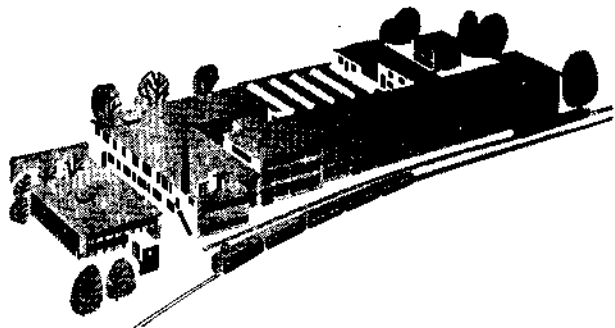


Whenever something does not seem to be quite clear, please ask suppliers of your machine for explanation.

In particular cases, we ourselves will give you any further information you may need.

When writing to us, please always state the name of your supplier and give us the serial number of the machine. You will find this number at the back of the frame, above the motor casing.



FR. GEGAUF LIMITED
Bernina Sewing Machine Factory
STECKBORN
Switzerland

Printed in Switzerland



**Instructions
for using the
BERNINA
Portable Sewing Machine
Model 125**

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Certificate of Guarantee

for the portable zigzag sewing machine

BERNINA Model 125 No.

Buyer's

Name

.....

Address

.....

City

.....

Validity of Guarantee

Machine: 2 years, until

.....

Motor: 1 year, until

.....

City and date:

.....

Signature of Dealer:

.....

(terms of guarantee on following page)

Terms of Guarantee

During the period of two years for the machine and one year for the motor, we engage to repair free of charge any eventual damage, provided that same is due to a defect in material or manufacture. All other claims are excluded from the guarantee, which is valid only towards the first purchaser of the machine.

The guarantee enters in force from the day of supply of the machine. The buyer who intends to have repaired the machine, must deliver it to the nearest Bernina dealer. The transport charges to and from the dealer are at the expense of the buyer, as well as any damage that might be caused by inconvenient packing.

The guarantee does not consider the normal wear and any eventual damage in connection with it, such as breakage of the flexes or needles, burning out of the electric bulb, use of the carbon brushes of the motor, etc.

The guarantee is not valid if the buyer does not manage the machine properly, according to the directions for use, if he does not clean and oil it or if any change or repair is made by a third person, who is not authorized to do this. Any damage due to incorrect handling of the machine does not fall under the guarantee.

It is necessary to use only pure sewing machine oil free of acid and resinous substances, and needles of system 705.

FR. GEGAUF LIMITED
Bernina Sewing Machine Factory
STECKBORN
Switzerland

Buyer of machine

Name:

Address:

City:

Delivery date:

.....
(signature of buyer)

Supplier of machine

.....
(signature of supplier)

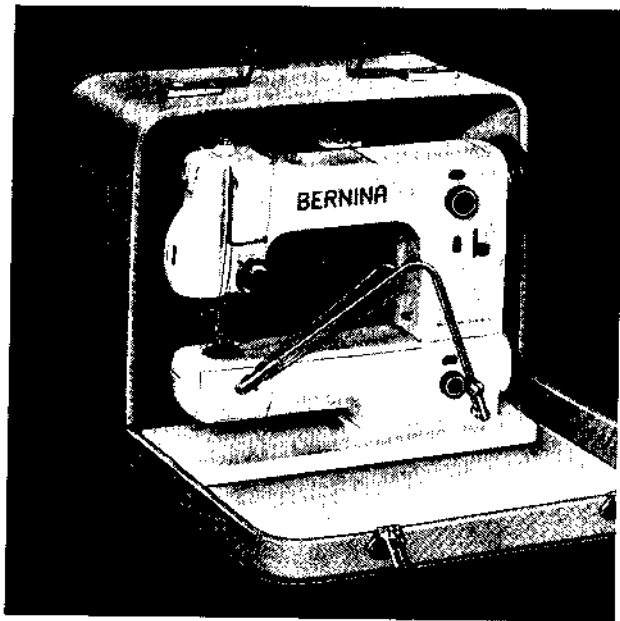
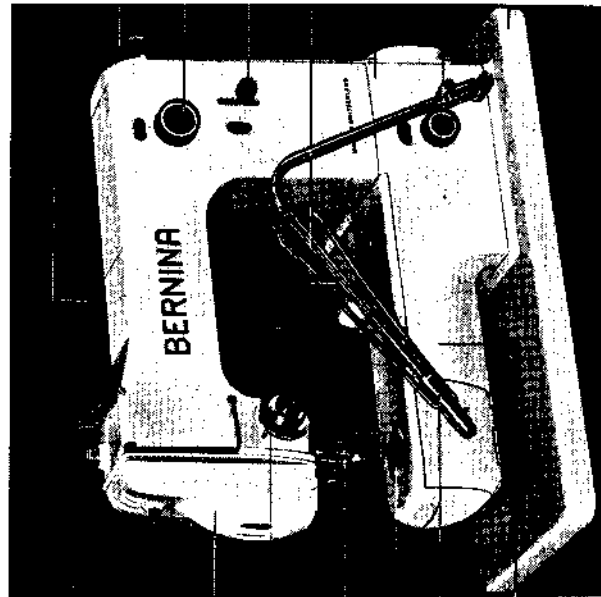


Fig. 1

Removing and replacing the machine in the carrying case

To take the machine out of its case, place the case upright and open it as shown in the illustration above. Hold the machine under the upper arm and lift it out of the case. Hold it the same way when replacing it into the case. When packing up the machine after use, make sure that the handwheel is on your right.



Thread guide eyes
 Light switch
 Face plate
 Thread tension
 Needle plate
 Needle holder
 Feed dog
 Knee control
 Open arm

Spool pin
 Handwheel
 Knob for zigzag and plain stitch adjustment
 Stitch regulator
 Motor housing
 Frame
 Drop feed knob
 Bed plate

Fig. 2

Cleaning the Machine

During sewing, lints or dust will collect, especially around the shuttle, and may hinder the smooth running of the machine. The frequent removal of such remnants is therefore essential. Take off the throat plate from time to time and remove the fluff that has gathered below it. The removal of the throat plate is very simple, for there are no screws to slacken. Just open the hinged shuttle cover and push the throat plate up with a finger of the left hand.

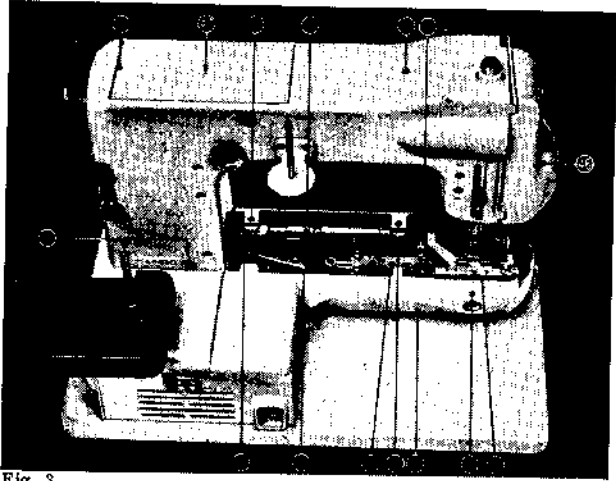


Fig. 3

Oiling the Machine

Oil the machine frequently, but not too heavily. A few drops of oil are sufficient to keep the machine running smoothly. If too much oil is applied, the excess will drain off unused and may stain the fabric. *Always oil the machine before use* and not after it. Use clear sewing machine oil only, free of resin and acid. If oil of inferior quality is employed, it may get sticky when it dries and the machine will run hard.

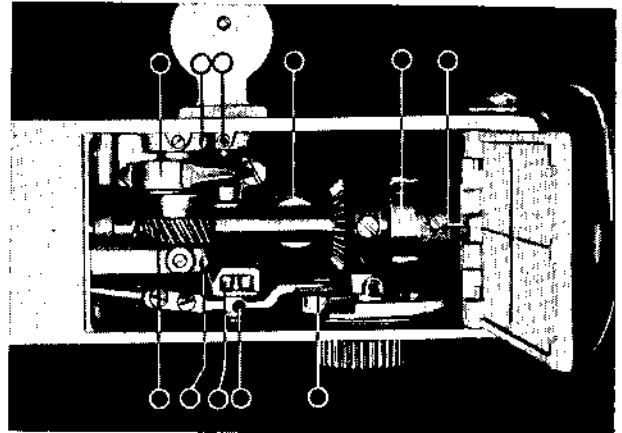


Fig. 4

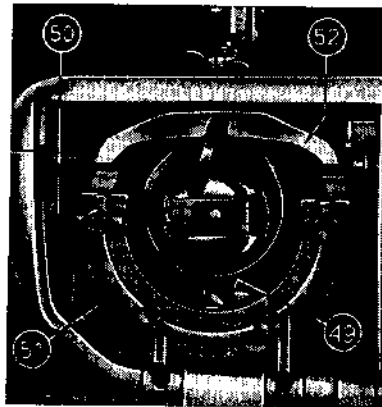


Fig. 5

The pictures 3 and 4 show the points where the oil should be applied. Further oil points are under the face plate 46 (Fig. 3) and the arm cover 47 (Fig. 3 and 4). Open as well the hinged shuttle cover at the front of the free arm and oil the shuttle race from time to time at the point 49 indicated by arrow in Fig. 5.

Careful and correct oiling will insure easy running and prevent unnecessary wear of the parts.

If the sewing machine has been standing in a cold room, it should be opened and brought in a warm room about an hour before use so that it can warm up to room temperature and the oil in the bearings will again become fluid.

Special Instruction for Oiling the Motor

1. Oiling the motor *too heavily* will lead to trouble.
2. When the speed of the machine has diminished considerably, it is generally due to excessive oiling of the motor.
3. In every new machine the motor is ready-oiled and should *not* be lubricated again during the first year.
4. After the first year, the motor should be oiled *once only every six months if used daily*. Do not introduce more than 4-5 drops of oil at the two lubrication points marked in red, inside of the motor casing. If the machine is used *only once a week, the motor does not need oiling more than once a year*.
5. If the motor is insufficiently lubricated, an excessive noise will be noticed.
6. To oil the motor, take off its casing. For this purpose, remove on the bottom side of the base plate the two small nickel-plated screws. Remove also the screw of the casing on the right above the motor axle, No 9, Fig. 14. Introduce 4 or 5 drops of clear sewing machine oil into the two bearings at the points marked in red.
7. Make *absolutely sure* that no oil is applied to any other part of the motor.
8. These instructions for oiling apply to the motor only.



Fig. 6

Removable Open Arm Cover

To remove the free arm cover, open the hinged shuttle cover and with the forefinger of the right hand press on the releasing lever as per Fig. 6. It is not necessary to take off the presser foot, but the needle should be brought in its highest position. To reset the cover, push it towards the frame and bring the tongue of the cover into the guide inside the frame. Then press down the cover at its front side, as per Fig. 6a, and the latch will lock the cover.

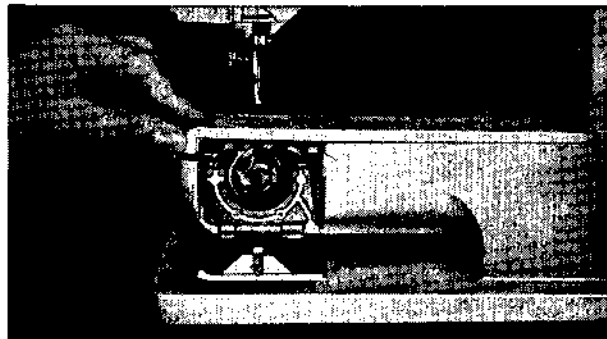


Fig. 6a

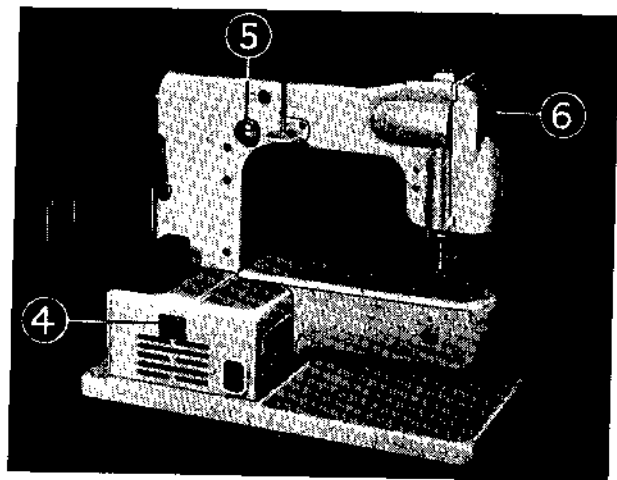


Fig. 7

The Electric Drive

The motor is protected by a casing at the back of the frame. A small plate 4 is fixed on the casing, specifying the voltage and the power in watts. The voltage of the motor must correspond with that of the lighting mains, which can be ascertained by inspecting the particulars quoted on the electricity meter or a bulb (but not on plugs and wall-sockets). If the machine is used away from home, always check the mains voltage with that of the motor *before* starting to work. If they do not correspond, a transformer is necessary.

When the motor is connected with the mains by the flex, slight pressure on the knee control will start the machine. The more the knee control is pressed to the right, the faster the machine will run. Should the machine fail to start on account of heavy material or thick seams, give the handwheel a slight turn towards you.

Illumination

The sew-light is built into the special face plate. The light is switched on and off by pressing on button 6 (Fig. 7). The change of the bulb is made as usual. To take off the bulb, screw it anticlockwise; to insert it, screw it clockwise.

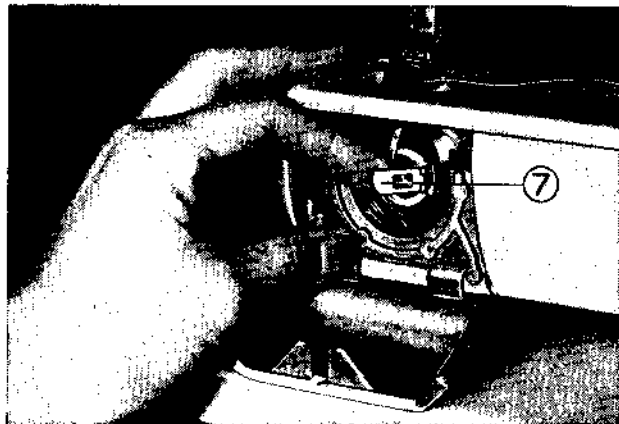


Fig. 8

Removal of Bobbin Case and Bobbin

Turn flywheel by hand towards you until take-up lever is approximately at its highest position. With the forefinger of the right hand open the hinged shuttles cover. Then, open the hinged latch 7 with the forefinger of the left hand and draw the bobbin case out. Let go off the latch and the bobbin will be released and drop out of the case.

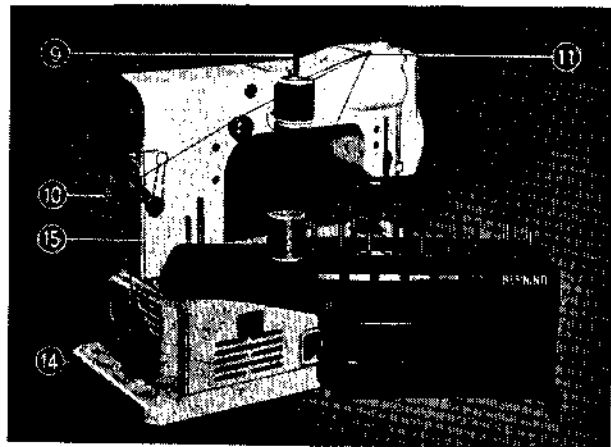


Fig. 9

Bobbin Winder and Winding of Bottom Thread on Bobbin

If the machine is already threaded, remove the top thread spool from pin 9 and place it on pin 15 fixed on the motor housing or on any free pin of the sewing kit. It is not necessary to remove the top thread from eye 11. Thus you avoid to unthread the machine and to thread it again after winding.

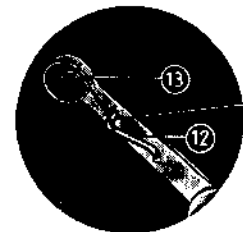


Fig. 9 a

Then, place on pin 9 the spool, which will be used for winding the bobbin. Thread guide lever 10 is pushed outwards in the direction of arrow. Insert bobbin 14 on the motor spindle and turn the bobbin slightly, until the

pawl in the motor spindle will snap in the slit in the bobbin. As soon as the bobbin is inserted on the motor spindle, the sewing mechanism of the machine is automatically released.

Then, from spool, which is on pin 9, lead thread through eye 11, back to thread guide lever 10, carrying the thread first under hook 12, Fig.9a, and then through the tension 13. From there lead thread down on bobbin 14.

Then, a slight pressure on the knee control will start the motor.

Never wind bobbin quite full, otherwise the thread might slip off the rim and break in sewing.

Taking off the bobbin from the motor spindle, the sewing mechanism will automatically be engaged again.

To insert the Bobbin in the Case and to thread the Bobbin Case

When placing the bobbin in its case, make sure that the bobbin will turn in the direction of the arrow (Fig. 10), when unwinding the thread.



Fig. 10

When the bobbin is inserted, draw thread through slot 16, then under tension spring 17 and let it come out at the end of the tension spring at point 18.

To replace the Bobbin Case in the Shuttle

The bobbin case can be inserted only when the needle is at its highest point. As when removing the bobbin case (Fig. 8), hold it by the hinged latch 7 between the forefinger and thumb of the left hand in such a way that the horn 19 (Fig. 10) is directed upwards and enters in the cutting of the shuttle race cover 52 (Fig. 5). Then push the bobbin case on the shuttle pin as far as it will go. Let the latch drop back into position and make sure that it is properly closed. If the hinged latch does not close well, remnants of thread must have collected at the base of the shuttle pin.

To set the Needle

Use *system 705* needles only for the portable machine model 125. Bent needles or those with blunt points should not be used. Turn the handwheel towards you until the needle bar is at its highest point. Now hold the needle between thumb and forefinger of the left hand in such a way that the long groove is facing the seamstress. The *flat side* of the needle shank is therefore *at the rear*. Loosen the needle clamp screw by turning it anti-clockwise, insert the needle and push it upwards as far as it will go. Then tighten the needle clamp screw by turning it clockwise. It is important to make sure that the needle is pushed right up and is firmly held by the needle clamp screw.

To thread the Machine

The correct method of threading is clearly shown in Fig. 11. From the spool, that is placed on the pin 9 at the back of the arm, the thread is lead through the guides 11 and 20, then down to the right of and between the tension discs closed into the box 21, up in the thread control spring 22, down under the guide 23, up to and through the eyelet 24, then through the loop of the take-up lever 25, again down through the eyelet 24, behind the pin 26, through the needle holder eyelet 27 down to the eye of the needle, which is to be threaded *from front to back*.

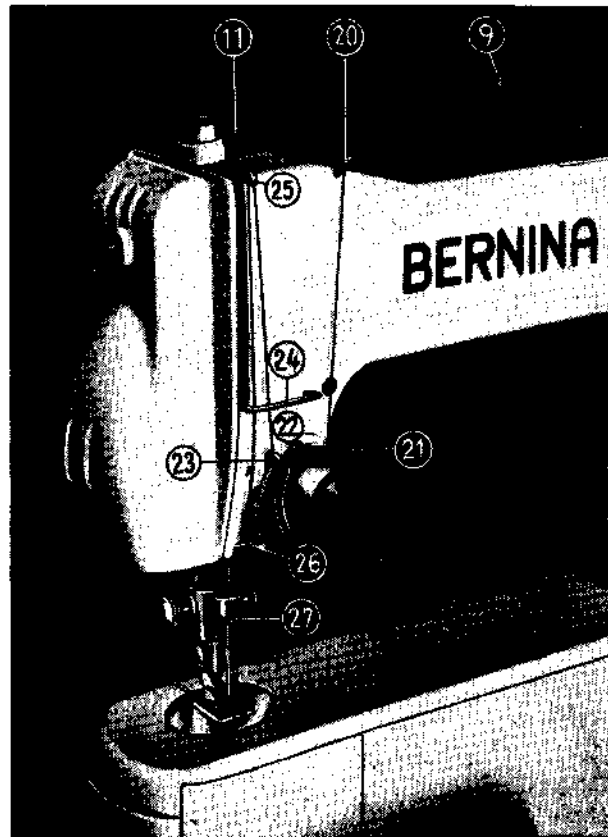


Fig. 11

Threading the Machine

Bringing up the Bobbin Thread

Hold needle thread slightly between thumb and forefinger of the left hand and turn flywheel with the right hand towards you, until take-up lever is about at its highest point. Then pull slightly the needle thread and the bobbin thread will come up. Pull both threads back under the presser foot, place material under same, lower foot and the machine is ready to sew.



Fig. 12

Thread Tension

The tension box is provided with a pointer and a demarcation line. When both form one line, then the tension is properly adjusted for ordinary sewing and darning and it will seldom be found necessary to make a change. Only for special works the tension may be changed by turning the tension nut. To increase the tension, turn the nut over to the right. To decrease the tension, turn the nut over to the left. For ordinary sewing set the pointer again on the demarcation line, as well as when the tension should have been changed for cleaning.

Suitable Needle and Thread

For the portable machine model 125 use system 705 needles only. To obtain the best result of sewing, use first class needles and top-quality thread.

First select the thread to suit the fabric, then the needle to suit the thread, according to the table below. The best test of suitability is to place the thread in the groove of the needle. If the thread fills the groove out and can be pulled backwards and forwards in it without obstruction, the needle is of correct size.

For sewing, needles of sizes 8, 9 and 10 (80, 90 and 100) are usually employed, while numbers 7 and 8 (70 and 80) are used for darning.

Comparative Table of Needles and Threads

Needle system 705		Sewing Thread		Darning Thread
Old No.	New No.	6-ply unglazed	3-ply unglazed	2-ply
6	60	—	170—200	80—100
7	70	70—100	70—140	50—80
8	80	50—60	50—70	30—40
9	90	40—50	30—40	—
10	100	20—30	—	—

Suitable Thread for Sewing and Darning

For plain sewing: Nos. 60 to 90, 3- and 6-ply, unglazed.

For darning: Nos. 50 to 80, 2-ply.

For zigzag sewing: Nos. 60 to 90, 3-ply only.

For ornamental stitches: Nos. 30 and 40, 2-ply.

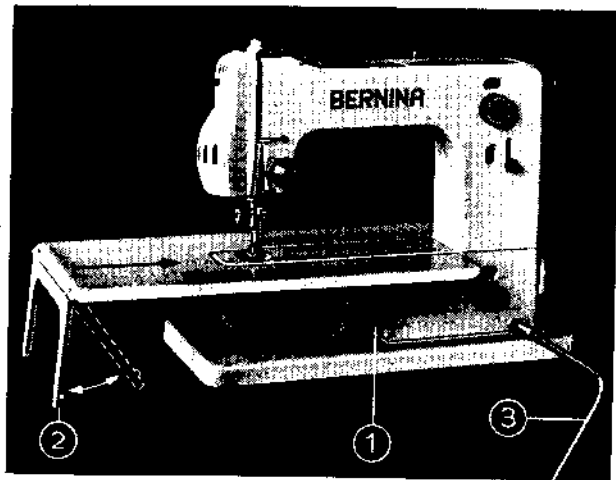


Fig. 13

Fitting the Sewing Table

The sewing table is secured by a bolt to the back wall of the carrying case. To release the table, turn said bolt to the right and the table can be lifted out.

When sliding the sewing table on the open arm, take care that the locking lever 1 is turned to the left.

To secure the sewing table firmly to the open arm, turn the lever 1 over to the right and let then down the table legs 2.

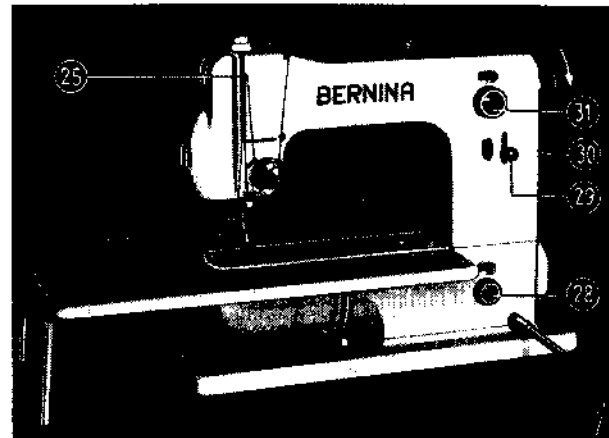


Fig. 14

Ordinary Stitch

For plain sewing, set the machine as follows :

1. Bring take-up lever 25 to its highest point.
2. Insert presser foot. For ordinary plain sewing, the zigzag presser foot can be used as well. Thread needle *from front to back*. Take top and bottom threads and lay them back under the presser foot.
3. Turn drop feed knob 28 to the right, until sewing sign will appear.
4. Adjust stitch regulator 29 so that the zero line of the scale will be a little under the sign of demarcation on the right-hand side of the scale. This can be done only if lock screw 30 is not turned in too much.
5. Set zigzag adjusting knob 31 on zero position, in which case the machine will do plain sewing. As soon as said knob will be turned to the right, a zigzag stitch will result.
6. Insert sewing table.

When turning the flywheel by hand, make sure that it is turned towards you, that is in the direction indicated by arrow.

Forward and Backward Sewing To Regulate the Length of Stitch

According to the position of the stitch regulator 29 (Fig. 14), the machine will sew forwards or backwards and make long or short stitches. For forward sewing move downwards knob 29 so that the *zero line* of the stitch regulator scale will be *under the sign of demarcation* on the right-hand side of the scale. For backward sewing move upwards knob 29 so that the *zero line* is *above said sign of demarcation*. Forward and backward sewing allows to reinforce certain parts of the fabric and to fasten the end of a stitch.

The more the stitch regulator 29 is moved upwards or downwards, the longer the stitch will be. To ensure that forward and backward stitches are of the same length, use lock screw 30 (Fig. 14), by which the upward and downward movement of the stitch regulator 29 is limited. To shorten the movement, turn said lock screw inward; to lengthen it, turn the screw outwards.

To Remove Work from Machine

Stop the machine with the take-up lever at its highest point. Raise the presser foot with the lifter, which releases the top thread tension. Then take hold of the fabric and pull it from you. Take particular care to remove the material from the presser foot *to the rear only*, otherwise the needle will bend and cause then faulty stitches and thread breakage.

To Turn a Corner

Stop the machine while the needle is still in the cloth, lift the presser foot and turn the fabric round the needle, using it as a pivot.

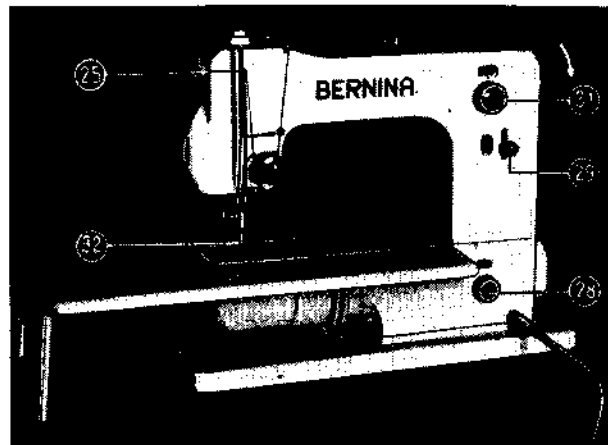


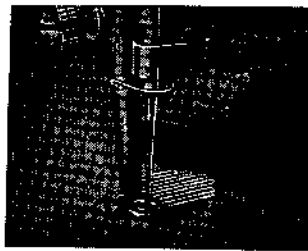
Fig. 15

Darning

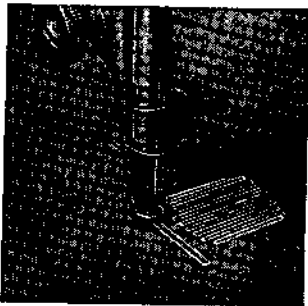
For darning, set the machine as follows :

1. Bring take-up lever 25 to its highest point.
2. Remove presser foot with prolongation and insert darning foot.
3. Lower feed dog by turning knob 28 to the left, until darning sign will appear.
4. Set stitch regulator 29 on zero, so that the lowered feed dog will not be set in motion without need.
5. Set zigzag adjusting knob 31 on zero.

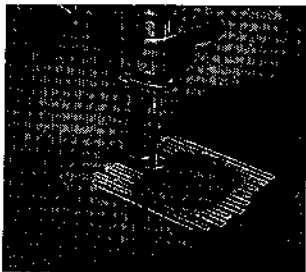
With the Bernina Portable, darning can be done with or without the sewing table in position, according to the kind of fabric to be mended.



a



b



c

Fig. 16

Darning underclothes, household linen, etc.

Darning underclothes or linen is child's play on the Bernina, thanks to the patented hopper darning foot.

Begin to stretch threads from side to side, as shown in Fig. a. Make these thread rows parallel and as close as possible. Do not let them go too far beyond the border of the damaged area, but only as far as it will be necessary to give them a firm hold. It is advisable to make these thread rows of different length, so as to prevent the material from tearing at the limit of the darn.

Then, begin to cover the side-to-side thread rows from front to back and in reverse. Sew the first covering seams a little beyond the limit of the side-to-side thread rows (Fig. b), so as to form a regular and firm darn. Make these covering seams parallel and as close as possible.

Now fill out the intermediate spaces in the darn with a few more covering runs, which should not be made, however, beyond the border of the original hole (Fig. c).

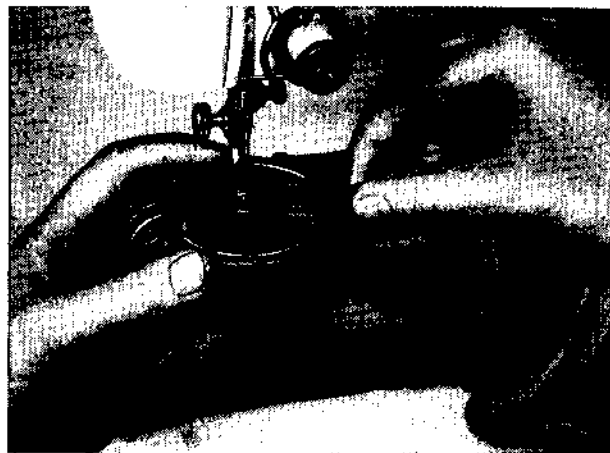


Fig. 17

Darning Stockings

Darning stockings with the patented Bernina darning apparatus is particularly easy and convenient.

Lay the complete darning apparatus on the open arm and introduce bolt 34 into the guide hole. Lift the inner ring of the darning apparatus out of the outer ring 36

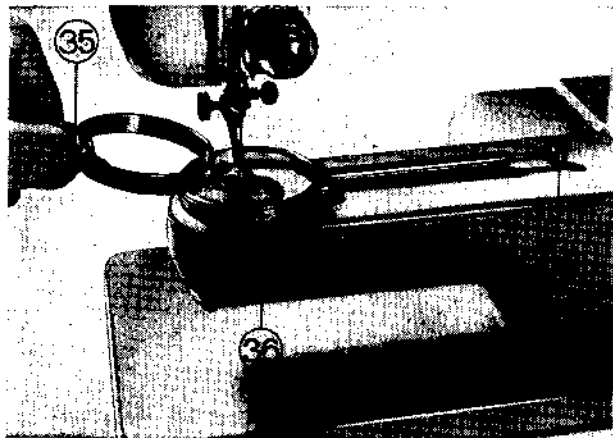


Fig. 18

by pressing the two finger-grips 35. Slip the stocking over the open arm and the darning apparatus, until the damaged part is in the middle of the darning ring.

It is advisable to move the darning ring as far as possible to the left, especially if the damaged part of the stocking is at the toe or at the heel.

Then reinsert the inner ring into the outer ring, that is now under the stocking. Make sure that the part of the stocking inside of the ring be well stretched.

Press the inner ring right down, so that the complete darning apparatus lies well on the throat plate. The

darning ring can now easily be pushed about in any direction.

It is advisable to sew first a seam round the damaged part, in order to prevent any further running. Then, begin to stretch threads from front to back and in reverse by pushing the darning ring backwards and forwards. Sew these thread rows across the laddering direction of the stocking, at different lengths, and make them parallel and as close as possible.

Now, cover these thread rows in the laddering direction by pushing the darning ring from side to side. It is also possible to rotate the inner ring a quarter of a turn and to continue to push the darning ring backwards and forwards.

Begin sewing these covering seams a little beyond the limit of the thread rows (see fig. 16b). The covering seams, which are made at different lengths into the sound part of the stocking, shall be parallel and as close as possible.

Now fill out the small interstices in the darn by some more covering seams, until the hole is completely filled.

Using the Attachments

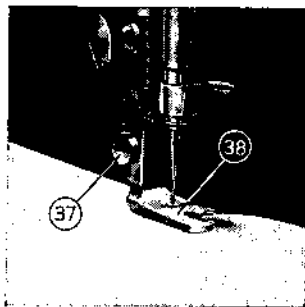


Fig. 19

The Hemmer

(Width of hem about $\frac{1}{8}$ ")

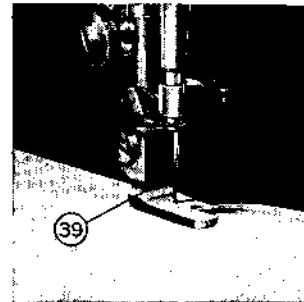
foot. This is done by raising the presser foot bar until Attach the hemmer in place of the ordinary presser the hemmer can easily be inserted.

Fold the edge of the cloth over to the desired width of hem and push the fabric, so prepared, into the scroll of the lifted hemmer until it is under the needle; then lower the presser foot. When sewing, guide the folded edge of the cloth very lightly. If too much cloth enters the hemmer, the hem will be bulgy and uneven; if too little enters, the hem will not be taken in enough.

The Lap Hemmer (Feller)

The lap hemmer, or feller, is similar in shape to the hemmer just described; only, the lap hemmer has no scroll. Lap hems are used for very firmly joining two pieces of material; they are made in two operations, as follows :

First operation. Place the pieces of fabric to be joined one on top of the other in such a way that the lower piece projects slightly, and guide both pieces into the feller as when hemming, so that they are turned down. When sewing, take care that the same width of material always enters the feller.



Second operation. Unfold and lay flat the two pieces of fabric. The joint will now stand up like a small pleat. This pleat is now guided through the feller again, in the same direction as the first time, so that it is laid down and sewn on.

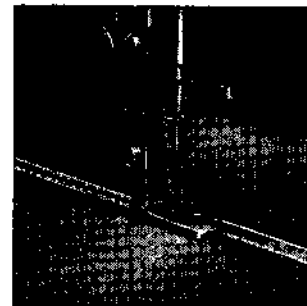


Fig. 20

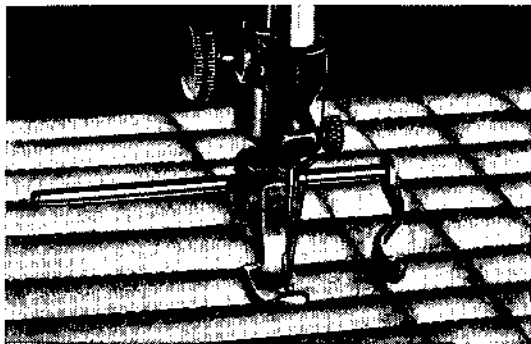


Fig. 21

The Edger with Quilter Guide

As the illustration shows, the stitch hole is located right at the edge of the presser foot. This presser foot without guide is therefore particularly suitable for sewing directly along the edge of the fabric.

If the edger is fitted with the quilter guide, it will be found ideal for quilting work, as the above illustration shows.

First fix the quilter guide with the blade at the desired distance from the edger. Then make a seam and shift the material to the right, until the seam just made will be exactly below the blade of the quilter guide. Now run a further seam, following with the blade of the quilter guide the first one, and so on. When all the seams are made in one direction, repeat the operation in the transverse direction, i. e. at right angles to the first rows of seams.

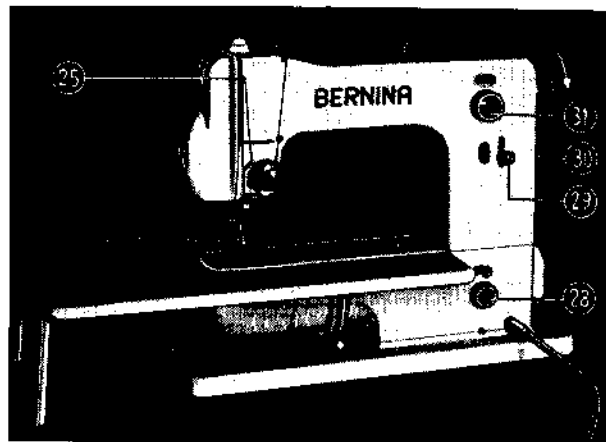


Fig. 22

Zigzag Sewing

(Use only 2 or 3 ply cotton, never 6 ply)

For zigzag sewing set the machine as follows:

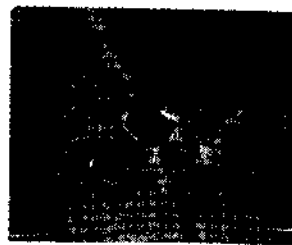
1. Bring take-up lever 25 to its highest point.
2. Insert zigzag presser foot (Fig. 28). Make sure not to use the zigzag *embroidery* foot, marked with one red stripe (Fig. 29). Its bottom side is hollow ground, while the zigzag foot is plain. Take top and bottom threads and lay them back under the presser foot.
3. Turn drop feed knob 28 to the right, until sewing sign will appear.

4. Adjust stitch regulator 29 so that the zero line of the scale will be a little under the sign of demarcation on the right-hand side of the scale. This can be done only if lock screw 30 is not turned in too much.
5. Turn zigzag adjusting knob 31 to the right, from 0-4, according to the desired width of the stitch. The more the knob is turned to the right, the wider the zigzag stitch will be. Never turn knob 31, when the machine is stopped and the needle is stitched in the fabric. While sewing, however, the knob may freely be moved.
6. Insert sewing table.

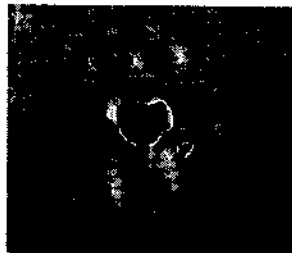
The Elastic Mending of Jersey

1st manner: Cut out the piece for mending according to the desired form and size. Lay it on the damaged part of the cloth, in the direction of the meshes. The wrong side of both pieces must be on the top. Fix the pieces by provisional stitches around the damaged part. Then, oversew the border of the piece for mending with zigzag stitch (stitch length No. 1 and width No. 3 or 4). Next to this seam make another one inside of it, at the distance of about half presser foot. Cut the damaged part of the cloth along the inner seam and remove the provisional stitches.

2nd manner: Lay the piece for mending under the damaged part of the cloth (Fig. a), in the direction of the meshes. The wrong side of both pieces must be on the top. Fix the pieces by provisional stitches around the damaged part (Fig. b). Then, sew a zigzag seam along these stitches (Fig. c) with stitch length No. 1 and width No. 3 or 4. Next to it, at the distance of about half presser foot, sew another zigzag seam. Cut the damaged part of the cloth along the inner seam, while the superfluous part of the piece for mending is cut along the outer seam. Then remove the provisional stitches.



a



b



c

Fig. 23

Darning with Wool

When darning with wool, use the patented wool darning foot. For top and bottom threads use darning cotton. The colour of both the wool and the top and bottom threads will be the same as the colour of the fabric to be mended, so that the darn, when finished, will be as invisible as possible. The thread tension is the same as when darning underwear, etc. Woollen socks are drawn over the open arm without using the darning apparatus for stockings.

Set the machine as follows:

1. Lower feed dog by turning knob 28 (Fig. 22) to the left until darning sign appears.
2. Set stitch regulator lever 29 (Fig. 22) on zero

so that the lowered feed dog will not be set in motion unnecessarily.

3. Set zigzag adjusting knob 31 (Fig. 22) on 3 or 4.

The darning with wool is made in two operations, namely:

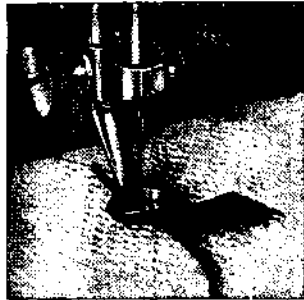
1. The damaged part is covered with wool rows.
2. Such rows are fastened together by sewing zigzag seams across them.

The three pictures on the opposite page clearly illustrate the manner to darn.

Picture *a* shows how to place the wool in the slit of the wool darning foot. Let project the end of the wool about half an inch beyond the rear border of the foot.

Now cover the hole with the wool, as shown in Fig. *b*. Begin at the left hand top corner of the damaged part and stretch the wool from side to side, i. e. from left to right and in reverse, one run after the other, by pushing the fabric accordingly. At the limit of each run, when changing direction, the zigzag stitch will tack the wool to the fabric. These runs shall be made as close as possible. As soon as the hole is fully covered with wool, the latter is cut off at the darning foot.

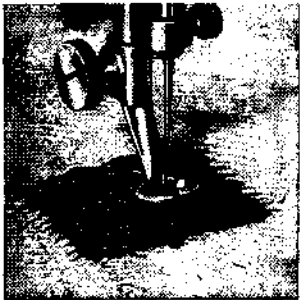
Now fasten together the wool runs by sewing zigzag seams across them, as shown in Fig. *c*. For this purpose, the fabric is pushed forwards and backwards. In order that the darn will result elastic, the zigzag seams should not be made too close one to each other.



a



b



c

Fig. 24

The Sewing on Laces

When sewing on a lace, use a short and narrow stitch. Therefore, set stitch regulator 29 (Fig. 22) on No. 1 and zigzag adjusting knob 31 on No. 1 or 2. Place the lace on the fabric, about $\frac{1}{4}$ inch inside of its edge, so that the sewing is easier. Then sew the lace on and along this zigzag seam cut the superfluous part of the fabric that remains under the lace.

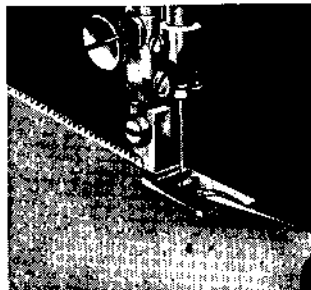


Fig. 25

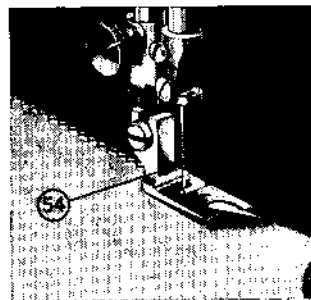


Fig. 25a

Roll Hemming

The roll hemmer, marked with two red stripes, is similar in form as the ordinary hemmer. The only difference is that the stitch hole is not round but large, so to allow zigzag sewing. Proceed as in ordinary hemming. Place zigzag adjusting knob 31 (Fig. 22) on No. 3 or 4. Roll hems are particularly used for edging fine material.

Shell Roll Hemming

For such hems, the roll hemmer (2 red stripes) will be used as well. Proceed as in ordinary hemming. The shell roll hem is obtained by a very tight needle thread tension and by making a long stitch.

The Braiding

For this kind of work use the zigzag embroidery presser foot, marked with 1 red stripe. Insert a soft cord into the guide hole of the presser foot and oversew the cord with zigzag stitch. Use mercerized cotton No. 50/2 or 60/2. With coloured cotton, coloured braid or by

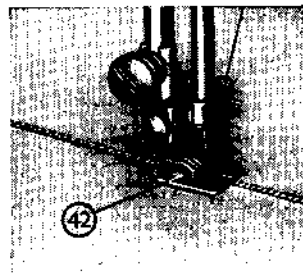


Fig. 26

sewing some rows one next to each other, the effect can be increased still more.

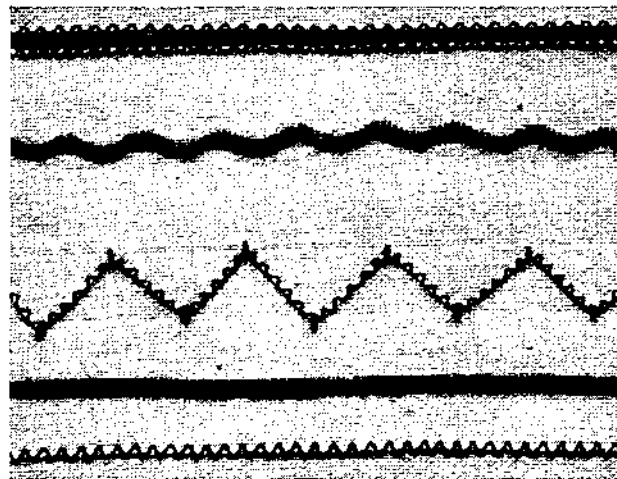


Fig. 27

The Zigzag Ornamental Stitch

On the Bernina zigzag sewing machine any ornamental stitch can be made in a really simple manner. According to the desired stitch, place the stitch regulator 29 (Fig. 22) more or less below zero and while sewing, turn the zigzag adjusting knob 31 (Fig. 22) to the right and to the left. After having made a few stitches, one is already acquainted with this kind of embroidery.

For stitches of normal length (samples *a* as per Fig. 30) use the *zigzag sewing presser foot* (Fig. 28).

For very short stitches (samples *b* as per Fig. 30) the *zigzag embroidery presser foot*, marked with one red stripe, must be used (Fig. 29). Its bottom side is hollow ground, while the zigzag sewing foot is plain.

Zigzag Sewing Foot

Zigzag Embroidery Foot

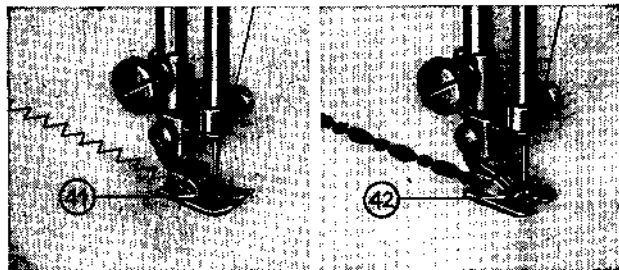


Fig. 28

Fig. 29

Ornamental Stitches

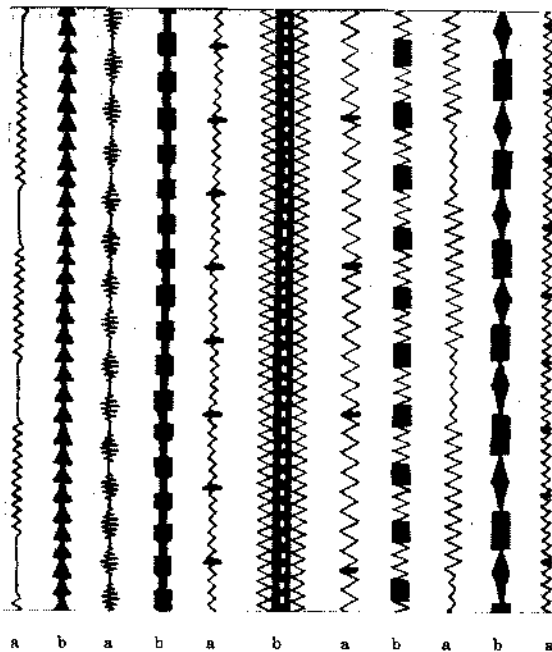


Fig. 30

Position of needle for left, middle, and right side stitch

Most of all zigzag sewing is done with *the middle stitch*, i. e. when sewing straight forward, the needle will stitch in the center of the stitch hole and when changing over to zigzag stitch, the width of the stitch will be distributed *from the center equally to the right and to the left* (Fig. 31).

For various ornamental stitches, sewing button holes, appliqués and sewing on buttons, the *left stitch* is used, i. e. when sewing straight forward, the needle will stitch in the left side of the stitch hole and when changing over to zigzag stitch, the width of the stitch will come to lie *from the left to the right side* (Fig. 32).

For further ornamental stitches you can use also the *right side stitch*, eventually in connection with the aforesaid two kind of stitches. In this case, when sewing straight forward, the needle will stitch in the right side of the stitch hole and when changing over to zigzag stitch, the width of the stitch will be formed *from the right to the left* (Fig. 33).

The change of position of the needle is obtained by turning the knob 5 at the back of the arm, near the spool pin (Fig. 7). When turning said knob to the left, the needle will stitch on the left; turning it again, the needle will stitch in the middle and turning it once more, the needle will stitch on the right. If you go on turning, the needle will return in the middle, then to the left etc. It does not matter, in which direction the knob is turned, because the position of the needle is always the following: "left - middle - right" or "right - middle - left". The knob stops after each turning.

By these changes of position of the needle, the zigzag stitches illustrated in Fig. 31, 32 and 33 will be obtained.



Fig. 31

Middle Stitch:
zigzag stitch is distributed from the center equally over both sides.



Fig. 32

Left stitch:
zigzag stitch is directed from left to right.



Fig. 33

Right Side Stitch:
zigzag stitch is directed from right to left.

Ornamental Stitches
made with different needle position

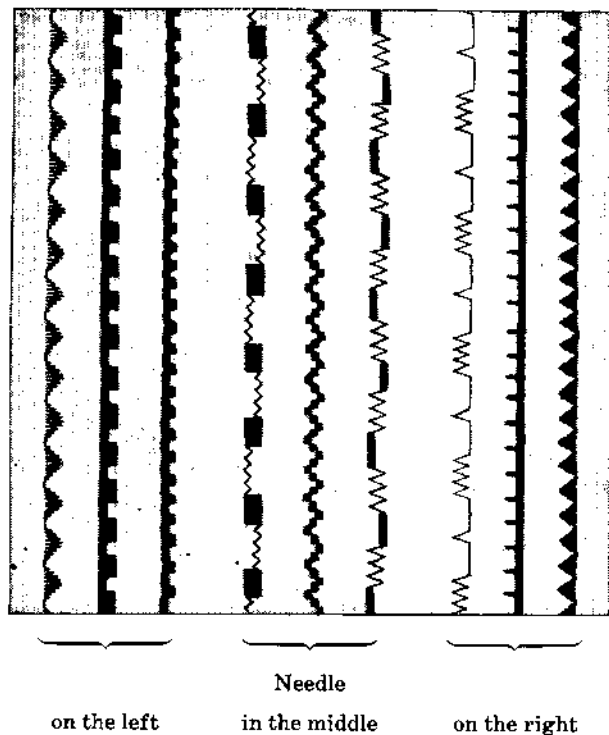


Fig. 84



Fig. 35

The Buttonhole Sewing




We distinguish three types of buttonholes:

- a) the ordinary buttonhole,
- b) the braided buttonhole,
- c) the raised buttonhole.

The *a* and *b* buttonholes are made with normal thread tension. For the *b* buttonhole, a soft cord is laid into the guide of the presser foot (3 black stripes).

For the *raised buttonhole* the tension of the bobbin thread must be very loose. In order to ascertain the right tension, hold bobbin case suspended by the thread. If the case slips down slightly, the tension is in order. That of the needle thread, however, must be so tight as to allow the *bobbin thread* to appear on the top side of the fabric. For raised buttonholes use only cotton No. 40, mat, 6 ply as needle thread, whereas the bobbin thread must be a very fine cotton (60/2). In case of coloured work, the coloured 2 ply cotton must be on the bobbin, when making raised buttonholes.

The Sewing of a Buttonhole

1. Insert buttonhole presser foot, marked with 3 black stripes.
2. Set needle to the left by turning the button 5 at the back of the arm (Fig. 7). See description on page 36.
3. Set zigzag adjusting knob 31 (Fig. 22) on No. 2. When sewing a buttonhole on jersey material, it is preferable to set this knob on $2\frac{1}{2}$.
4. Adjust stitch regulator 29 so that the zero line of the scale will be a little under the sign of demarcation on the right hand side of the scale. This can be done only if lock screw 30 (Fig. 22) is not turned in too much.
5. Turn drop feed knob 28 to the right, until sewing sign will appear.
6. Then sew the first half of the buttonhole, according to the desired length. The last stitch must be *on the right*. The needle shall be about $\frac{1}{8}$ inch into the cloth.Last stitch on the right
7. Lift presser foot and turn the cloth clockwise half a rotation around the needle. Lower presser foot and let the needle stitch *on the left*. Again the needle shall be $\frac{1}{8}$ inch only into the cloth.Last stitch on the left
8. Set zigzag adjusting knob 31 on the number corresponding to the width of the complete buttonhole and bar it with some stitches. In order to prevent the cloth from being pushed by the feed dog, the operator should withdraw the material a little. The last stitch must be *on the left*. The needle shall be $\frac{1}{8}$ inch only into the cloth.Last stitch on the left

9. Again set zigzag adjusting knob 31 on No. 2 and sew the second half of the buttonhole, but a little shorter than the first one. The last stitch must be *on the left*.



Last stitch on the left

10. Set zigzag adjusting knob 31 again on the number corresponding to the width of the complete buttonhole and bar it with a few stitches. Withdraw the cloth again a little, in order to prevent its being pushed by the feed dog. The last stitch must be *on the left*.



Last stitch on the left

11. Set zigzag adjusting knob 31 on zero and sew some fastening stitches, withdrawing the cloth a little.
12. Then, place the work on the wooden block and with the special cutter open the buttonhole between the two borders.

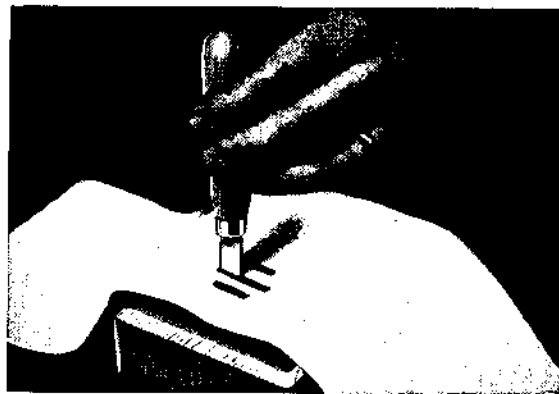


Fig. 36

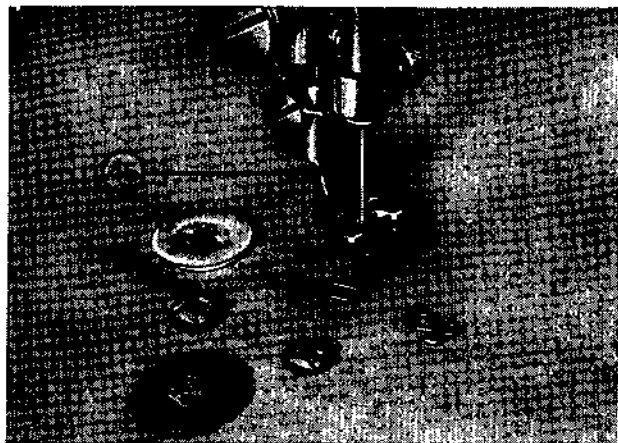


Fig. 37

The Sewing on Buttons

1. Turn button 5 at the back of the arm (Fig. 7) so that the needle will stitch *in the left side* of the stitch hole.
2. Lower feed dog by turning knob 28 (Fig. 22) to the left until darning sign appears.
3. Insert button presser foot (2 black stripes) and place the button under it, as shown in the above picture.
4. Adjust the width of the zigzag stitch according to the distance between the holes in the button and sew it on by six to eight stitches.
5. To fasten the stitches, let the needle in the hole of the button, raise the presser foot, put on zero the zigzag adjusting knob 31 (Fig. 22), lower the presser foot and make some fastening stitches.

In case of four hole buttons, displace the fabric and oversew the remaining two holes by another six to eight stitches.



Fig. 38

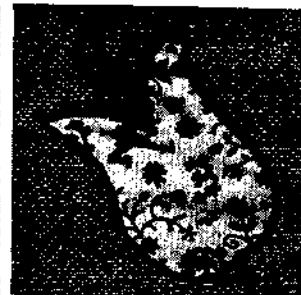


Fig. 38 a

Applique Works

(Use left position of needle)

By sewing on scraps of cloth or tulle of different colour, a very nice decorative effect will be obtained.

For such kind of work use preferably the buttonhole presser foot, marked with 3 black stripes.

First apply the design on the *wrong side* of the cloth. Cut out the scrap a little larger than the design, put it on the *right side* of the cloth and fix it with provisional stitches. Then, on the wrong side of the cloth sew along the contours of the design with a narrow (width 1 or $1\frac{1}{2}$), not too short zigzag stitch. Use a thread of the same colour as that of the scrap to be sewn on. Then, remove the provisional stitches and cut the superfluous part of the scrap along the zigzag seam. To finish the applique works, sew another zigzag seam over the first one, a little wider (width $2\frac{1}{2}$) and shorter, but this time on the right side of the cloth.

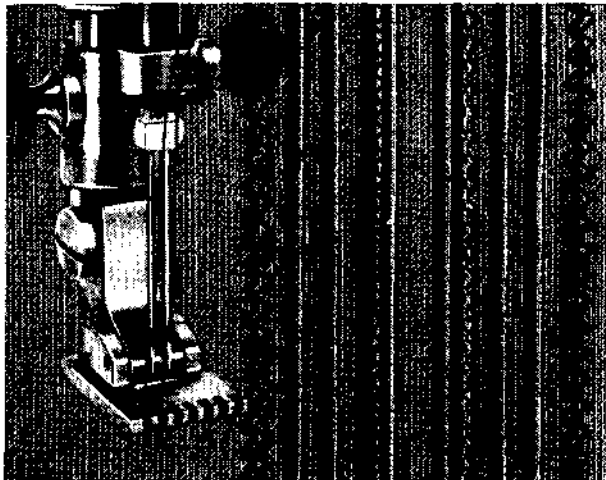


Fig. 39

Pintucking

For pintucking set the machine in the same manner as for plain sewing (Fig. 14); only replace the usual needle with a double needle and attach the pintucking presser foot. Thread the machine as usual, taking care that threads are carried separately through the take-up lever, which is fitted with two holes.

For the medium double needle of 3 mm distance, use the pintucker with 5 grooves.

These parts are included in the standard accessories.

For narrow and wide pintucks, two further double needles and pintuckers can be supplied against extra charge, namely :

double needle of 2 mm distance
to be used with pintucker with 7 grooves,
double needle of 4 mm distance
to be used with pintucker with 3 grooves.

Pintucks will result because the bobbin thread tightens both top threads, whereby the material between the double needle will raise itself.

In order to obtain firm pintucks, they are filled with a soft cord, which is carried from below through the oblique hole in the needle plate, in front of the zigzag slot, and laid under the material. It is easier to do this before the pintucker is attached. For this purpose, open the hinged shuttle cover and remove the needle plate. Then carry the cord through the square and round opening for shuttle cover and needle plate, through the needle plate hole, put needle plate at its place and close the shuttle cover. Be sure that the cord remains in the slit, where the shuttle cover is opened, so that the cord is free to pass when sewing. Lay the cord back under the presser foot, together with top and bottom threads.

When using a double needle and the ordinary zigzag presser foot, instead of the pintucker, parallel double fancy stitches will be obtained. Such fancy stitches look very nice if cotton of different colour is used.

The narrow double needle of 2 mm distance allows to make a small zigzag movement. However, same shall be only so large that neither on the left, nor on the right, one of the needles will strike the presser foot or the needle plate. Therefore, zigzag adjusting knob 31 (Fig. 14) shall be turned from 0 position a little only to the right (maximum on No. 2 of the scale).

The Ruffler

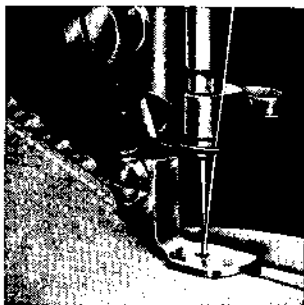


Fig. 40

Of two pieces of material, place under the ruffler the piece that is to be ruffled and lower the presser foot lever. Now insert the top material, which is to remain smooth, into the slot of the ruffler. The more the smooth top piece is held back during sewing, the larger and closer are the ruffles on the lower material.

If a single piece of material is to be ruffled, place it under the ruffler (not in the slot of it). The ruffles will vary according to the length of stitch used.

Ruffles can also be made as follows :

Charge the bobbin with thick thread (30/6). Loosen the top thread tension and sew with a long stitch. This incorrect tension will result in the formation of ruffles, which can be slid along the strong bottom thread as desired. Then, with plain stitch, sew the ruffles on the fabric, using a normal top and bottom thread tension and a normal thread size. For this latter method of making ruffles, the usual presser foot may be used.

(The ruffler is excluded from the normal accessories.)

Useful Suggestions in case of little troubles

The Shuttle is blocked

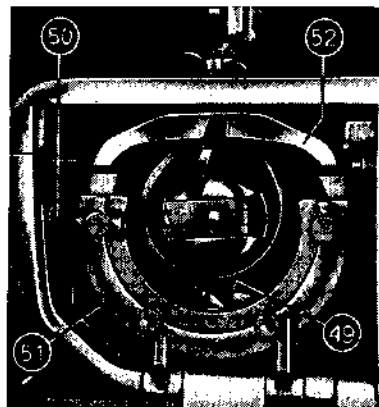


Fig. 41

If the machine should no more run forward and backward or if an unusual noise is noticed, then thread has got jammed into the shuttle race owing to wrong manipulation. In such a case the opening and cleaning of the shuttle race is very easy. Bring needle bar to its highest point, press with thumb of the left hand upon the flat spring 50 (Fig. 41),

so that locking bridge 51 and shuttle race cover 52 can be turned down. Then remove bobbin case and shuttle and it is now easy to clean the shuttle race from jammed thread remnants and dust with the small brush. Never use hard tools, such as scissors, screwdrivers, etc., otherwise the shuttle race might get damaged. After cleaning, first insert the shuttle, then lock the bridge 51 together with shuttle race cover 52 and insert the bobbin case. Make sure that locking bridge 51 snapped well in flat spring 50.

Change of driving belts

It may be that after long use of the driving belts, it will be necessary to change them.

The need of change will be noticed if, for instance, by pressure on the kneelever the motor is set in motion, but not the machine.

For changing the belts, remove the cover plate of the machine below the hand wheel, taking out the 3 nickel-plated screws. Remove also the regulating screw with the brown knob No. 30, fig. 22, by turning it anti-clockwise. Then, taking off the cover plate, the driving belts are visible.

The lower short belt can be exchanged without any difficulty.

If it is necessary to take off the vertical longer belt, remove at first the brown bakelite hand wheel cover, loosening the 2 screws. Then, loose the screws on the hand wheel hub and take the latter off the main shaft. The long belt can now be exchanged.

When replacing the hand wheel, be sure that the hub screw comes to lie on the milled part of the main shaft and the end of this forms one line with the end of the hand wheel hub. Then tighten the hub screw very well.

Top Thread breaks

Needle of inferior quality, roughly polished.

Needle is not inserted correctly. Long groove in needle must face the operator.

Needle is blunt or bent.

Needle size is not suitable for material to be sewn and thread used.

Top thread tension is too tight.

Thread passages are not smooth and need repolishing.

Thread control spring No. 22, Fig. 11 is broken.

Needle hole in throat plate is damaged by the needle and needs repolishing.

Shuttle point is too sharp. Call mechanician!

Shuttle race is not oiled.

Poor quality thread with knots.

Bobbin Thread breaks

Bottom thread tension is too tight.

Bottom thread not properly wound on bobbin.

Bobbin crushed and jamming.

Needle hole in throat plate is damaged by the needle and needs repolishing.

Faulty Stitches

Wrong needle. Use system 705 only.

Needle is blunt or bent.

Needle is not inserted correctly. Long groove in needle must face the operator.

Needle is not pushed right up in the needle bar.

Low grade needle, roughly polished.

Needle size is not suitable for the thread used.

Needle breaks

Needle is bent.

Needle clamp screw is not sufficiently tightened.

Needle is too fine for material to be sewn and thread used.

Top thread tension is too tight.

If the material is removed towards the operator, it happens frequently that the needle will get bent and at the next stitch it will touch the throat plate and break. Therefore, the material should always be removed to the rear.

While sewing, however, do not pull the material too much to the rear.

Cheap cotton, irregularly twisted or even containing knots, is used. One knot only may break the needle and in certain cases even damage the throat plate. Thus you are risking to pay much more than the additional price for a first class thread.

Machine runs slowly

Machine is insufficiently oiled (*not the motor*, which on the contrary should be oiled very seldom in order to prevent oiling-up the brush).

Use of unsuitable oil, that is not free of resin and acid and got sticky.

Remnants of thread are in the shuttle race.

If the sewing machine has been standing in a cold room, it should be opened and brought in a warm room about an hour before use, so that it can warm up to room temperature and the oil in the bearings will again become fluid.

The factory reserves the right to modify the construction of the machine with respect to cuts and description.

Accessories supplied with the Bernina Portable Zigzag Sewing Machine Model 125 Standard

Part No. On the Machine :

- 5952 1 presser foot for zigzag sewing, hinged
- 5856 1 presser foot extension
- 5359 1 presser foot screw

In the Sew Kit :

- 5953 1 presser foot for embroidery, suitable also for braiding 1 red stripe
- 862 1 lap hemmer (feller)
- 863 1 edger with quilter guide
- 5954 1 wide hemmer
- 5320 1 roll hemmer, suitable also for shell roll hemming 2 red stripes
- 1126 1 button presser foot 2 black stripes
- 5956 1 buttonhole presser foot 3 black stripes
- 1147 1 buttonhole cutter } or seam snipper
- 1164 1 wooden block }
- 5365 1 darning foot
- 5876 1 wool darning foot
- 134 6 bobbins, of which one in the bobbin case
- 5364 1 small screwdriver
- 5361 1 large screwdriver
- 5336 1 oil can
- 5877 1 small brush
- 5878 1 darning apparatus for stockings
- 1 packet of needles, system 705, assorted
- 5434 1 twin needle for pintucking
- 1512 1 pintucker with 5 grooves

In the Carrying Case :

- 5924 1 sewing table
- 5663 1 current supply cord with plug
- 1 instruction book

Against Extra-Charge :

- 851 presser foot for plain sewing, hinged
- 861 narrow hemmer
- 866 ruffler

With the *Popular Model 125 VM* the following attachments are supplied only against extra charge :

- 5979 accessories kit
pintucking device
- 5878 darning apparatus for stockings
- 5865 automatic darning foot
- 5954 wide hemmer
- 862 lap hemmer (feller)
- 863 edger with quilter guide
- 5320 combined roll and shell roll hemmer