

Stop the machine so that the needle is in the material and has just begun to rise from its lowest position. Raise the presser foot and turn the work in the desired direction, using the needle as a pivot.

To Sew Tricot or Bias Cut Material

Stretchy material requires a short stitch and a tension on the needle thread so light that the thread in the seam is loose enough to allow for the goods to stretch later without tearing.

A Stitch that is easily Raveled

A stitch that is easily raveled can be made if desired by having the tension on the needle thread so light that the bobbin thread will not draw into the goods, but will lie straight as shown in Fig. 21.

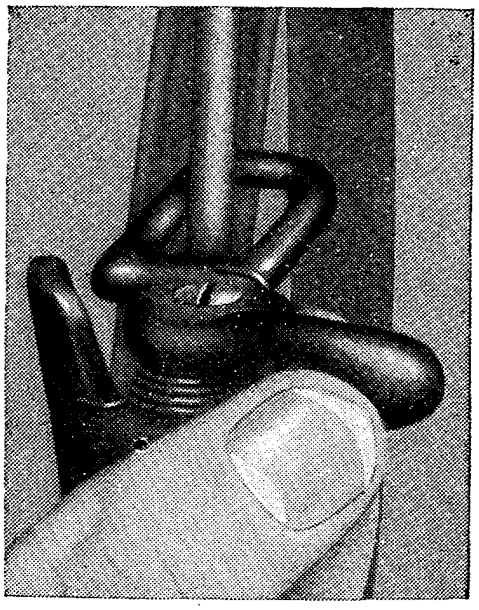


Fig. 24
Belt Shifter

Belt Shifter. To tilt back or lower the machine head, the belt must be removed from the band wheel by pressing the belt shifter (Fig. 24) to the left while slowly operating the machine treadle. To replace the belt, slowly turn the balance wheel over toward you. Only one or two revolutions of the balance wheel are necessary to bring the belt back to its original place.

Changing of the Throat Plate

For certain work it is necessary to change the throat plate. Turn the balance wheel over toward you until the needle has reached its highest point and then

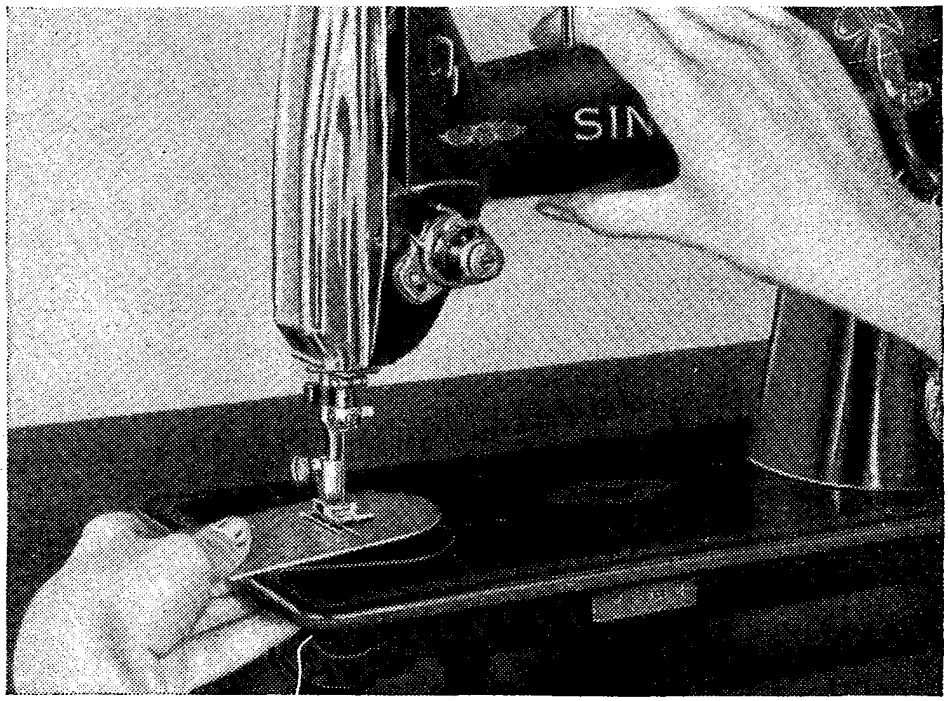


Fig. 25 Changing of the Throat Plate

tilt the machine after having shifted the belt as described above. Now the throat plate is tilted slowly

on one end, as shown in Fig. 25, and then drawn side-ways and out of the bed plate. The replacing of the throat plate is done in a similar manner, in which both ends of the spring are slipped beneath the edge of the bed plate and, while slightly tilted sliding it into position.

To Regulate the Various Types of Stitches

The setting of the various stitches is done, as described in the following paragraphs, by means of both levers (A & B, Fig. 26). With the bight lever (A) the machine is set for either straight stitching or zig zag stitching, while the position lever (B) serves as the setting for central, left, or right needle position.

Ordinary Sewing (Fig. 26)

The machine has a mechanism for combining both a simple straight stitch as well as a zigzag stitch. If

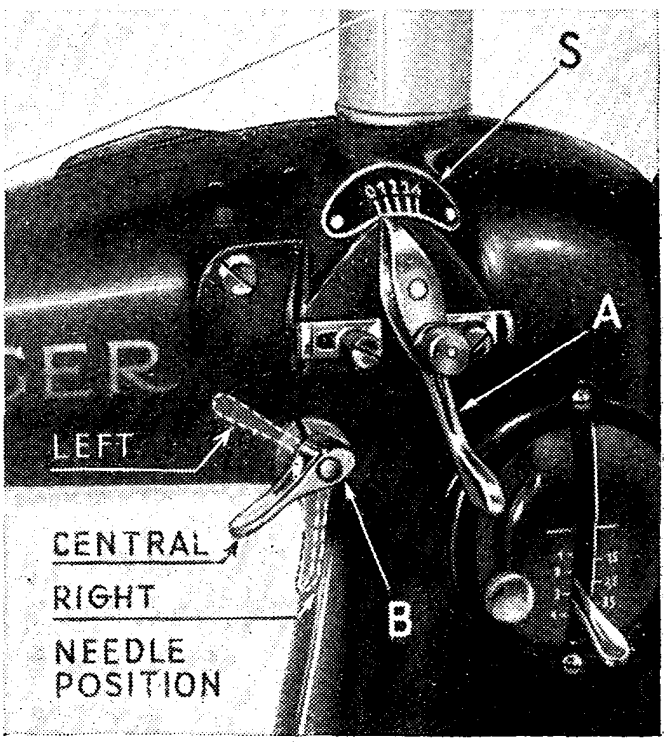


Fig. 26
Ordinary Sewing

the machine is to be used for straight stitching, then the bight lever (A) must be set at 0 on the scale S and the position lever B must be set for central needle position (middle position). If the machine is to be

used for straight stitching over a prolonged period of time, the throat plate with the round needle hole (No. 12, Fig. 3) for straight stitching should be placed on the machine, and at the same time the matching presser foot (No. 1, Fig. 3) should be used.

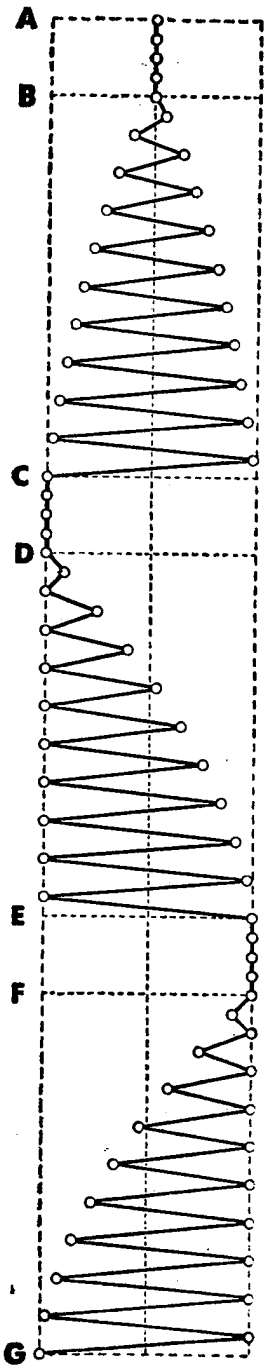


Fig. 27

Zig Zag Sewing

If the bight lever (A) is not set at O, but at any one of the other positions as indicated on the scale in Fig. 26, then the machine will sew a zig zag stitch. Each mark on the scale means one mm. width of bight, that is, zig zag stitches up to 4 mm. in width can be accomplished. **ZIG ZAG SEWING may only be done when the throat plate with the elongated needle hole and the matching presser foot are used, otherwise the needle will be broken.**

Central Needle Position

For normal sewing work, the needle position lever (B, Fig. 26) must be at its central position. The machine will produce zig zag stitches, which are arranged centrally. The row of stitches from A to C, in Fig. 27, is shown with central needle position (needle position lever in its middle position). The row A to B remains located in the middle of the straight sewing, the row B to C is made up of various zig zag stitching up to the widest bight of 4 mm.

Left Needle Position

If the needle position lever (B), shown in Fig. 26, is moved upwards to the left, then the row of straight stitching will be located to the left of the widest bight of 4 mm. (see row C to D), while the needle will vibrate to the right and the zig zag stitch will lie to the right of the straight stitch (row D to E, Fig. 27).

The left needle position makes it possible to sew attractive ornamentation, the sewing and barring of buttonholes and for fastening ends of seams, for doing Madeira work, and for sewing on buttons.

Right Needle Position

If the needle position lever B, Fig. 26 is down towards the right, then the straight stitching will lie on the right edge of the widest bight of 4 mm. (see row E to F, Fig. 27). The needle will then vibrate from the right to the left and will make zig zag stitches, as shown in row F to G (Fig. 27).

With the right needle position, a person can make many more different types of attractive ornamentations.

Bight Limitations

The bight lever (A) as well as needle position lever (B) can be regulated while sewing, and can even be changed over between straight stitching and zig zag stitching as well as between various widths of zig zag stitches. If as in sewing buttonholes the operator wishes to limit the width of bight, then the stops (C & D, Fig. 28) should be used. The stop (C) limits the bight between 2 and 4 mm., and the stop (D) between 0 and 2 mm.

The stops can be adjusted by loosening the screws E and F. After setting the stops, the screws should again be tightened.

The stops can be disengaged by turning thumb nut K ¼ turn, so that the bight lever, although limited by the stops, can be swung over the entire scale, which is necessary, for example, to sew up an end of a zig

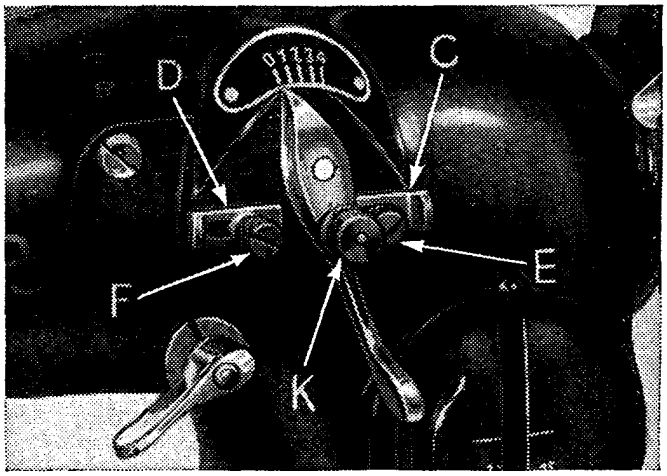


Fig. 28. Bight Lever Stops

zag stitch, or when barring buttonholes. After thumb nut K is turned another ¼ turn, then the motion of the bight lever will again be limited by the stops C and D.

II. CARE OF THE MACHINE

Cleaning the Shuttle Race (Fig. 29)
If while sewing, the machine suddenly stops, do not attempt to turn the balance wheel forcefully, because probably some lint or a piece of thread has become clogged in the shuttle race.

In order to remove the cause of the trouble, raise the needle bar to its highest point, remove the upper thread from the needle and make sure that the drop feed lever (A, Fig. 61) is set in its left position. Remove the throat plate and tilt the machine head over on its back.

Remove the bobbin case and turn the lever (R, Fig. 29) to the right. The shuttle race will then swing open to the left.

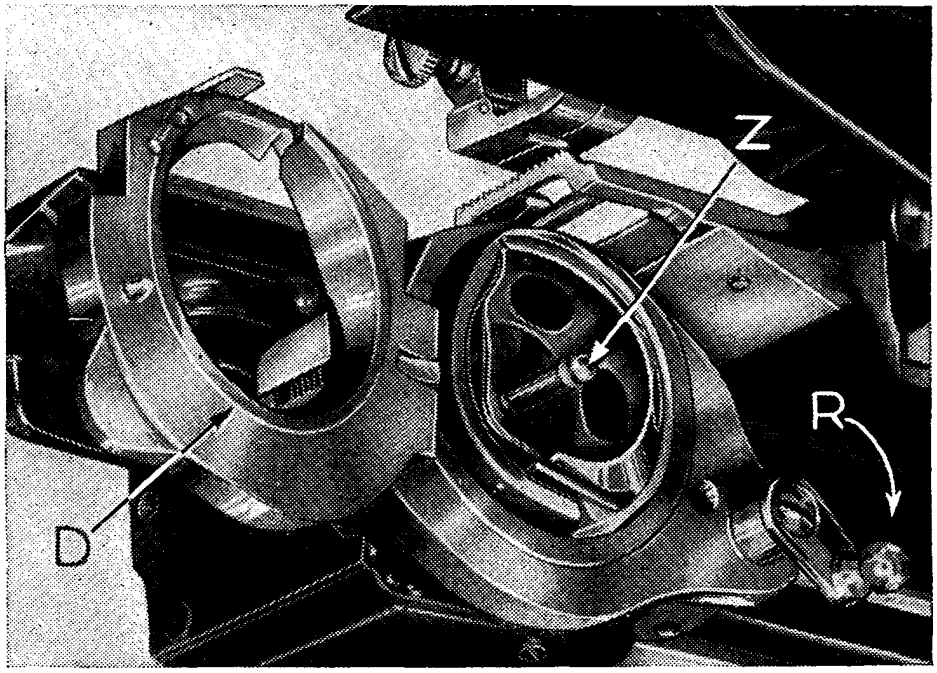


Fig. 29 Cleaning the Shuttle Race

Then grasp the shuttle by the pin (Z, Fig. 29) located in its center and pull it out of its shuttle race.

With a soft cloth, well saturated in oil and a pointed stick, or with a dust brush, the shuttle race must then be cleaned very carefully.

After the shuttle and the open shuttle race cover (D, Fig. 29) have been thoroughly cleaned, the shuttle should again be placed in the same position in the shuttle race as it was before it was removed.

The shuttle race cover is then closed again by swinging it to the right, and locked by turning lever (R) back to the left. If a drop of oil is placed into the shuttle race then, after the throat plate has again been replaced, the machine will run quietly. It is necessary to clean the shuttle race periodically even when the machine does not seem to be clogged.

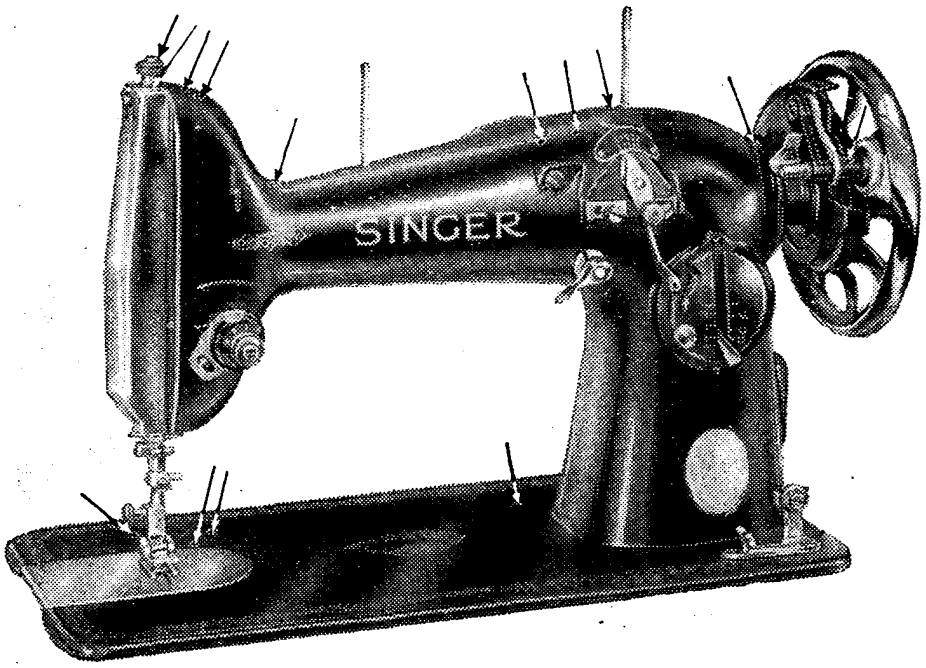


Fig. 30 Oiling Places above the Bed Plate

Oiling the Machine

To insure easy running of the machine and to prevent premature wear of parts that are in contact with each other, the places indicated by arrows in Figs. 30 to 33 require oiling, and if used continuously, should be oiled daily. When used only moderately, an occasional oiling is sufficient. One drop of oil at each oiling point is sufficient.

Oil holes are provided for those parts of the machine which are not easily accessible. In order to reach the oiling points behind the face plate (Fig. 31), it is necessary to remove the face plate (see No. 11, Fig. 10). After loosening the face plate set screw (No. 12, Fig. 10), the face plate easily lifts up and off the machine.

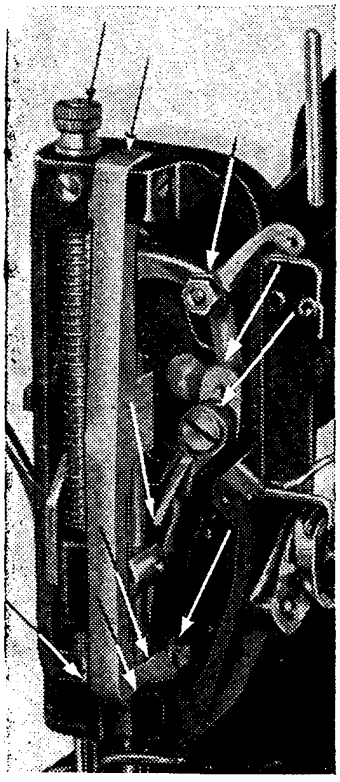


Fig. 31 Oiling Places Behind the Face Plate

It is very important to remove the cover plate on the side of the machine arm and to oil the friction points revealed behind this plate, as shown by arrows in Fig. 32.

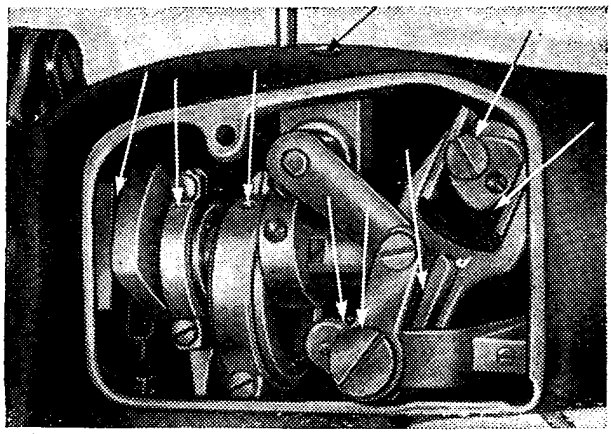


Fig. 32
Oiling Places Behind the Side Cover

To oil the parts under the bed (Fig. 33), the machine head must be tilted back after the belt in the center of the belt shifter has been removed.

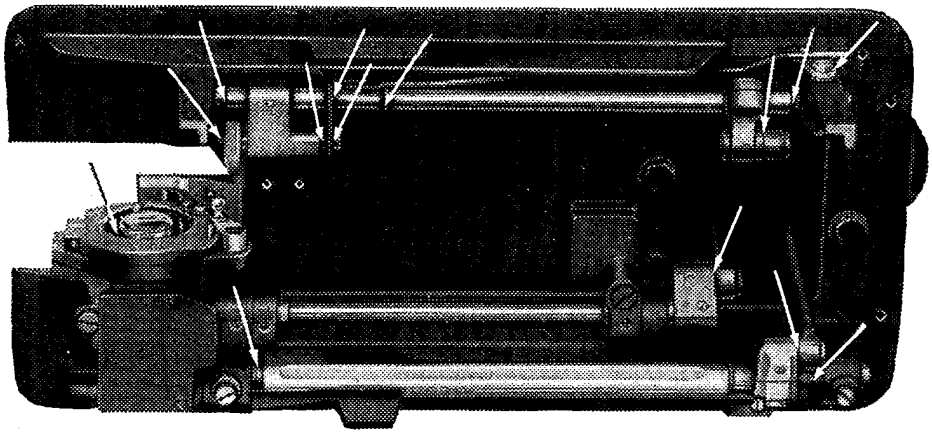


Fig. 33 Oiling Places Under the Bed of the Machine

The shuttle race must also be lubricated with a drop of oil.

The treadle stand must also be oiled occasionally with a drop of oil being applied in the bearings of the balance wheel crank, the treadle and the pitman.

After the machine has been oiled, allow the machine to run (un-threaded) for a few minutes to enable the oil to penetrate to the bearings. Excess oil can be removed with a clean rag.

Oil of inferior quality, especially salad oil, clogs the bearings causing the machine to work heavily and will lead to a quick wearing out of the machine.

A perfect sewing machine oil of the best quality, bearing the name SINGER Oil, can be purchased from the nearest SINGER Shop.

III. HINTS

The Belt

The belt should not be too tight, nor should it be so loose, that it slips. If the belt is too loose, remove the hook at one end, shorten the belt and rejoin.

Maschine Working Heavily

Should the machine run hard after standing idle for some time, apply a little oil for cleaning in the oiling places, and then run the machine rapidly. Then wipe clean and oil the machine anew with SINGER Oil.

To Avoid Breaking the Needles

It is important that the presser foot or the attachments used in its place are securely fastened to the presser bar. Do not sew heavy seams or very thick goods with too fine a needle. For heavy work a large needle and correspondingly thick thread should be used (see chart on page 64).

It is important to see that the needle is not bent, and avoid pulling of the material while sewing, in order to prevent the needle from striking the throat plate and becoming damaged.

Breaking of the Needle Thread

This inconvenience can be caused by the following: Improper threading, too tight upper tension, thread too coarse for the size of the needle, needle bent, blunt or improperly set into needle clamp.

Breaking of the Bobbin Thread

This may be caused by:

Improper threading of the bobbin, too tight lower tension.

Skipping of Stitches

This can occur if the needle is not accurately set into the needle bar, or the needle may be blunt or bent, or it may be too small for the thread in use.

IV. HEMMING AND SEAMING WITH STRAIGHT STITCHES

When using hemmer (No. 6, Fig. 3) or feller (No. 7, Fig. 3) the machine must be set for straight stitching at central needle position as shown in Fig. 26.

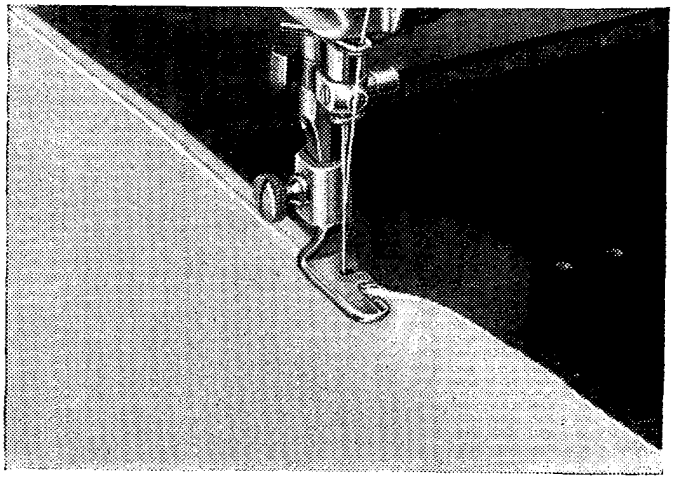


Fig. 34

Hemming

Clip off the right-hand corner of the goods so that the edge will take the roll easily, then lead the edge into the opening of the hemmer and pull or slide it along under the needle. After lowering the presser bar, sew two or three stitches and then draw gently to the rear until the feed dog catches the hem. In order to produce a smooth, even hem, permit the work to feed quickly through the hemmer, by holding the goods in such a manner so that the scroll of the hemmer is filled. If too much goods run into the hemmer, the edge must be moved slightly to the right, and if not enough goods enter the hemmer, hold the edge slightly more to the left.

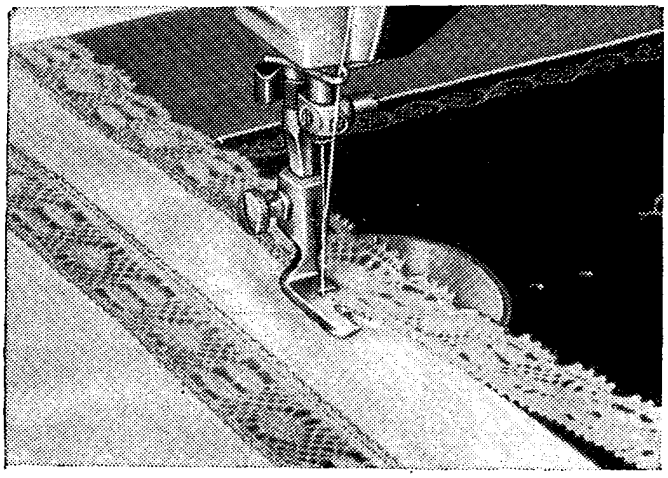


Fig. 35

Hemming and Sewing on Lace (Fig. 35)
Start the hem as previously explained and then when the feed has caught the goods, lift the hemmer by raising the presser bar lifter and being careful that the goods does not slip out of the scroll. Then lead the end of the lace through the slot in the right side of the hemmer, so that the edge of the lace lays on the hem. Now lower the presser bar.

Method of Making the Felled Seam (Figs. 36 and 37)
The two pieces of material, which are to be seamed together, are placed with the right sides against each other in such a manner, that the edge of the lower piece extends about 2 mm. (1/8") beyond the upper piece. Lead the two pieces of goods into the seamer, lower it and make the first seam (Fig. 36). Now spread the work apart so that it is flat, and so that the wrong sides are up, and then lead the free edge of the seam into the seamer and sew, as shown in Fig. 37.

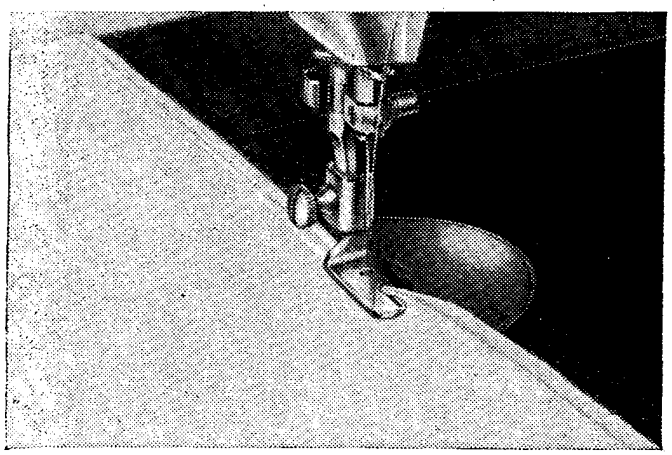


Fig. 36

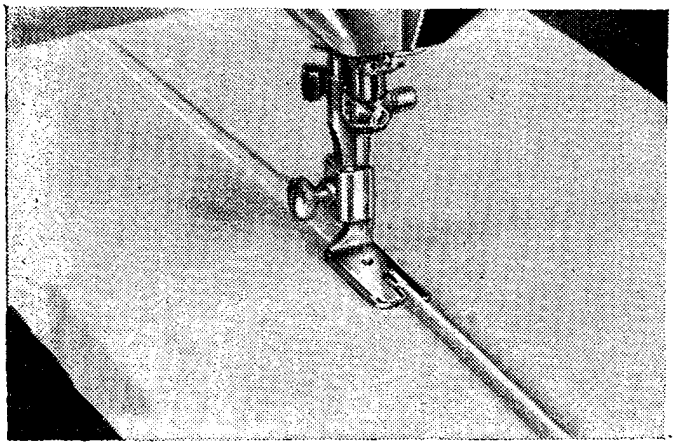


Fig 37

V. GENERAL ZIG ZAG WORK

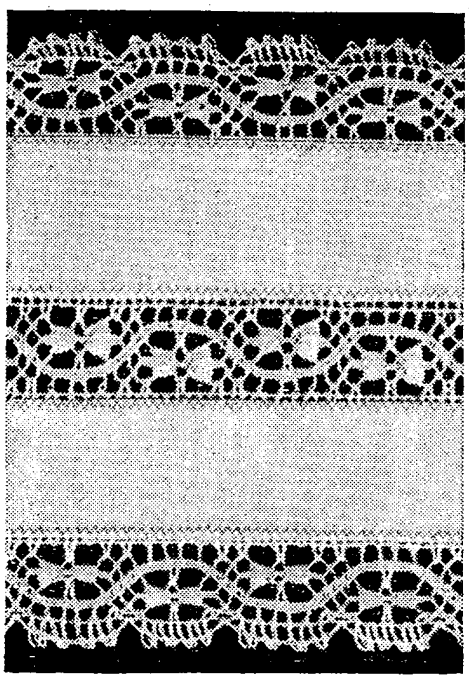


Fig. 38

Joining with Zig Zag Stitches (Fig. 38)

Zig zag work is used most frequently for sewing two pieces of material together (sewing on edges, basting, and inserting), the edges of which have been previously cut evenly. Ribbons or lace can also be edge-stitched together. For best results in performing this work use the zig zag foot (No. 17, Fig. 2).

To Attach Lace (Fig. 39)

Fold the edge of the goods under about 2 or 3 mm. and then sew the lace to the fold of the material with a zig zag stitch. The folded edge is now cut off up to the zig zag stitch. The zig zag foot is used for this sewing operation (No. 17, Fig. 2).

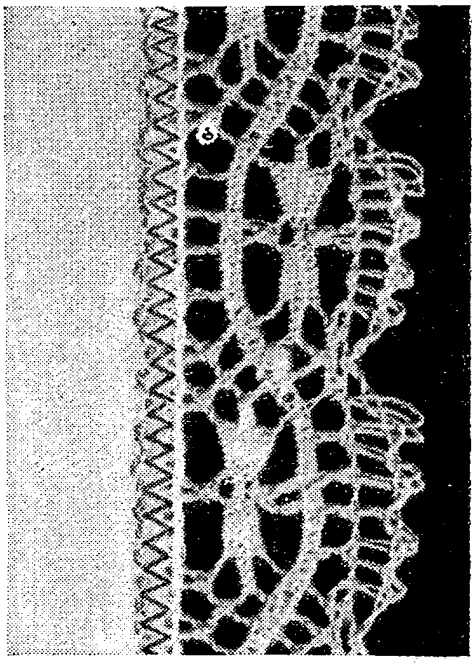


Fig. 39

Overedging (Fig. 40)

Where it is not possible either to hem or bind the edge of the material and it is desired to prevent the edge from fraying, use zig zag foot (No. 17, Fig. 2) for overedging. Guide the material so the needle, when vibrating to the right, pierces the material at the edge. For this work, a loose tension and a soft thread are required. The width of bight should be from 1/2 to 2 mm. (1/16 to 5/64 of an inch) and the width between the stitches should be approximately the same. The overedging stitch is used for making a clean edge and for finishing flounces and frayed edges. Ornamental seams may also be made in this way by using thread of a different color from that of the material being sewn.

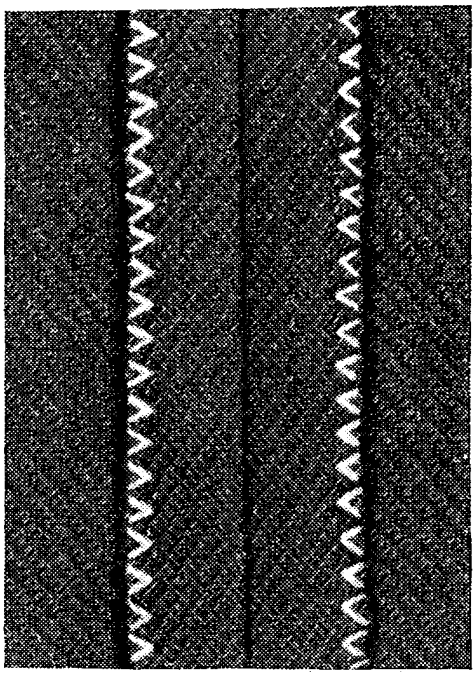


Fig. 40

To obtain a turned-in edge in very light material, use zig zag foot (No. 17, Fig. 2) and pass the edge of the material through the slot between the two toes of the presser foot similar to hemming. The edge is thus automatically turned-in by the zig zag stitching.

Stitching Elastic Seams in Tricot (Fig. 41)

The straight edge of the material is turned up to the width desired and, with a proportionately narrow zig zag stitch the straight edge is sewn to either the raw edge or the cut edge which has been turned to the bottom. The needle must pierce the material close to its turned edge. For this work use cording foot (No. 5, Fig. 3).

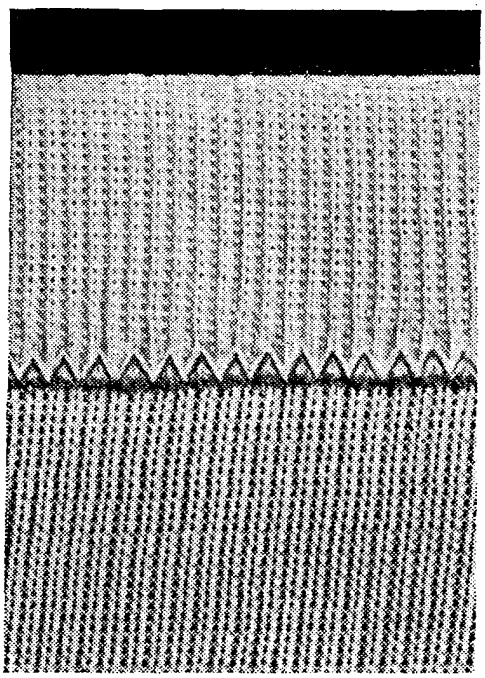


Fig. 41

Fringing and Hem Stitching (Fig. 42)

When it is desired to make a fringed edge, remove sufficient threads from the material to get the length of fringe required and, in order to prevent fraying, stitch along the unfrayed portion of the material, in the same manner as for overedging.

In the same manner, by pulling threads from the middle of the goods, hem stitching can be produced by using the zig zag stitch as shown in Fig. 42.

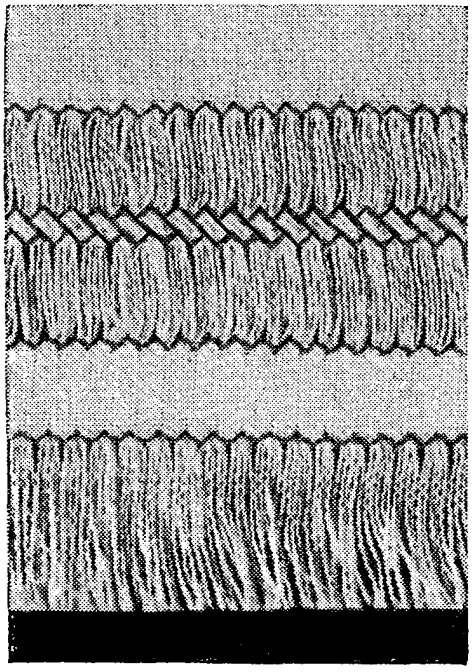


Fig. 42

To Edge a Patch (Fig. 43)

Place the damaged part of the material under the presser foot of the machine and lay the patch on top of it. The patch should be slightly larger than the hole which is to be covered.

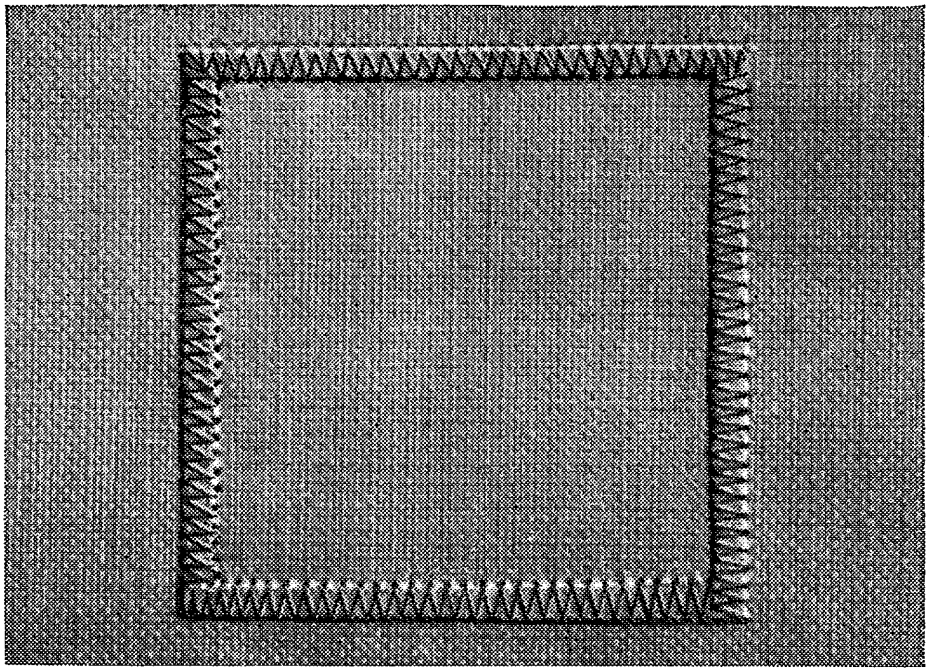


Fig. 43

The stitch regulator should be adjusted for the smallest possible stitch, while the width of bight should be set at the largest possible bight. When sewing on a patch do not keep too close to the edge of the hole. Overedge the corners of the patch twice, in order to prevent the material from tearing. After the patch is edged carefully cut away the overlapping edges of the material, that is, above the edge of the material of the patch and below the repaired part of the piece of linen.

For best results in performing this work as well as for the following operations using the small zig zag and cording foot (No. 5, Fig. 3) or the foot for curved cording and appliqué work (No. 2, Fig. 4).

Appliqué (Fig. 44)
When applying a design, proceed in the same way as when sewing on patches. However, cut away only the

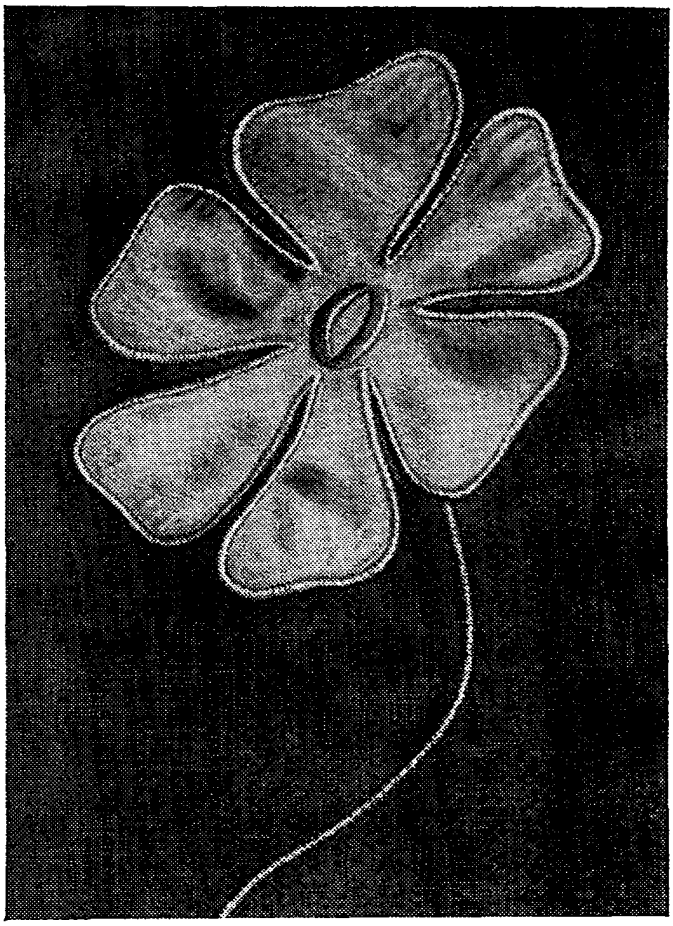


Fig. 44

overlapping edge of the design and not the material below. To obtain an effective finish, insert a cord below the stitching when sewing the design.

VI. SPECIAL WORK WITH THE ZIG ZAG STITCH

Raised Zig Zag Seams (Fig. 45)
Set the under thread tension somewhat tighter than normal and use embroidery cotton No. 30 for upper threading. The stitch regulator is set either **almost** at 0 or between 1/2 and 1 mm. (1/32 to 3/64") according to the effect desired. The stitching will then either completely cover the material, as shown on the left of the illustration, or it will appear as shown on the right in the illustration. When stitching very light material it is advisable to lay paper under the work to prevent it from being puckered owing to the great width of bight. For this type of work use foot No. 4, Fig. 3.

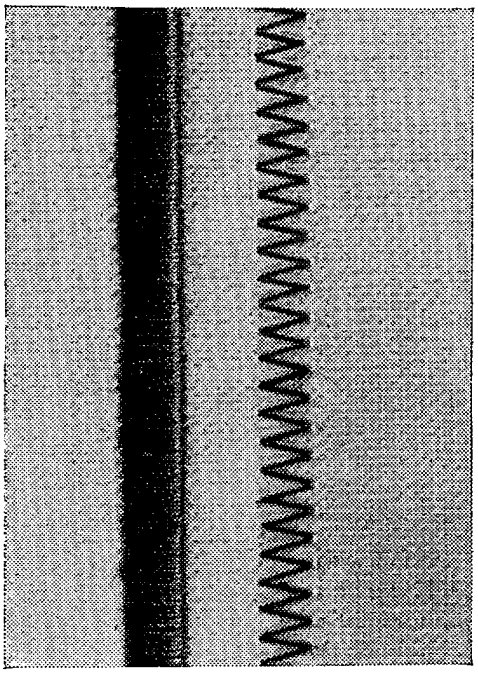


Fig. 45
Straight and Curved Corded Seams (Fig. 46)

Straight and Curved Corded Seams (Fig. 46)
The corded seam is produced by over seaming a thread with zig zag stitches. For straight cording, use cording foot No. 5, Fig. 3 and for curved cording, use cording foot No. 2, Fig. 4, for the first of which a hole is provided through which the thread is passed. For cording, the under thread tension must be somewhat tighter than for ordinary sewing.

The width of bight should be adjusted so that the cord is not only well covered along straight lines of stitching but also at curves and corners. The length of stitch should be set as small as for raised zig zag seams. The thread to be covered and the thread in the zig zag stitches should be of the same color. However, the cording thread can be of a different color in which case this should be covered by a slightly longer stitch. By contrasting different colors of sewing cotton with the cording thread to be covered, an attractive ornamental effect may be obtained.

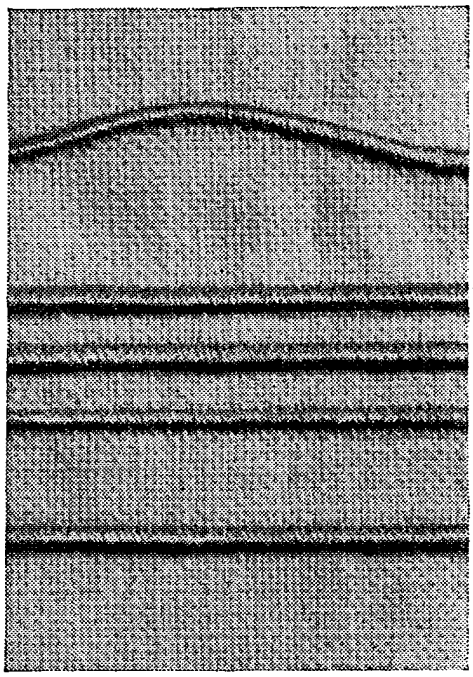


Fig. 46

Vienna Work (Fig. 47)

Vienna work, also known as cording of lace, is the

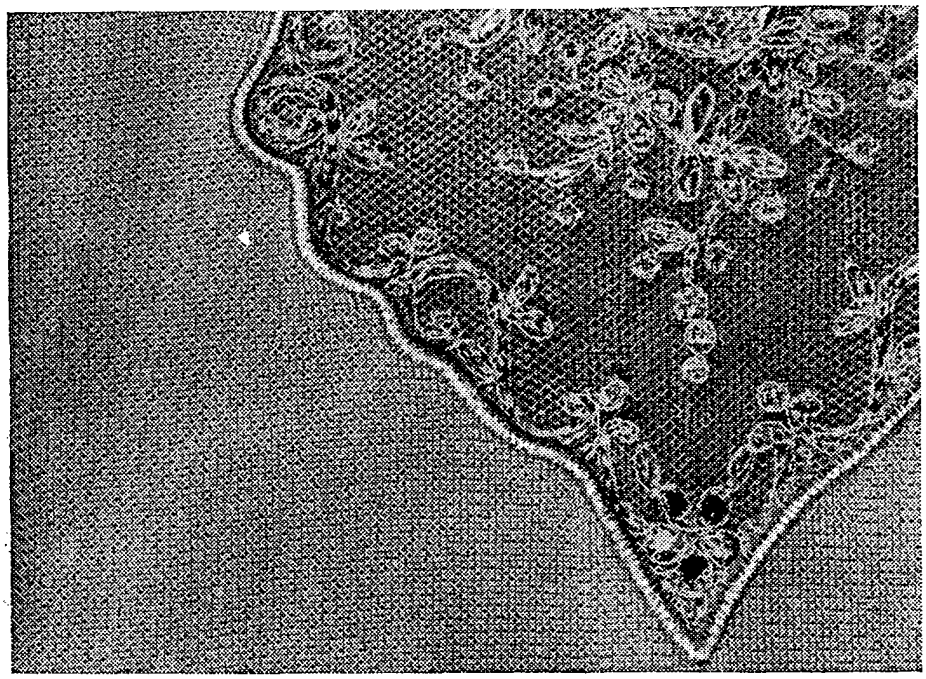


Fig. 47

attaching of lace or insertion by means of a corded seam. For this work use foot for curved cording and appliqué work (No. 2, Fig. 4).

Shell Seams (Fig. 48)

When shell seaming, which is only applicable to very light material such as georgette, chiffon, tricot, etc., it is necessary to use comparatively tighter upper and lower thread tensions as well as a stronger thread than when working with other materials. Embroidery cotton No. 30 as well as sewing silk are especially recommended for this work. In place of the presser foot attach the shell hemmer No. 1, Fig. 4. Set the width of bight at 4 mm. ($^5/_{32}$"), and the length of stitch between 3 and 4 mm. ($^1/_8$ to $^4/_{32}$"), but by way of variation the stitch may be shorter. The best effect is obtained if the material to be hemmed is cut on the bias, as when making flounces.

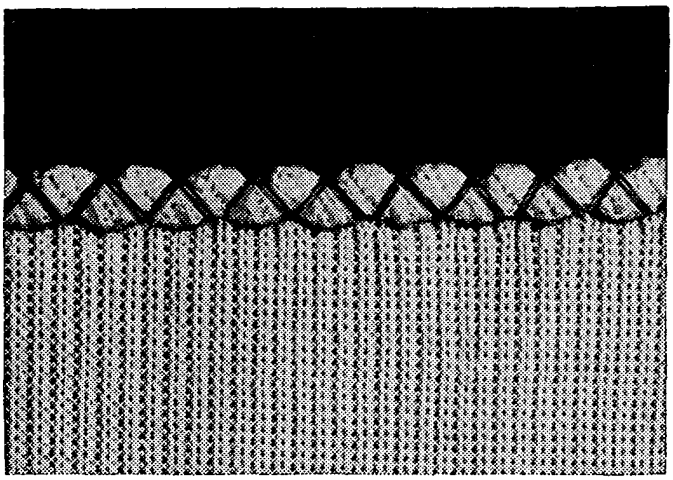


Fig. 48

Roll Seam (Fig. 49)

For roll seams use roll seamer No. 3, Fig. 4. Very fine thread or embroidery silk are to be used. The tensions should be the same as for ordinary sewing. The width of bight should be just enough to allow the seam to be cut close to its inner edge. The needle position lever B, Fig. 26, should be regulated. The

stitch length will give best results if set at 1½. Like the shell seam use only light material cut preferably on the straight or, if that is not possible, on the bias.

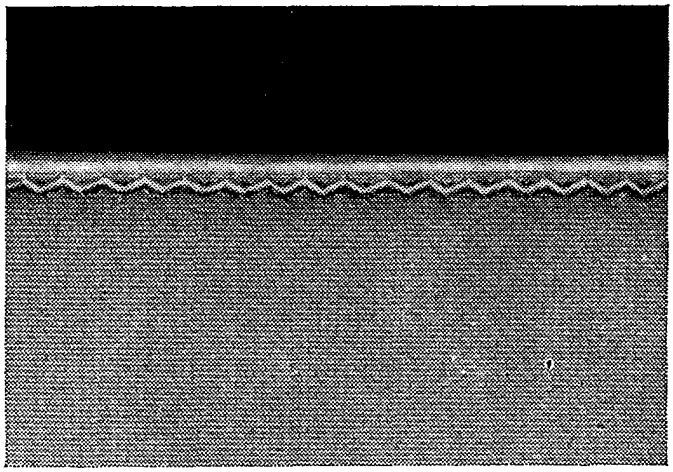


Fig. 49

Ornamental Seams with Central, Left, and Right Needle Vibration (Fig. 50)

By alternately using zig zag stitches of various widths, straight stitching, as well as central and left needle vibration of the machine, make it possible to produce a great variety of ornamental stitching, which can be used for ornamenting dresses, linens and draperies. In Fig. 50 the upper four ornamental lines of stitching are sewn with central needle vibration. The fifth line is sewn alternately with left-hand, central and right-

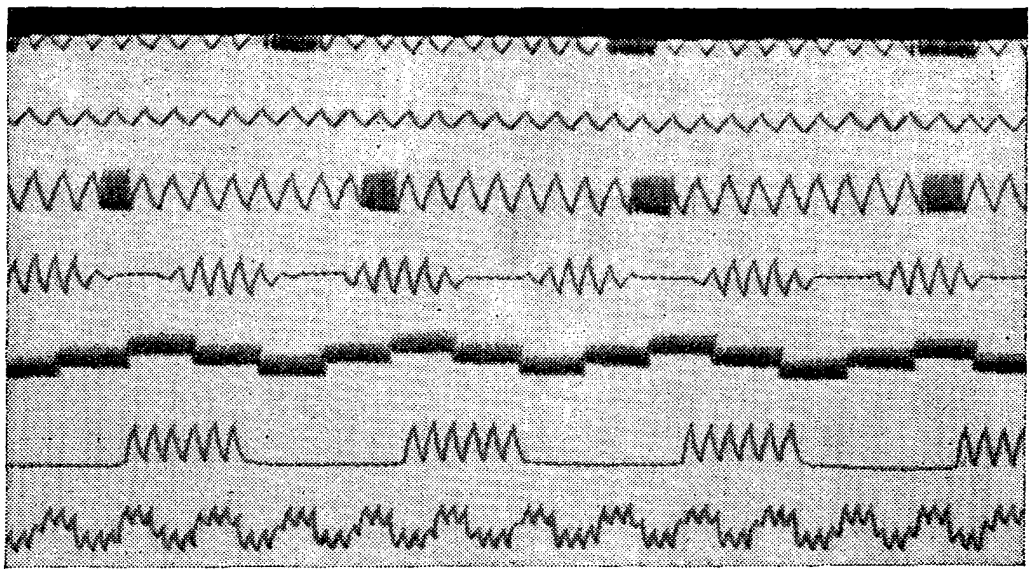


Fig. 50

hand needle vibration. The sixth row of stitching was accomplished by using straight and zig zag stitching

with left-hand needle vibration, and the last row of stitches was produced by alternating left-hand and right-hand needle vibration. An ingenious seamstress will be able to devise many other variations of stitches, the range of which may be still further increased by using threads of contrasting colors and combining various kinds of zig zag stitches.

To Sew on Buttons (Fig. 51)

First attach the button sewing presser foot (No. 2, Fig. 3) in place of the presser foot, and use either No. 40 or No. 50 sewing cotton for both needle and bobbin. Set the bight for the distance between the holes (a maximum of 3¾ on the bight scale), and set length of stitch regulating lever (B, Fig. 23) at 0, and drop the feed by moving the drop feed lever (A,

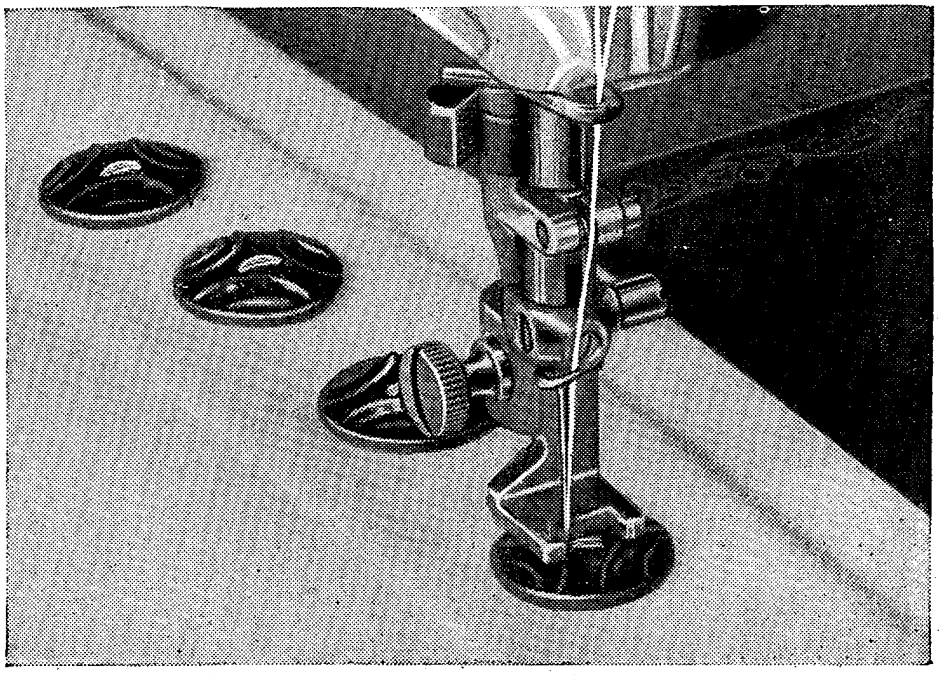


Fig. 51

Fig. 61) over to the right. The needle position lever B is set in an upper left position as shown in Fig. 26 for left-hand needle vibration. By counting up to six stitches at each hole, the button will have been sewed

with twelve covering stitches. Finally set the bight regulating lever at 0 and let the needle enter the left hole of the button 3 or 4 times in order to knot the thread.

To Make Buttonholes

When sewing buttonholes, use only the left-hand needle vibration, that is, the needle position lever (B, Fig. 26) is set in an upper left position. After attaching the buttonhole foot (No. 3, Fig. 3) and having set the machine for the shortest stitch length, draw a straight line on the material to mark the length of the button-

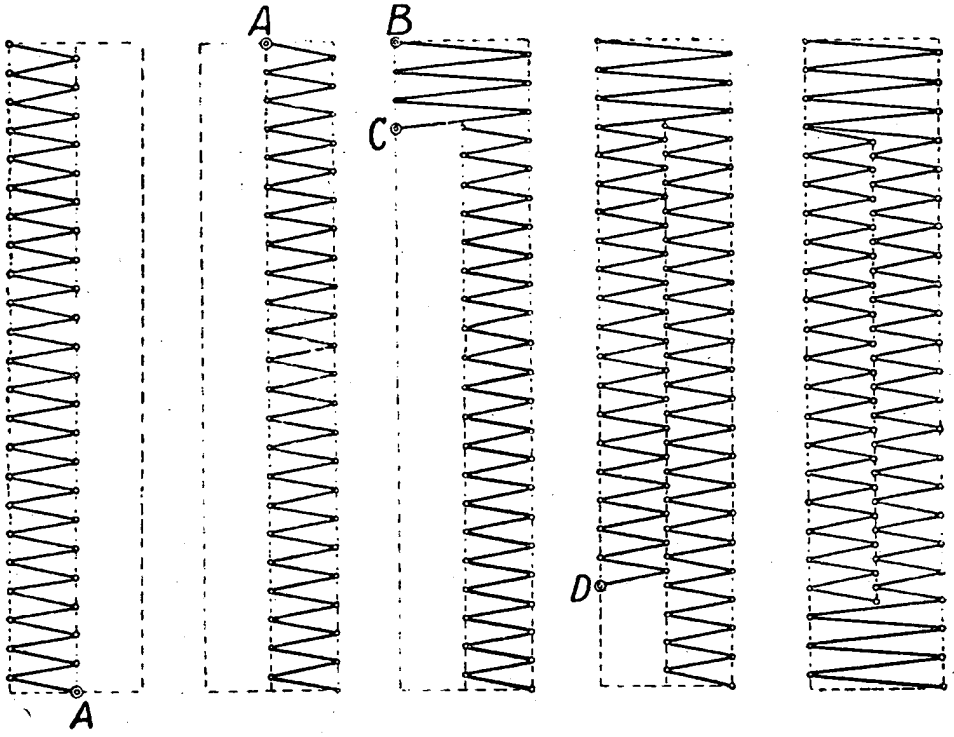


Fig. 52 Fig. 53 Fig. 54 Fig. 55 Fig. 56

hole. When using thick material, set the width of bight at 2 mm., (5/64") and when using fine material at 1½ mm. (1/16"). The under thread tension should be set tighter than for ordinary work, but the upper thread tension should remain normal. As shown in Fig. 52, first sew the left side of the buttonhole and let the needle remain in the goods at point "A". Now

turn the goods around the needle until the position shown in Fig. 53 is attained. Then let the needle move upwards out of the material, set the width of bight at either 4 mm. (5/32") or 3 mm. 1/8") and continue to sew from point "B". The first bar of the buttonhole, which is from 1 to 2 mm. longer than the length of the buttonhole, is now made. Stop the needle in the goods at point "C", Fig. 54, set the width of bight back to 2 mm., and proceed to sew the other side of the buttonhole (Fig. 55). At point "D" stop the needle, while it is still in the goods, and again set width of bight at either 4 mm. or 3 mm. in width and then finish the second bar. By sewing 2 or 3 stitches with the bight lever set at 0 the end threads will be properly knotted. The finished buttonhole then appears as shown in Fig. 56. It is now necessary for the buttonhole to be cut by using the ripper or the buttonhole cutter (Nos. 8/9, Fig. 3) and the fibre plate (No. 10, Fig. 3) which is placed beneath the buttonhole. Place the knife carefully into the slot between the two edges of the buttonhole and cut by giving a slight tap with the hand on the cutter handle in order to cut the goods.

Fig. 57 shows a finished buttonhole in linen material. When making buttonholes in lingerie (Fig. 58) it is advisable to use a strip of linen (shirting) as interlining.

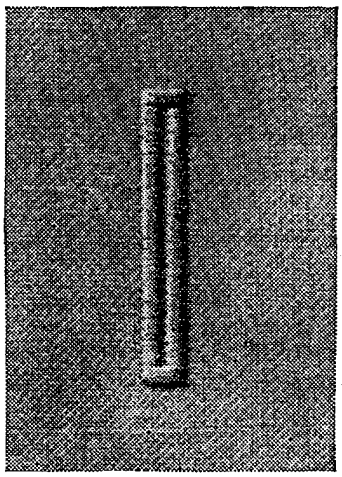


Fig. 57

For gimp buttonholes (Fig. 59) draw the gimp thread through the opening in the buttonhole foot, which is provided for this purpose, and under the needle.

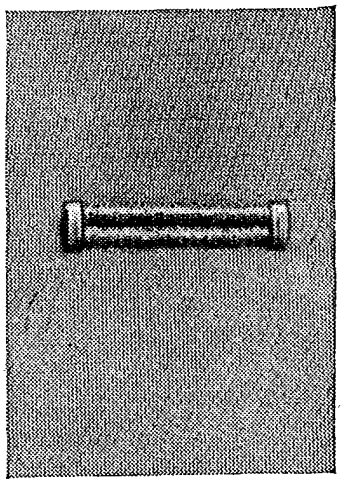


Fig. 58

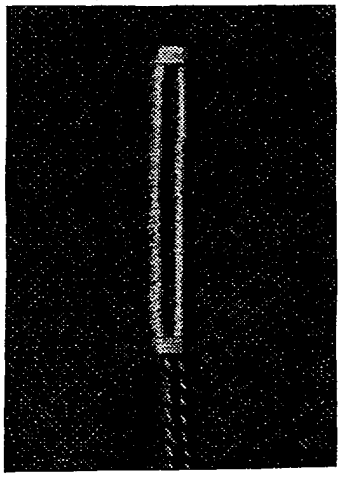


Fig. 59

The gimp thread is then automatically covered by the thread. The buttonholes with flat edges, which are described above have the advantage of great durability. For the making of a buttonhole with raised edges, as illustrated in Fig. 60, the upper thread tension must be set as tight as possible — almost to the tearing point — while the under thread tension should be set as loose as possible. For this purpose the upper thread must be stronger than the under thread. Otherwise, proceed as when sewing flat buttonholes.

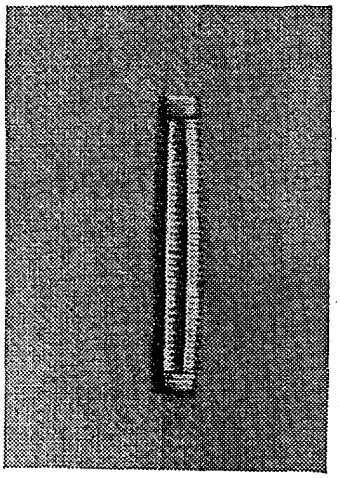


Fig. 60

VII. EMBROIDERING AND DARNING

Drop Feed

For darning and embroidering the feed must be dropped. Moreover the stitch regulating lever (B, Fig. 23) must be set at 0, that is, in the middle of stitch regulating scale, remove the presser foot from the raised presser bar and raise the needle to its highest position.

To drop the feed move the lever (A, Fig. 61) over to the right. The article to be repaired or embroidered should be stretched tightly in the embroidery hoop (No. 13, Fig. 3) and placed below the needle. Lower the presser bar lever as for ordinary sewing, in order to restore the tension on the needle thread which was released as soon as the lever was raised. After setting the bight lever so that it does not vibrate and after setting the needle at central position (see Fig. 26), embroidery and darning work can be made on the machine, as is also possible with ordinary lock stitch machines. The tensions should remain normal.

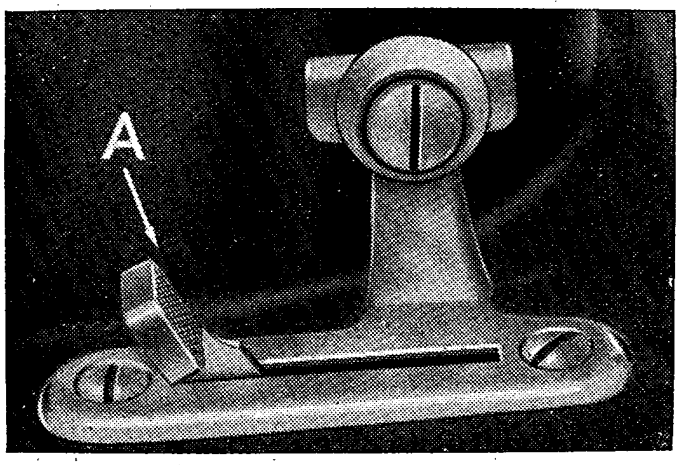


Fig. 61
Drop Feed Lever

After finishing the work replace the presser foot and move the lever (A, Fig. 61) back to the left. By doing this the machine is now ready for normal sewing work.
For embroidering use embroidery silk or cotton thread and needle size No. 8 or No. 9.

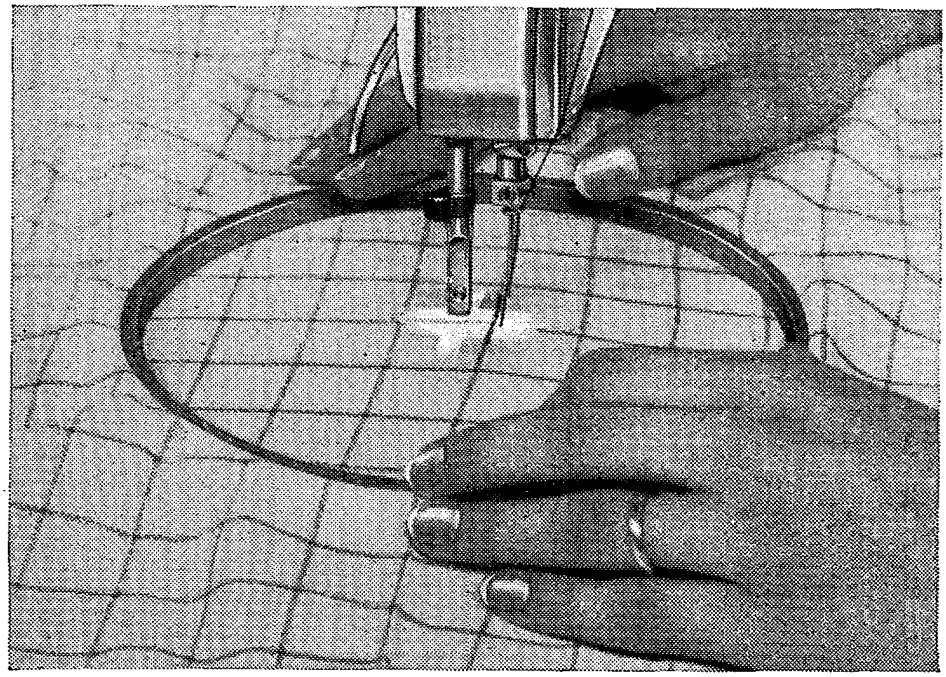


Fig. 62
Darning a Kitchen Cloth

VIII. USE OF THE EMBROIDERY SET

Madeira Work (Fig. 63)
The tension on the upper thread should remain normal, while the tension on the bobbin thread should be made much tighter. The presser foot should be removed and the presser bar lever should be lowered, the goods, which has a pattern stamped on it, is placed between the embroidery hoops and the holes which are within the confines of the hoops are punched out with the punch, using the mallet and the

fibre plate. For smaller holes use the spur plate with 3¼ mm. (⅛") spur (No. 3, Fig. 5) and adjust the machine for left-hand needle vibration with a ½ mm. (1/16") width of bight, while for larger holes, the spur plate with 4¾ mm. (3/16") spur (No. 4, Fig. 5) is used

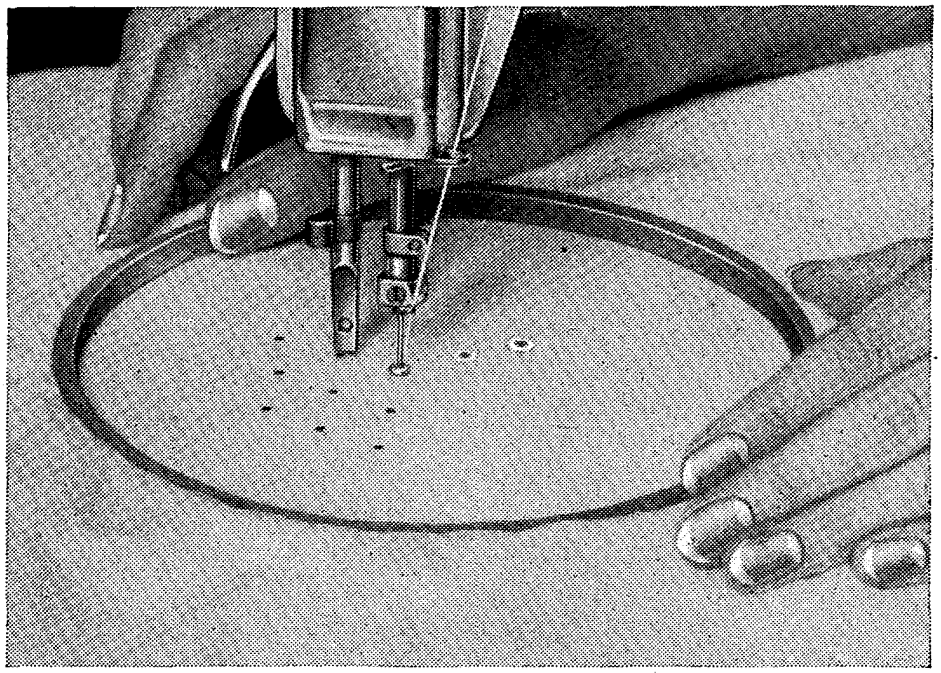


Fig. 63 Performing Madeira Work

and the width of bight is set at 2 mm. (5/64").
Place the punched hole on the spur of the plate, and draw up the under thread, which is then pressed together with the upper thread for several stitches by holding them against the material with the forefinger. Move the material in the hoops around the spur in a circular direction so that the edge of the hole is stitched over once only. To fasten the thread set the machine for central needle position with the bight lever set at 0, and make a few stitches on the edge of the hole by again slowly turning the hoop. For sewing the next hole it is necessary to readjust the machine for left-hand needle position and bight lever set as it was before.

Double Cord Embroidering

The following two paragraphs describe cord embroidering with the use of the double cord guide (No. 2, Fig. 5) and the spur plate with the oval spur hole (No. 1, Fig. 5). These sensible attachments permit a simplified type of embroidery, by which the embroidery hoops are moved merely by hand, while the cord is covered by the lateral vibrations of the needle. The attachments possess two hollow arms, which are made so that one will accommodate thick, and the other thin cords. Embroidery work produced with the aid of the attachment is by no means confined to the two examples described below.

Scalloping (Fig. 64)

As in Madeira work a very tight bobbin thread tension is used for scalloping. Stretch the material smoothly between the embroidery hoops. Use a No. 9 needle and embroidery cotton No. 50 or 60. The hoops should be moved by hand to follow the shape of the scallops. The width of bight must conform to the size of the scallops and the thickness of the thread (pearl cotton or cotton yarn), which is to be lead through the double cord guide (No. 2, Fig. 5). After the scallops are sewn, the material below is cut away.

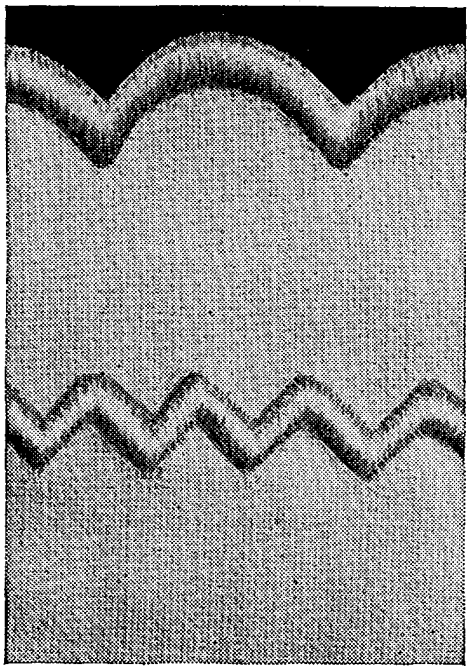


Fig. 64

Cord Embroidery (Fig. 65)

The lower tension is again tightened and the work is stretched between the embroidery hoops. Outline the pattern with plain stitching (width of bight set at 0). The figures of the pattern are outlined with stitches, as is being done to a woman's blouse in Fig. 65, and, after completion the figures are cut out. The width of bight is set between ½ and 2 mm. for outlining, and with the aid of the double cord guide sew in the cord.

Richelieu work is done in a similar manner. For this the small ribs in the pattern are stitched after the

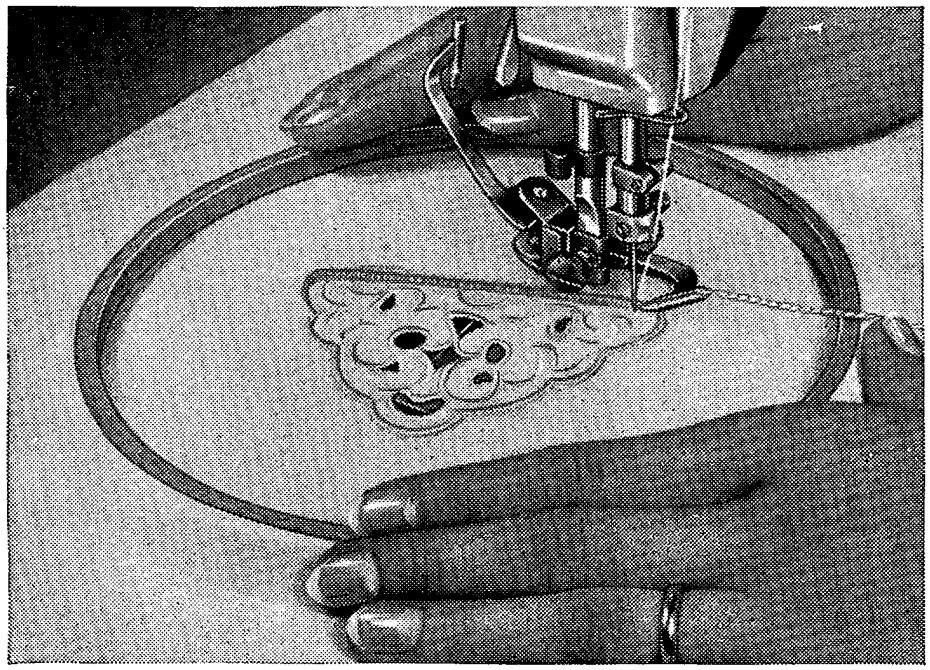


Fig. 65 Working with the Double Cord Guide

design in the fabric has been cut out, as is done in darning. When this is done the ribs are covered with 1½ mm. width of bight. To do this it is merely necessary to guide the ribs slowly between the needle vibrations.

IX. WORK WITH AIR TUCKING

Throat Plate

For air tucking use the zig zag throat plate. The bight regulating lever "A" is set for straight sewing and the needle position lever "B" is set for central position (see Fig. 26).

To Attach the Two-Needle Clamp

For plain stitching and for zig zag work the Class 216 Machine is provided with a needle clamp as shown in Fig. 66 and a SINGER flat shank needle Class 15×1. For air tucking loosen the screw (S, Fig. 66) carefully, detach the needle clamp and fasten in its place the two-needle clamp (Fig. 67). The clamp is attached by sliding it up the needle bar until the position pin 1 (Fig. 67) of the needle bar engages the groove 2 (Fig. 67) in the upper edge of the needle clamp whereupon the set screw (B, Fig. 67) is tightened. This is necessary before inserting the needles, since the end of the needle bar serves as a stop for the correct height of the needles.

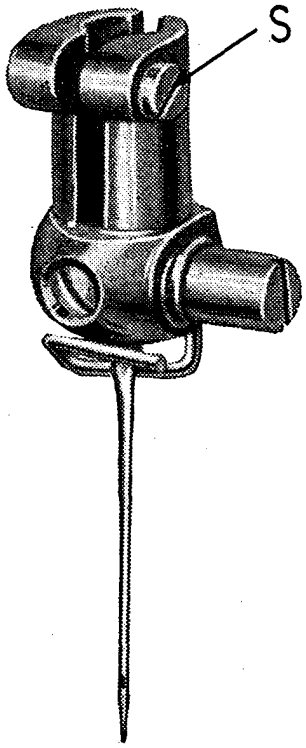


Fig. 66
One-Needle Clamp

Needle Types

To differentiate from needles used in the single needle clamp, the needles used for air tucking are SINGER Round Shank needles of Class 16×1. This type of needle is chosen because it is possible to obtain a smaller distance between the needles than with flat shank needles. Needle size No. 9 is recommended for fine material and No. 11 or No. 13 for all other materials.

To Set the Needles

Insert needles into the needle clamp as far as they will go with their long grooves to the front and the needle eyes toward the operator and tighten the set screws 3 and 4 (Fig. 67). After tightening the screws 3 and 4 make sure that both eyes of the needles are in line with each other and are directed exactly towards the operator.

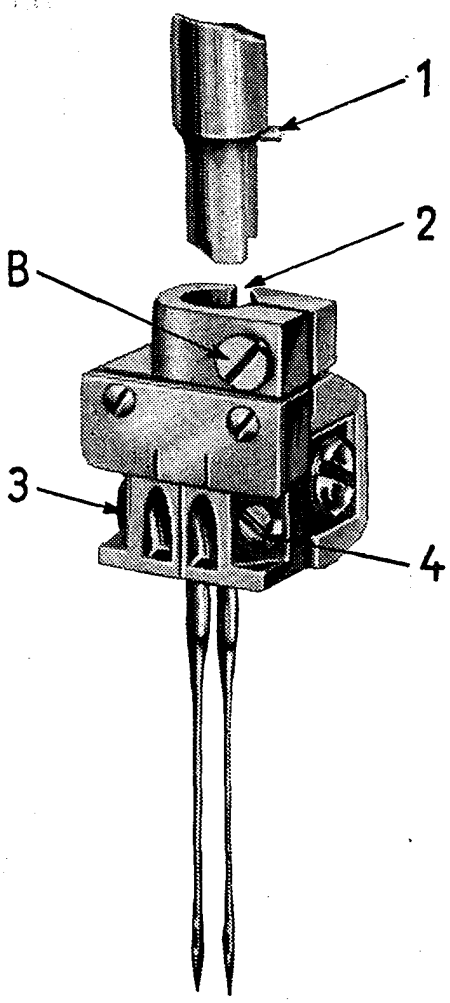


Fig. 67
Two-Needle Clamp

Upper Threading

When using thin silk, embroidery cotton No. 50 of a similar color is most suitable for both upper threads; for coarse material, use embroidery cotton No. 30 as well as sewing silk (obtainable in SINGER Shops).

Under Threading

The thread used for under threading should be, in so far as possible, the same as that which is used for upper threading.

To Thread the Needles. After having placed the spools of thread on both of the spool spindles guide both threads together through the thread guide eyelet at the top of the arm of the machine, and then to the tension, where one of the two threads is passed in front of, and the other behind, the middle tension disc (Z, Fig. 68). After separating the two threads in the

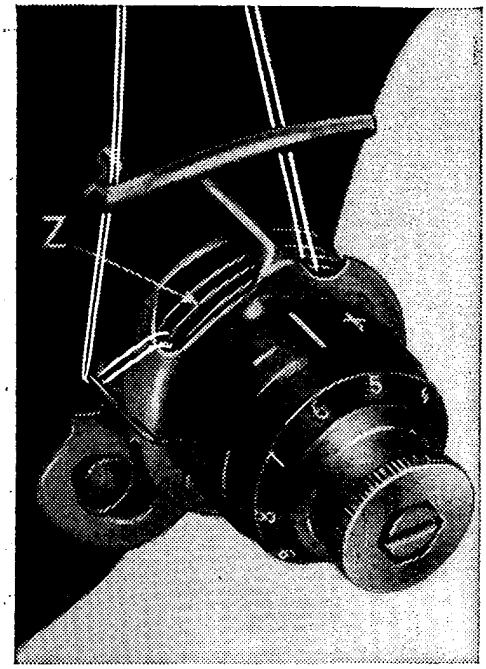


Fig. 68
Needle Tension Disc
for Air Tucking

tension they are brought together again as the threading is shown in Fig. 10, and finally they are lead separately through the thread eyelets in the two-needle clamp and are threaded through the eye of the needles from front to back (see Fig 69).

Tension

The upper and lower tensions are set approximately the same as for plain stitching. The air tucks should not be drawn too closely together by the under thread, but sufficient to give them correct formation. The wider the air tuck, the looser the under tension should be.

The Length of Stitch

The stitch regulating lever (B, Fig. 23) should not be set less than ½ mm. for air tucking, even for fine materials. Otherwise the length of stitch should be adapted to the kind of material used.

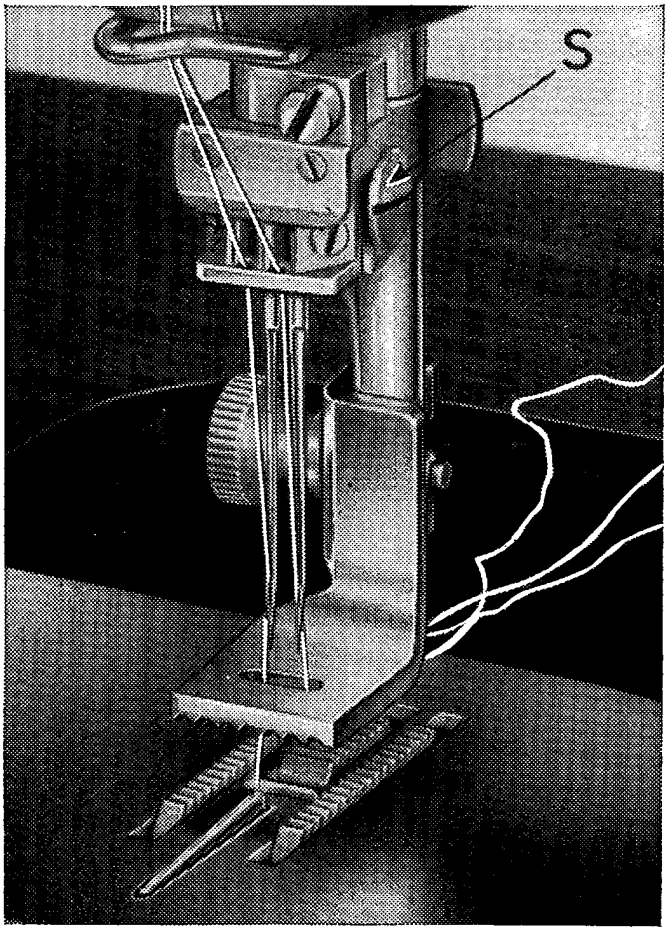


Fig. 69 Threading of the Needle Clamp and Adjustment of Distance between Needles.

To Adjust the Distance between Needles

The distance of both needles from each other can be changed by means of the screw (S, Fig. 69). When using silk or other thin material the needles should be as close together as possible but for heavier materials it is advisable to set them further apart.

Air Tucking Feet

The air tucking feet (Nos. 3, 4 & 5, Fig. 6) should be selected according to the distance between the needles. The depth and width of the grooves should also conform to the thickness of the material and the height of the traverse.

To Insert the Air Tucking Traverse

For air tucks in thin silk use the foot for narrow air tucks (No. 5, Fig. 6), preferably **without the traverse.** For heavier materials insert a traverse (Nos. 6 to 8, Fig. 6) into the slot of the throat plate, and fasten it by tightening the screw (R, Fig. 70). The projecting end of the traverse clamp should press against the traverse to hold it tightly.

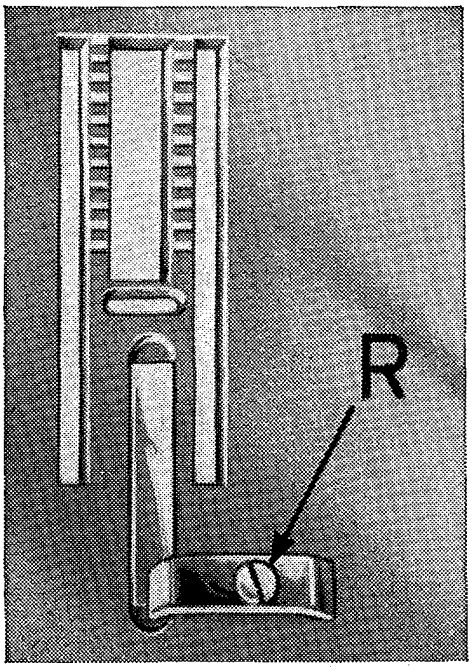


Fig.70 Fastening of Traverse Clamp

For silk of medium thickness and for light woollen materials use the lower traverse (No. 7, Fig. 6), for heavier materials use the higher traverse (No. 6, Fig. 6), and for very thick materials use the tubular traverse (No. 8, Fig. 6). The tubular traverse is inserted into the throat plate in the opposite manner from the other traverses, that is, from above.

The Width and Height of Air Tucks

The width and the height of air tucks must first of all be adjusted according to the kind of material being used. They are also determined, however, by fashions and by the individual taste of the seamstress. Before starting sewing it is advisable to test the adjustments by making a trial tuck on a remnant of the material to be used. If the air tucks are to run in different directions, then a trial test is also appropriate, in order to see if the material is suitable for lengthwise or bias air tucks since not all materials are suitable for both. Illustrated chart on opposite page (Fig. 71) will serve as a guide as to the distance between the needles, the depth and height of traverse, and the depth of the groove of the foot, etc., for the material to be used.

Parallel Air Tucks

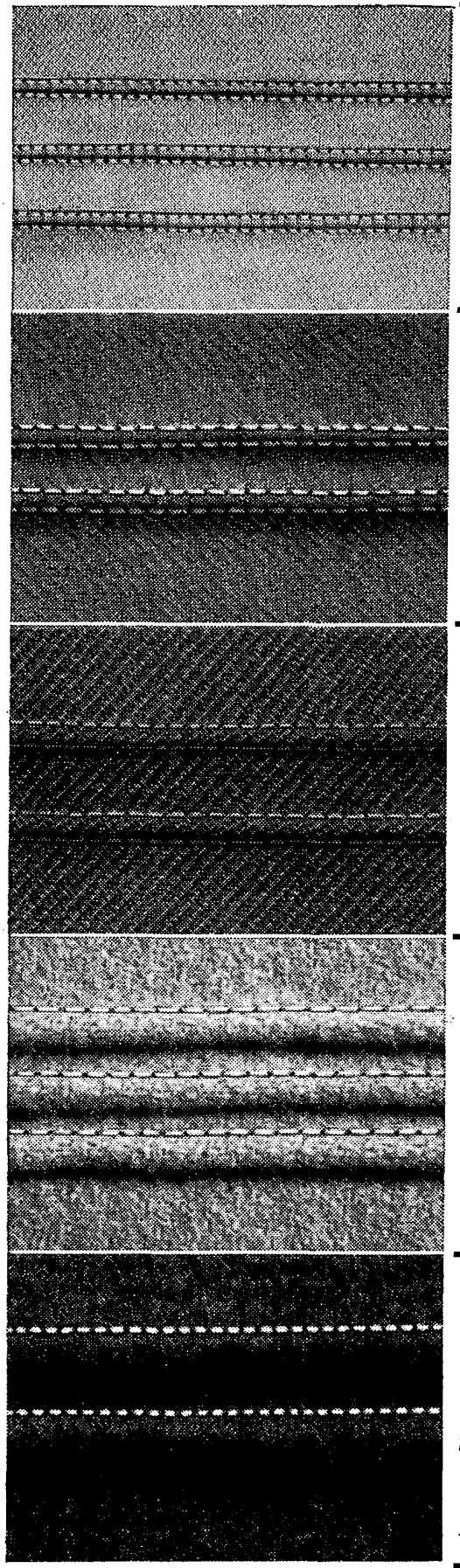
When making air tucks running closely parallel to each other the first tuck will serve as a guide for the second tuck and so on.

Sewing Angles and Corners

For obtuse angles and rectangular corners the needles are left in the goods (if possible, when the needles are just beginning to rise but are still in the material) and the goods is turned in the new direction. For acute angles it is recommended first to turn the material halfway, make one stitch and, then only, to turn the goods in the new direction desired. In this case also the needles serve as a pivot and must, therefore, be in the material during the turning.

Crossed Seams

When stitching across air tucks previously made, proceed very carefully and, if necessary, pull the material slightly in the feeding direction.



(a) Crêpe de Chine, Crêpe Marocain, Crêpe Satin, Light Taffeta
Needle No. 9
Needles as close together as possible
Foot for very fine air tucks
Throat plate without traverse
Embroidery Cotton No. 50
Fairly tight upper and under tensions

(b) Light Silk for Coats, Heavy Crêpe Marocain
Needle No. 11
Needles as close together possible as Foot for very fine or medium air tucks (according to thickness of material)
Throat plate without traverse
Embroidery Cotton No. 30
Normal upper and under tensions

(c) Woollen and Cotton Clothing, Material for Dresses
Needle No. 11
Distance of needles according to material used
Foot for medium air tucks
Lower or higher traverse
Embroidery Cotton No. 30, Sewing Silk or Rayon
Normal upper and under tensions

(d) Coat and Costume Material, Cloth for Coats
Needle No. 11 or 13
Medium or greatest needle distance
Foot for wide air tucks
Higher traverse or tubular traverse (without cord)
Sewing Silk or Rayon
Normal upper and under tensions

(e) Air Tucks with Inlaid Cord in Coat Material
Needle No. 13
Medium or greatest needle distance according to material and inlaid cord
Foot for wide air tucks
Tubular traverse
Soft, smooth inlaid cord
Sewing Silk or Rayon
Normal upper and under tensions

Fig. 71.

X. THE SEWING OF VERY NARROW AIR TUCKS WITH THE SINGLE NEEDLE CLAMP

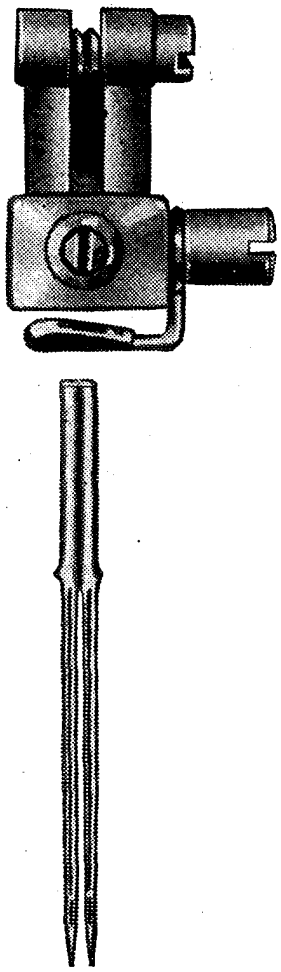


Fig. 72

SINGER Special Air Tuck Needles (Fig 72) Every SINGER Shop has available the two special air tucking needles SD 6025 and SD 6026, the shanks of which are so constructed that they will fit together next to each other into the single needle clamp as shown in Fig. 72. When inserting these two needles be careful that the long groove of both needles is towards the front and the long flat side of the needle shanks are lying together in the middle. With the help of both of these special needles it is possible to sew very narrow air tucks without referring to the instructions on air tucking as described in the previous chapter. An adjustment to various widths is, of course, not possible with these needles.

These narrow air tucks are used for fine silk goods, georgette, voile and similar goods, as well as for the sewing of ridges on the backs of gloves. Needle size No. 9 or No. 11 and embroidery cotton No. 50 are used. The tensions remain approximately the same as for normal sewing. It is suggested that the upper tension is made somewhat tighter. The threading of both needles follows the same as described on pages 57 and 58.

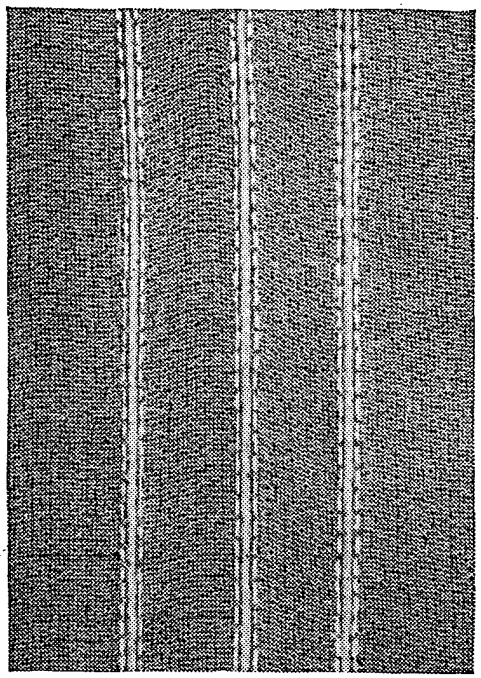


Fig. 73 Very Narrow Air Tucks.

XI. NEEDLES AND THREAD

use:

For sewing, embroidery and darning Needles of Class 15×1
For air tucking with the two-needle clamp Needles of Class 16×1
For air tucking with the one-needle clamp Needles SD 6025/26

Class of Work	Size of Needles	Sizes of Thread
General zig zag stitching, raised and corded stitching, air tucking	9 to 14	80 to 30 Embroidery Cotton
Madeira Work	8 and 9	80 to 50 two-ply Embroidery Cotton
Sewing on Buttons	14 to 16	50 to 40 Cotton
Sewing Buttonholes in: Silk Linen Heavy Woollens and Tickings	 9 9 to 11 11 to 13	 80 Embroidery Silk 80 to 50 Em.Cotton 50 to 30 Sewing or Embroidery Cotton
Shell Seams in: Silk Knitted Goods and Artificial Silk	 9 11 to 12	 Sewing Silk 50 to 30 Embroidery Cotton

For plain stitching, embroidery and darning, needles and thread are used together as for the usual household sewing machines.

The following are used together:

Sizes of Needles	Class of Work	Sizes of Cotton, Silk or Linen Threads
9	Very thin cotton, batiste, linen, etc.	100 Cotton 30 to 50 Darning Cotton
11 or 12	Very fine calicoes, linens, shirtings, fine silk goods, etc.	80 to 100 Cotton 30–50 Darning Cotton
14	Shirtings, sheetings, silk calicoes, general domestic goods, and all classes of general work	60 to 80 Cotton 100/3 Sewing Silk
16	All kinds of heavy calicoes, light woollen goods, heavy silk, thick seamed work, etc.	50 to 60 Cotton
18	Bed ticking, woollens, trousers, boys' clothes, corsets, men's and women's coats, etc.	40 to 50 Cotton

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are the Epitome
of the highest Quality!

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SINGER Needle Packages are recognized by their green color and by the **red SINGER „S".**

Needles in envelopes or containers marked „for SINGER Maschines" or some similar designation are **not genuine SINGER Needles.**

SINGER SEWING MACHINE COMPANY

PRACTICAL INSTRUCTIONS

in sewing, embroidery and darning as well as in the handling of the machine. Apply for these at your nearest

SINGER SHOP

When your machine needs servicing call your

SINGER SHOP

and do not let the machine be serviced by any strange mechanic or sewing machine serviceman.

SINGER SEWING MACHINE COMPANY