

Instruction  
Book

ELNA  
*Supermatic*

TAVARO S.A. GENÈVE

Envelope for loose instruction sheets delivered  
with special accessories

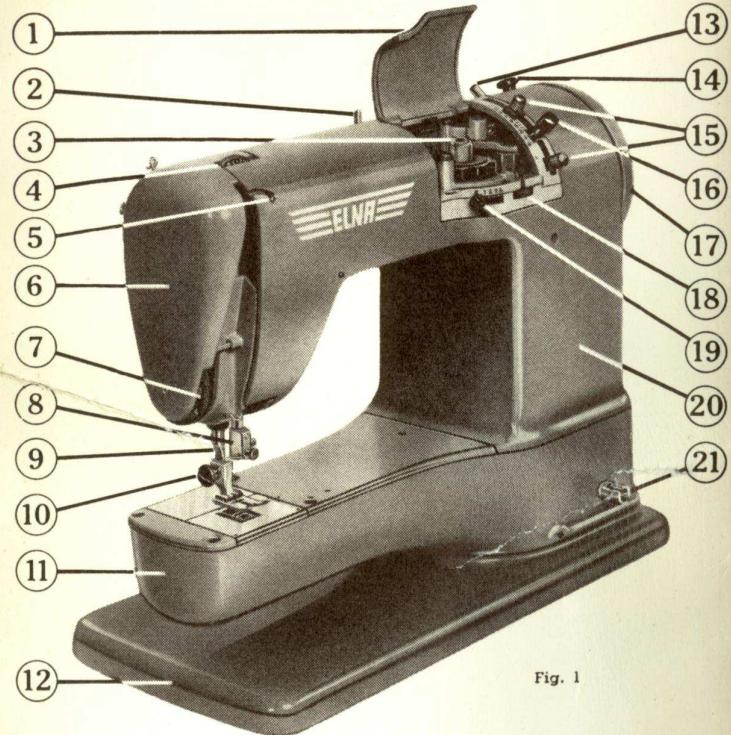
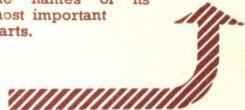


Fig. 1

- |                               |   |
|-------------------------------|---|
| 1. Elnagraph Cover.           | 12. Base.                                     |
| 2. Spool Pin.                 | 13. Bobbin Winder.                            |
| 3. Elnagraph Push Button.     | 14. Bobbin Winder Stop.                       |
| 4. Pressure Regulating Dial.  | 15. Stitch Length Stops.                      |
| 5. Thread Take-up Lever.      | 16. Stitch Length Regulating Lever.           |
| 6. Front Cover.               | 17. Flywheel.                                 |
| 7. Upper Thread Tension.      | 18. Needle Centering Wheel.                   |
| 8. Needle Clamp.              | 19. Stitch Width Regulating Lever.            |
| 9. Presser Bar.               | 20. Upper Casing (Arm).                       |
| 10. Presser Foot Thumb Screw. | 21. Bajonet Catch for the Knee Control Lever. |
| 11. Free Arm.                 |   |

To make sure that you obtain the most satisfactory results when using your ELNA, it is extremely important, and in your own interest, that you read through this guidebook repeatedly.

Unfold this cover first and study the illustration of your ELNA, to familiarize yourself with the names of its most important parts.



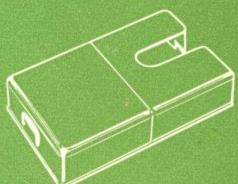
#### Useful Hints



#### Preparing the ELNA



#### Adjusting the ELNA



#### Carrying Case - Working Table



#### Ordinary Sewing



#### Sewing with « Elna-discs »

#### Extra Accessories



CHART : « How to Prepare  
the ELNA for Different  
Sewing Jobs ».

?  
Remedies  
to the Minor Disorders

## **The ELNA has been Designed to make Life Easier for the Housewife**

Your new ELNA sewing machine is the result of many years of research, based on the excellent experiences made with the first model which was launched in 1940 and which introduced the following important innovations :

- the Free Arm,
- the Carrying Case which can be converted into a full-size sewing surface,
- the completely built-in Light and Motor,
- its Handiness, due to the choice of very resistant, lightweight metals.

In addition to these advantages, which have since been recognized and taken over by the majority of modern sewing machine manufacturers, the new

### **" ELNA - SUPERMATIC "**

offers the unique improvement

**of making it possible to do practical and decorative work of all kinds, with one or two needles, completely automatically,**

thus surpassing by far the practical usefulness of ordinary zig-zag sewing machines.

The ELNA-SUPERMATIC is a household sewing machine, which, at the same time, offers the advantages of many special industrial sewing machines.

## Useful Hints

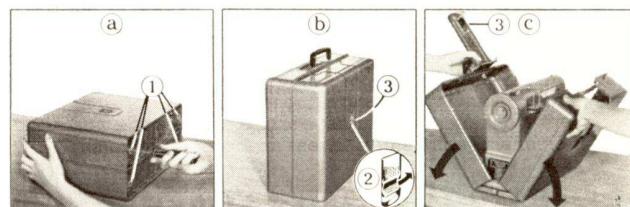
1. Giving your machine the care it deserves, is your insurance for perfect performance.
2. Even the best sewing machine will not sew properly, if it is equipped with a poor quality needle. For this reason, choose needles of first class quality, and the style 15 x 1 (European system 705).
3. The needle and the thread must be adapted to the kind of work to be done.
4. Follow our recommendations carefully when you thread and prepare your machine for sewing.
5. First familiarize yourself with the simpler kinds of work, and only then take advantage of the numerous other possibilities offered by the ELNA.
6. A threaded machine must never be run, unless a piece of cloth is underneath the presser foot.
7. Never try to remedy a disorder, before first having consulted our recommendations (Pages 58-59).
8. Make use of our ELNA service as often as possible. We are at all times glad to be of assistance. If your machine needs any professional attention, get in touch only with our specially trained ELNA personnel, otherwise the guarantee will not be valid.

Now, let us set up our ELNA by following the Instruction Book page by page.

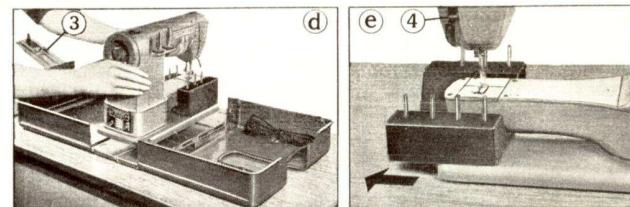


## Unpacking

Fig. 2



- a) Remove the carrying case from the packing and lay it flat on the table. The machine is fastened to the case. With a screw driver, loosen the four screws (1) which are in the bottom of the case (they cannot be entirely removed).
- b) Place the case on the table, with the lateral draw latch (2) at the right. Open the lateral draw latch (2) and lift the flap (3).
- c) Unfold the two sides of the case, holding the flap (3) with the left hand, so that it will not fall on the machine.



- d) Remove the ELNA by lifting it out with both hands; set it up on the table to finish unpacking it.
- e) Remove the accessory box (see arrow).

When repacking the machine, place the opened case on the table (d), with the flap (3) at the left. Place the ELNA in the case. Raise the two sides; close the flap (3) and the draw latch (2).

**Do not throw away the packing material! It will be very useful, should you later wish to ship your machine somewhere. Then do not forget to secure the machine inside the carrying case by fastening the four screws (a-1) which are on the underside of the case bottom.**

## Accessories

Your ELNA accessory box contains the following accessories:

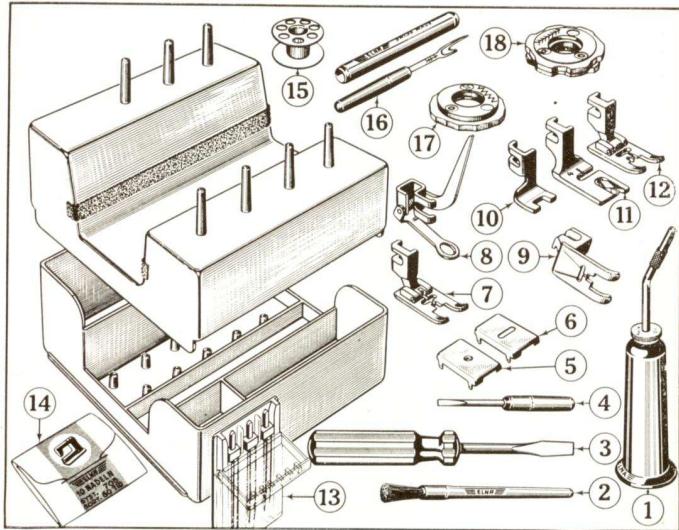


Fig. 3

### For Care of the Machine :

1. 1 Oil Can
2. 1 Cleaning brush

### For Operating the Machine :

3. 1 Large Screw Driver
4. 1 Small Screw Driver
5. 1 Darning Plate
6. 1 Button Plate
7. 1 Presser Foot (Hinged Foot)
8. 1 Darning Foot
9. 1 Cording Foot
10. 1 Button Foot
11. 1 Hemmer Foot "4" (5/32")
12. 1 Buttonhole Foot
13. 1 Assortment of 3 Twin Needles
14. 1 Assortment of 10 Needles
15. 5 Bobbins
16. 1 Buttonhole Knife
17. 6 simple « Elna-discs »
18. 4 double « Elna-discs »

« Elna-disc » 03 is inserted in the Elnagraph regulating device (see page 21).

## Electrical Equipment and Starting the Machine

### The Electric Cord.

Remove the electric cord from inside the carrying case. **Do not yet connect it.**

### Voltage.

Each ELNA bears a name plate (1), indicating the electrical characteristics of the machine. Make sure that the voltage (Volts) of the circuit you are using is the same as that indicated on this plate. At home, these indications can be found on the electric meter (not on the plugs). If, by any chance, the two should not correspond, do not connect the machine, but notify the nearest ELNA store as soon as possible. **Whenever you use the machine away from home, never forget to make the same check.**

### Knee Control Lever.

Place the ELNA in the right hand corner of the table, nearest to you, so that the base is about 5 inches from the edge of the table. Take the knee control lever out the carrying case and insert it in the bajonet catch (Fig. 1, pos. 21), taking care that the pin of the lever is completely engaged in the slot.

### Connecting the Machine and Starting it.

Now connect the electric cord to the machine and to the electric outlet. Press lightly with the right knee against the knee control lever. The ELNA will start running slowly. The more you move the lever to the right, the faster the machine will run.

**Caution:** The presser foot must always be raised when the machine is run without fabric.

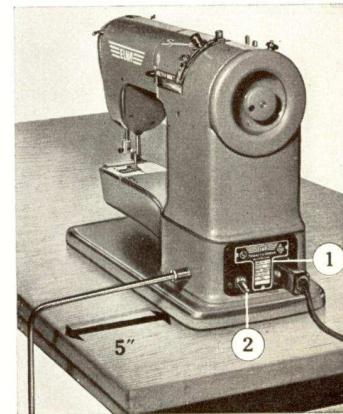


Fig. 4

## The Sewing Light

### The Switch.

To turn the sewing light on and off, use the light switch (Fig. 4, Point 2).

### Changing the Bulb.

**Caution : Never touch the bulb, as long as the current is connected. The plug must first be pulled out.**

Access to the light is obtained by pressing with the thumb against the first rib (1) of the grid (see arrow, Fig. 5). Lower the grid.

To remove the bulb, hold the grid with the left hand. With the other hand push the bulb all the way into its socket, turn it in the direction shown in Fig. 6, and pull it out. The lamp has a bayonet socket and must not be unscrewed.

Inserting the bulb is done by proceeding in reversed sequence. Check whether the bulb is properly fastened.

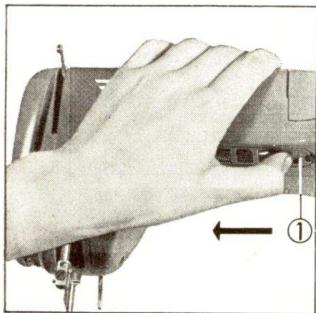


Fig. 5



Fig. 6

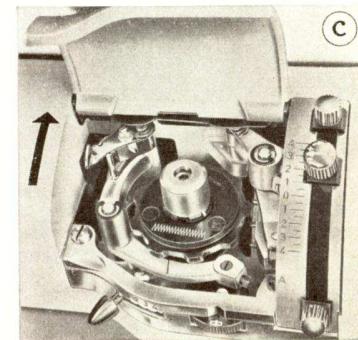
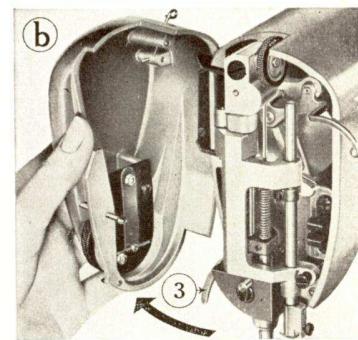
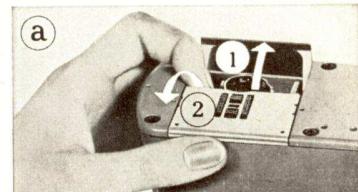
## Maintenance

To assure that your ELNA will serve you faithfully for many years and give you complete satisfaction, it is very important that the following instructions concerning its maintenance are strictly followed. First pull out the plug from the electric circuit.

### Preparation.

The different parts of the machine are very easily accessible, either for cleaning or for lubricating, provided the machine is prepared as follows :

- First of all, remove the needle and the presser foot. Open the shuttle cover (1) by pressing down on its rear edge; then remove the needle plate (2) by lifting it from the rear.
- Lower the presser foot lever (3) and turn the front cover towards the rear (see arrow).
- Open the Elnagraph cover by lifting it up.



## Proper Oiling

Just as any type of precision machinery, a sewing machine must be oiled regularly and carefully, to prevent premature wear and to assure that it always functions smoothly.

The ELNA SHOULD be oiled every day it is used ; before sewing, and not after having finished working with it.

The lubrication chart on page 11 indicates all oiling points.

The mechanism of the ELNA should only be lubricated with ELNA Oil which guarantees perfect performance and prevents the parts from becoming gummed.

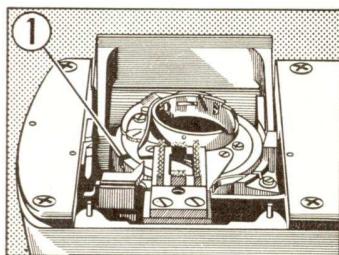


Fig. 8

Every time the machine is used, a drop of ELNA oil should be put into each of the oil holes shown in the lubrication chart on page 11. The oiling points have been painted red on the machine.

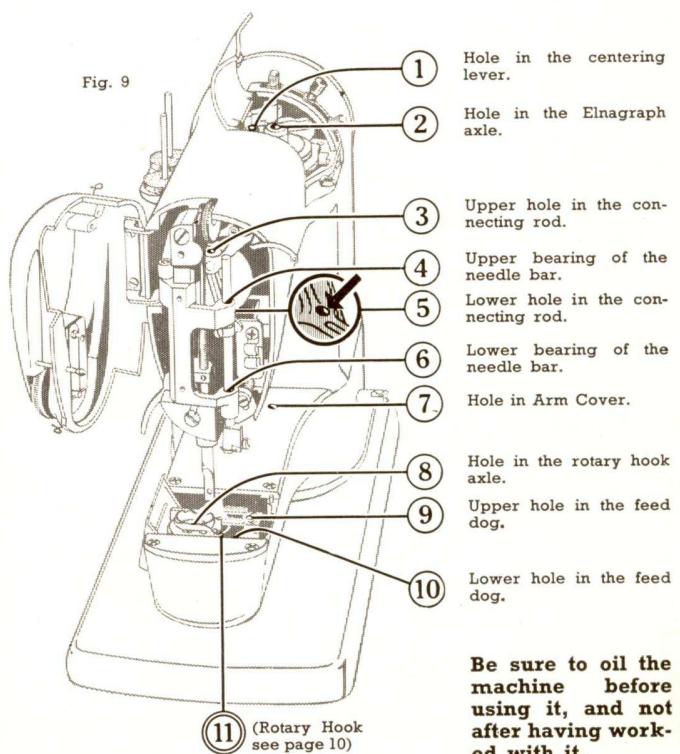
The rotary hook (point 11) is only to be oiled occasionally. To do so, turn the slot (1) of the rotary hook to the left by means of the fly-wheel (see fig. 8).

During cold weather, the ELNA should be placed in a heated room for a short while before being used. The oil, which has become thick and stiff, will thus fully regain its lubricating properties.

## Lubrication Chart

The oil holes are painted red on the machine.

**ELNA Oil** (one drop)



Be sure to oil the machine before using it, and not after having worked with it.

## Cleaning

During the use of the machine, pieces of thread and lint accumulate around the rotary hook, in the feed dog and in the head of the machine. It is essential to clean these parts occasionally with the cleaning brush, which should be dry.

### a) Rotary Hook and Feed Dog.

Remove the needle and the presser foot; after the rotary hook cover has been opened and the needle plate removed (see Fig. 7 a), brush the rotary hook and the feed dog carefully. To clean out pieces of thread which may in time have accumulated inside the rotary hook, it is recommended to clean the latter occasionally with the cleaning brush moistened with kerosene. Then race the machine for a few seconds, without thread and with the presser foot raised. Oil the rotary hook again as explained on page 10.

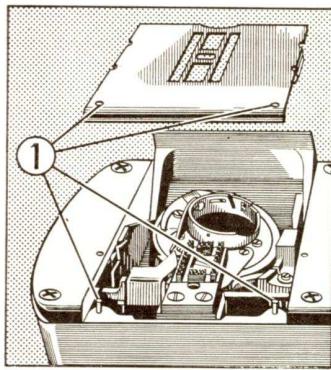


Fig. 10

Before replacing the needle plate, see that its seat is completely clean. Then place the plate over the two pins (1) which protrude from the free arm, press it down firmly until it snaps in place.

The correctly inserted needle plate will be flush with the cover of the free arm.

### b) Head of the Machine.

Open the front cover, after having lowered the presser foot lever and the Elnagraph cover (see Fig. 7 b and c). Remove pieces of thread and lint with the cleaning brush.

We also recommend that machines, which are used fairly often, be sent to the nearest sales office once every year for a thorough cleaning job by our specialists.

## Changing the Presser Feet

The various presser feet, provided for certain kinds of work, are to be fastened to the cloth presser bar (1). To attach the feet, raise the presser bar by raising the presser foot lever (2). Loosen the presser foot thumb screw (3), choose the foot which is appropriate for the work to be done and place it, from the front, on the presser bar (the screw must go through the opening (4) of the foot). Tighten this screw, using the large screw driver, and make sure that the foot is securely attached to the presser bar. This operation is facilitated if the needle bar is in its highest position (Fig. 11).

The **darning foot** is the only exception, as it is brought into position from the rear, when the needle bar is in its lowest position. Take care that the lever (5) of the darning foot remains behind the stud (6) of the needle clamp (Fig. 12).

To avoid damage to the needle, always fasten the presser foot before inserting the needle.

The use of each type of the presser feet, and the different kinds of work that can be done with them, are explained from Page 31 onwards.

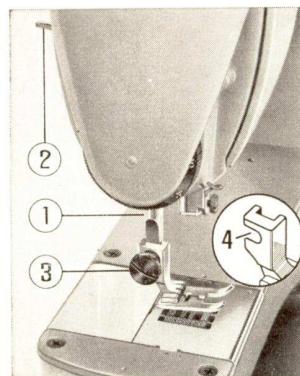


Fig. 11

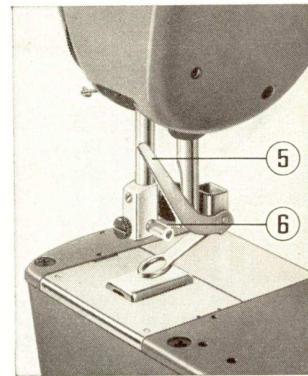


Fig. 12

## The Choice of Thread

Even the best of sewing machines cannot perform satisfactorily, if a thread is used which is either of poor quality or is not appropriate for the kind of work to be done.

It is, therefore, advisable to observe the following recommendations :

- a) **Use dull thread.** Glossy threads contain sizing material which will soon clog the mechanism. After washing, such threads are less wear-resistant.
- b) **For darning use left twist thread.**

**Left twist :**

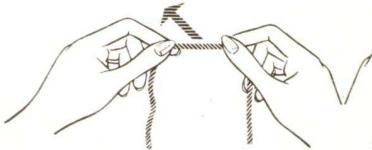
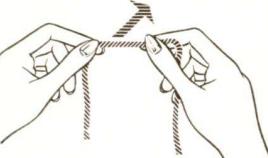


Fig. 13

**Right twist :**



Hold thread as above. Turn thread over toward you between thumb and forefinger of right hand ; the strands will wind tighter.

Hold thread as above. Turn thread over toward you between thumb and forefinger of right hand ; the strands will unwind.

- c) **Choose a thread which corresponds to the kind of work to be done and a needle that suits the thread.** For fine thread a fine needle should be used ; with coarser thread, use a larger size needle.
- d) **When the thread is too dry it becomes brittle ; it regains its strength, if it is placed near an open window overnight.**

## Winding the Bobbin

Fig. 14



Before you wind the bobbin, disengage the sewing mechanism from the flywheel by turning the coupling knob counter-clockwise (in the direction of the arrow Fig. 14). Push the bobbin winder (1) against the flywheel (see arrow, Fig. 15). Place your spool of thread on one of the spool pins (2), so that the thread will run off the spool on the side facing the machine. Pass it through the thread guide (3) and lead it back toward the spindle. Pull the thread through one of the small holes in the bobbin, from the inside (4). Place the bobbin on the spindle, so that the holes are on top and **turn it slightly until it can be pressed all the way down**. While holding the protruding end of the thread, wind a few turns of thread on the bobbin by pressing against the knee control lever. Stop and cut off the loose end next to the bobbin. Continue winding the bobbin which, when full, will stop automatically, due to the bobbin winder stop. It is advisable to press lightly with the left hand against the top of the spool of thread as the thread will thus be wound tightly and evenly. When the bobbin has been fully wound, remove it and push the bobbin winder back again (away from the flywheel). Then connect the sewing mechanism with the flywheel by turning the coupling knob clockwise in the direction opposite to that of the arrow (see Fig. 14). The machine will then be ready again for sewing.

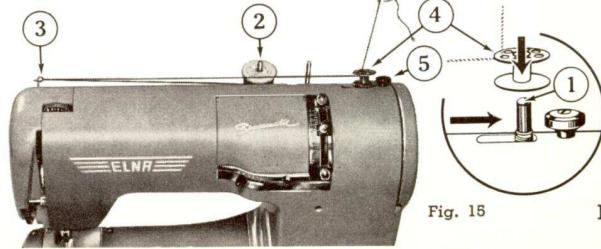


Fig. 15

## Inserting the Bobbin

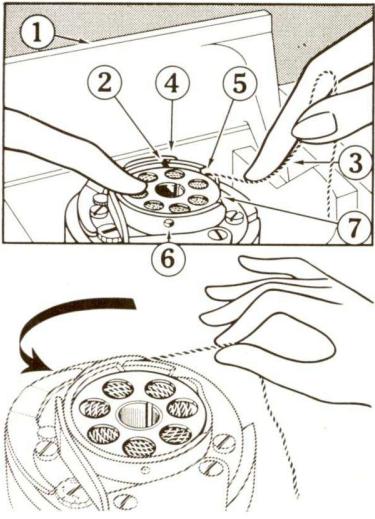


Fig. 16

spring should be felt. Leave about 6 inches of thread over to the left.

**For certain kinds of work the bobbin thread, after having passed underneath the lower tension spring, must also be passed from the groove (5) through the little hole (6). To do this, the needle plate must first be removed. To find out when this supplementary threading must be done, refer to the chart on the inside of the back cover which pertains to the different kinds of sewing.**

To remove the bobbin, lift it at the opening (7) of the shuttle ring.

## The Needle

The needle is one of the most important parts of the sewing machine. The proper execution of the work depends to a great extent on its quality. Consequently, only first grade needles should be used.

**For the ELNA, needles of the style 15×1 (European system 705) are to be used exclusively.** They are supplied in our needle assortment in sizes from 60 to 110.

The size of thread, which is suited to the kind of work to be done, should be determined first and then the size of the needle should be adapted to the thread. The following table will make this choice easier:

Needles style 15×1 (system 705) Sizes			Thread		Thread local grades	
New	Old	American	Cotton	Silk	Cotton	Silk
60	7-8	00	140-150	30		
70	9-10	0	100-120	24-30		
80	11-12	B	80-100	24-30		
90	13-14	½	60-80	20		
100	15-16	1	40-60	16-18		
110	17-18	2	30-50	10-12		

Use left spun thread for darning (see page 14).

### Inserting the Needle.

Bring the needle to its highest position by turning the flywheel toward you. Loosen the needle clamp screw (1) slightly. With the flat side (3) toward the rear, push the needle up into the needle clamp (2) as far as it will go. Tighten the needle clamp screw again with the large screw driver.

### Twin Needle.

On pages 51 and 52 is explained how to attach the twin needle, how to thread and how to prepare the machine.

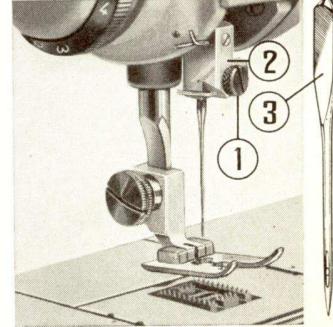


Fig. 17

## Threading the Upper Thread

Turn the flywheel toward you (see arrow) until the thread take-up lever is in its highest position. Raise the presser bar lever (8), to release the upper tension for threading.

Place the spool of thread on one of the spool pins (1) so that the thread unwinds itself from the side nearest the machine. Pass the thread from below through the thread guide (2), then through one of the two openings of the upper thread tension (3); thread it, from left to right, through the hole of the thread take-up lever (4) and then pass it, from behind, through the two thread guides (5 and 6); the needle (7) should then be threaded from the front toward the rear.

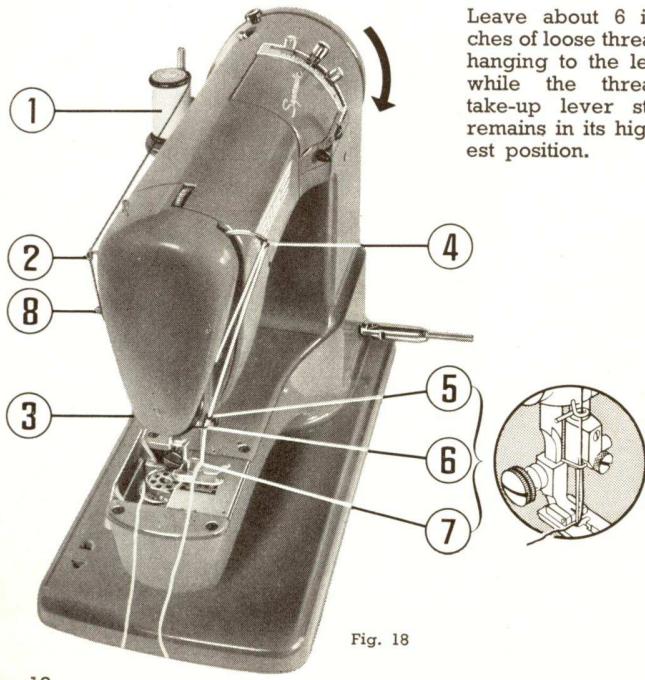


Fig. 18

18

## Drawing up the Lower Thread

The presser foot should be raised, the thread take-up lever in its highest position, and the rotary hook cover open.

Hold the end of the upper thread (which hangs down from the needle) with the left hand, **without pulling it**, and turn the flywheel with the right hand toward you **until the thread take-up lever is again in its highest position**. Then pull up the upper thread which will cause the lower thread to be drawn up from the rotary hook (a).

Draw both threads well out of the needle hole and **make sure that the lower thread crosses the bobbin correctly (b)**.

Close the rotary hook cover and pull both threads about 6 inches away from you, toward the rear underneath the presser foot.

If the upper thread is pulled before the thread take-up lever is again in its highest position, the lower thread will not be drawn up properly and this will cause a poor stitch formation.

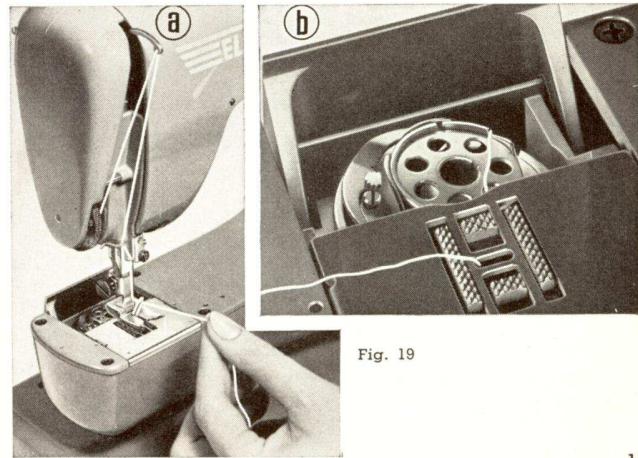


Fig. 19

19

## Adjusting the Pressure of the Presser Feet

To make sure that the work is fed evenly, the pressure of the presser foot on the cloth must, in certain cases, be increased or diminished, depending on the type of fabric and kind of work to be done.

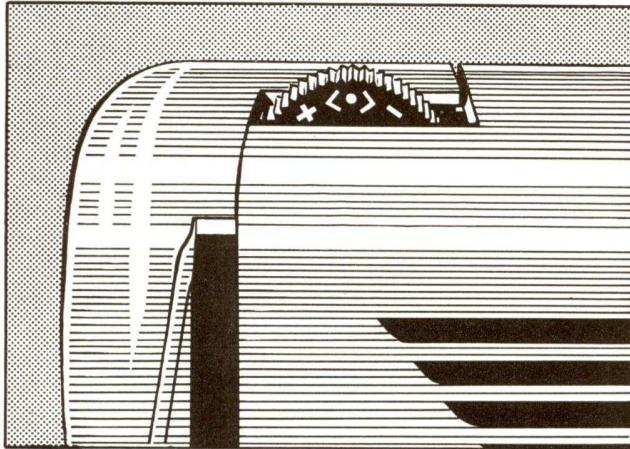


Fig. 20

This pressure is adjusted by means of the pressure regulating dial located on top of the machine (Fig. 20). The mark + <.> — indicates a normal pressure used for most kinds of work. By turning the dial to the right, in the direction of the mark > —, the pressure of the presser foot diminishes, whilst it is increased by turning the dial to the left, in the direction of the mark + <.

Reduce the pressure for sewing on sheer fabrics.

Increase the pressure for sewing on thick or stiff materials.

## The Elnagraph Regulating Device

By using irregularly shaped discs, which are called « Elna-discs », the Elnagraph Regulating Device — the brain of the ELNA-SUPERMATIC — makes it possible to execute the most varied practical and decorative sewing jobs fully automatically.

By inserting an « Elna-disc » into the regulating device, and adjusting the parts described below, the ELNA produces, independently and fully automatically, any number of different stitches for which « discs » are available. All we have to do, is to guide the material.

The regulating device consists of the following parts :

- a) Elnagraph axle with push button (1), which holds the « disc » (2),
- b) stitch width regulating lever (3),
- c) stitch length regulating lever (4) with the two stops (5 and 6),
- d) centering wheel (7).
- e) lever (8) for special devices; in order to be able to insert the « discs » it must be pushed to the left.

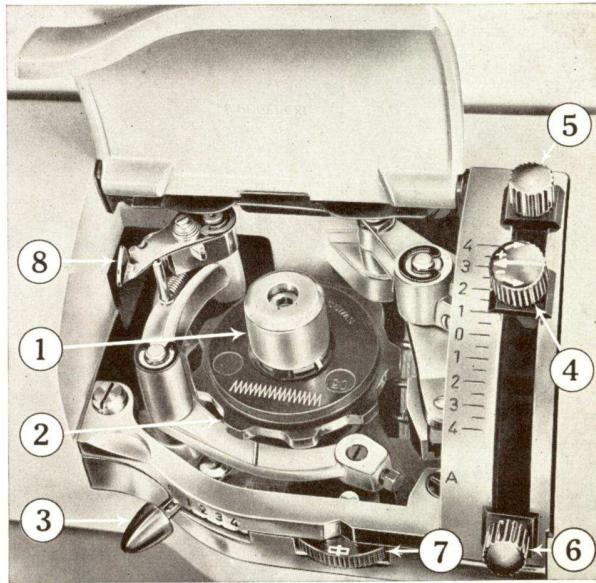


Fig. 21

The manner in which these four parts operate, is described on the following pages.

### 1. Inserting the « Elna-discs ».

Either a simple « disc » (a) or a double « disc » (b) can be used. The simple « discs » operate only the stitch width automatically, whereas the double « discs » not only control the stitch width but also the feeding of the cloth.

The standard equipment of every ELNA Supermatic comprises 6 simple « Elna-discs » and 4 double « Elna-discs ». Numerous further « discs » can be purchased separately.

For inserting an « Elna-disc », first set the stitch width lever (3) and the stitch length lever (4) at “0” (fig. 21). Then hold the simple or double « Elna-disc » between thumb and forefinger, with design on top, and place it on the Elnagraph axle 1 (fig. 23 a). The hole 3 must fit over the pin 2. On the simple « discs » this hole is visible from above. On the double « discs » this is not the case and the position of the hole is therefore marked with a white ring opposite the design. Push the « Elna-disc » down until it snaps in place (fig. 23 b).

To remove the « Elna-disc », first set the stitch width and stitch length levers at “0” (3, 4, fig. 21). By pressing on the push button 4 (fig. 23 c) at the upper end of the Elnagraph axle, the « Elna-disc » will pop up and need only be removed (fig. 23 d).

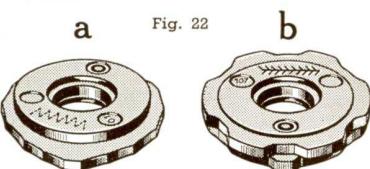


Fig. 22

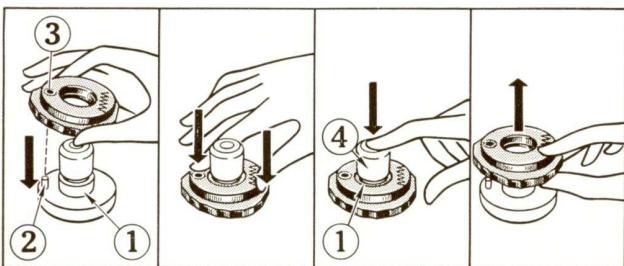


Fig. 23 a

Fig. 23 b

Fig. 23 c

Fig. 23 d

### 2. Width of Stitch.

The stitch width lever regulates the width of the design which can be obtained with the type of simple « disc » inserted in the machine. If the stitch width regulating lever is set at “0”, the machine will make a straight lockstitch seam.

The stitch width regulating lever should as a rule be pushed back as far as possible ; it thus snaps in place below the numbers 0, 1, 2, 3 and 4. When it is pulled out, it no longer snaps into the grooves below the above numbers (this position is needed for the special devices now being developed).

By using the simple « discs » 01, 02, 03 or 05, which are supplied as standard accessories, the following stitches will be produced:

« Elna-DISC »	Position of the Stitch Width Lever				
	0	1	2	3	4
01					
02					
03					
05					

Fig. 24

As described on the following page, the length of stitch can be chosen as desired.

By using the various « discs », which may be purchased as extra accessories, it is possible to make many more useful and decorative stitches.

**Important :** It is not necessary to insert a « disc » for normal straight sewing. In this case it suffices to set the stitch width regulating lever at “0” and to choose the desired length of stitch. If there is no «disc» in the Elnagraph device, the stitch width regulating lever must always be set at “0”.

### 3. Stitch Length.

The stitch length for forward or backward sewing can be adjusted to obtain stitches of equal (uniform) length. When using a double « disc », the stitch length regulating lever must be adjusted for automatic feed, whereby the stitch length becomes irregular (in accordance with the type of « disc » being used).

#### a) Uniform Feed (forward and backward).

To have the cloth fed uniformly, use the scale "4-0-4" at the upper right portion of the arm. For forward sewing, use the upper half "4-0" of the scale (see "I" in Fig. 25 a); for backward sewing, use the lower half "0-4" of this scale (see "II" in Fig. 25 a).

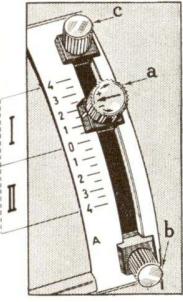


Fig. 25 a

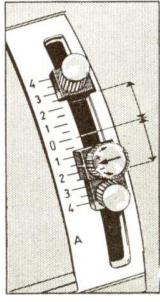


Fig. 25 b

To adjust the stitch length lever (a), simply move it to the desired position. For setting the two stitch length stops (c and b), loosen their knurled heads slightly. After they have been placed in the desired positions, tighten them again. To set a particular stitch length, first move the two stops (c and b) to their extreme positions. Then set the stitch length regulating lever at the desired position.

If it is desired to obtain the same stitch length for forward and for reverse sewing (as, for instance, for reinforcing the end of a seam), set the regulating lever at the required stitch length for forward sewing, then move the upper stop close against it and tighten its head. Then set the stitch length regulating lever at the same length for backward sewing, move the lower stop close against it and tighten its head firmly. In this manner, when you move the stitch length regulating lever, its movement will be limited between the two stops (see arrows in Fig. 25 b). When setting the stitch length regulating lever for reverse sewing, make sure that the needle is lowered into the material.

**Important : The stitch length should be adapted to the thickness of the fabric and to the kind of work to be done.** (Consult chart on inside of the back cover.)

#### b) Automatically varied Feeding of Cloth by using Double « Elna-discs ».

Insert the « disc » which you have chosen for your work. To operate the automatically varied cloth feed, move down the lower stop (b) completely, then push down the stitch length regulating lever (a) until it snaps in at the letter "A" of the scale. The regular cloth feed is thus cut out and the feeding of the material is now guided by means of the « disc ». It is not necessary to push down the upper stop. The width of the design can be varied by placing the stitch width regulating lever at 1, 2, 3 or 4. No stitch width is obtained when the stitch width regulating lever is left at "0". To remove the stitch length regulating lever from the position "A", **push down on its head and move it upward**. The execution of this kind of work is described in detail on pages 50-53 and 54.

#### c) Stitch tuner :

The knob of the stitch length lever bears the markings shown at the right. It can be turned about  $\frac{1}{4}$  turn in the direction of the two little arrows + (b) and - (c). The knob snaps lightly into its central position; in this position the large arrow (a) comes to lie horizontally and pointing to the position indicator "A". In principle all of the fully automatic stitches that can be sewn with the double « Elna-discs » are to be sewn with the knob of the stitch length lever in its normal position.

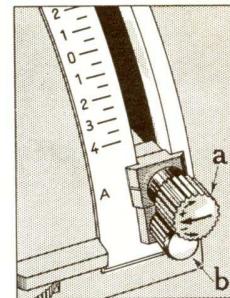


Fig. 26

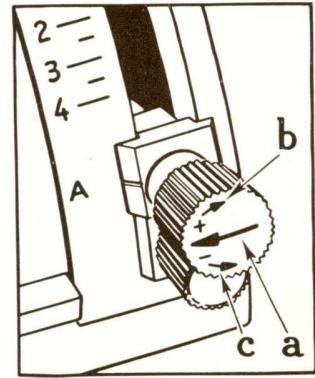


Fig. 27

Only for very intricate stitches such as for instance the "Turkish Hemstitch" («Elna-disc» No 101), it may be desirable to lengthen or shorten the design slightly, in order to adapt it better to the material and the thread used.

**To lengthen the design :** Turn the knob of the stitch length lever in the direction of the arrow + (b) ; To shorten it : Turn the knob in the direction — (c).

Always set the knob at its normal position again, as soon as such special work is finished.

#### 4. Centering the Needle.

The position of the needle bar can be changed by turning the centering wheel (No. 7 of Fig. 21). The center position is shown below under "b". To move the needle bar to the left, turn the centering wheel toward the left (a) ; to move it to the right, turn the wheel to the right (c).

The drawings below are for an ordinary straight stitch seam; the centering, however, can also be used for any other stitch. It is also possible to set the needle bar at any desired intermediate position.

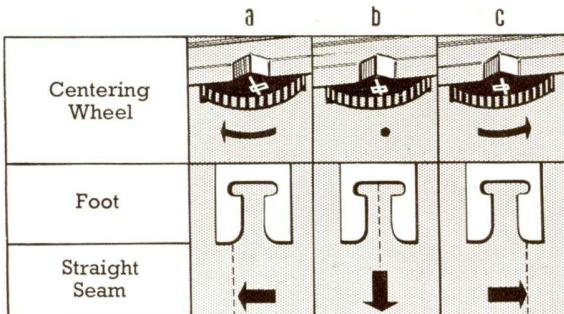


Fig. 28

The possibility of changing the position of the needle bar makes possible the sewing of buttonholes and the sewing on of buttons.

#### Adjusting the Thread Tensions

To form a perfect seam, both (upper and lower) threads must be linked tightly between the two layers of cloth that are to be sewn together.

The lower thread tension has been carefully adjusted at the factory and should not be altered (except for certain instances, see page 28). To obtain the correct thread tension, it is usually sufficient to adjust only the tension of the upper thread.

##### Upper Thread Tension.

The numerous positions, numbered from 0 to 9, of the tension regulating disc make a very fine adjustment of the thread tension possible. The loosest tension is obtained at 0 and the tightest tension is obtained by setting the disc at 9.

A seam, sewn by the machine, may appear as follows :

Fig. a) **Good Seam** : The upper thread (1) and the lower thread (2) are locked exactly between the two layers of cloth (3 and 4).

Fig. b) **Poor Seam** : The two threads are locked on top of the material. The upper thread tension is too tight and consequently the upper thread draws the lower thread up to the surface.

To sew a perfect seam, the upper thread tension must be reduced by turning the disc in the direction of the arrow.

Fig. c) **Poor Seam** : The two threads are locked on the underside of the material. The upper thread tension is too weak and the lower thread (2), consequently, holds the upper thread (1) back too much.

To sew a perfect seam, the upper thread tension must be increased by turning the disc in the direction of the arrow.

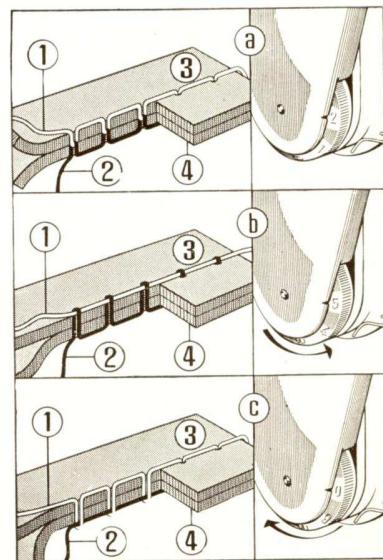


Fig. 29

#### The Lower Thread Tension.

On the ELNA the lower thread tension can be adjusted very precisely by means of the graduated screw 3. For most types of sewing however the lower thread tension may be left at "1" (normal tension); thus only the upper tension will ordinarily have to be adjusted.

For certain special types of work, however, it is necessary to modify the lower thread tension. To do this, the graduated screw (3) shall be turned, using the small screw driver (1) in the slot (2) of the screw. The loosest tension is obtained when the number "0" is opposite the point of the lever (4); it can gradually be increased by turning the screw up to position 3.

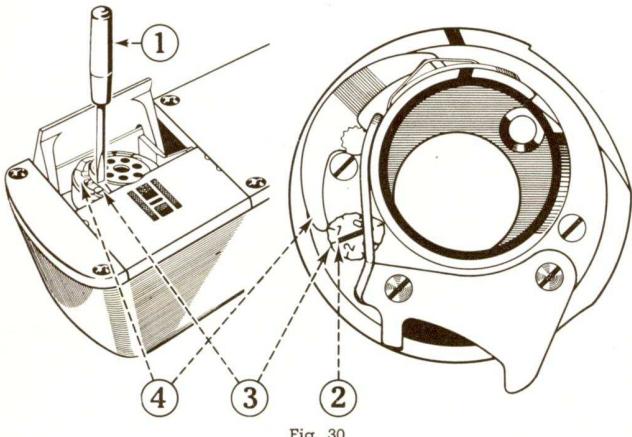


Fig. 30

The kinds of work for which the lower thread tension should be altered are mentioned in the chart on the inside of the back cover.

If the lower thread tension was altered for a special kind of work, it should be turned back to "1" as soon as the job has been finished.

#### Conversion of the Carrying Case into a Working Surface

Open the case as shown on page 5.

Place the ELNA at the right of the open case. Raise the bottom of the case in the direction of the arrows.

Fold the flap (1) into the case until it snaps in there. Fold the bottom of the case completely (2) by pushing together both halves of the case (see arrows).

Turn the case over, so that the working surface (3) is on top and the opening (4) is opposite the free arm of the ELNA.

Make sure that the rotary hook cover is closed and slide the case, which has thus been converted into a working surface, against the machine (see arrow), so that the opening (4) fits the free arm.

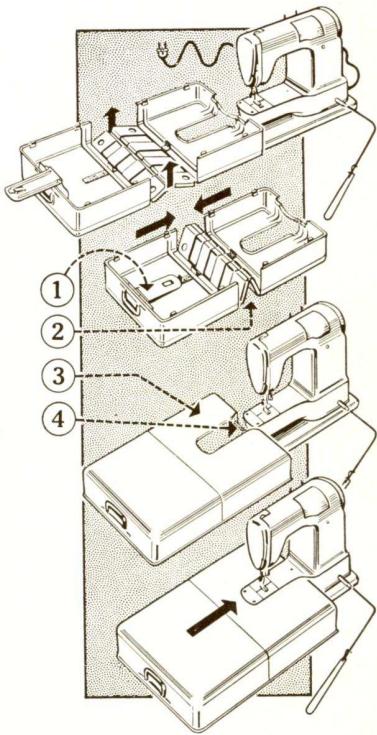


Fig. 31

## Inserting and Removing the Material

For all kinds of sewing, consult the Chart on the inside of the back cover which contains all the indications necessary for preparing and adjusting the ELNA.

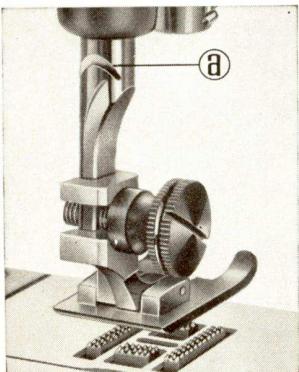
Before placing the material on the machine, see that:

- the machine has been properly oiled;
- the presser foot and needle clamp screws are properly tightened (use the large screw driver);
- the sizes of needle and thread suit the kind of work to be done;
- the lower thread crosses the bobbin properly (see Fig. 19 b);
- the tensions have been properly adjusted;
- the pressure of the presser foot, the stitch length, the stitch width and the centering have been set in accordance with the indications given in the chart on the inside of the back cover.

Make sure that the ends of the threads have been drawn about 6 inches to the rear of the machine and the thread take-up lever is in its highest position, then

- place the material underneath the presser foot;
- lower the needle into the material by turning the flywheel toward you;
- lower the presser foot and start sewing.

To remove the work, first turn the flywheel toward you until the thread take-up lever is in its highest position, then raise the presser foot; remove the material to the rear (away from you) and cut off excess thread with the thread cutter (a), located on the cloth presser bar.



### Important:

Always turn the flywheel toward you!

When the machine is not being used, place a piece of material over the feed dog and lower the presser foot.

Never operate the machine when it is threaded, or the presser foot has been lowered, unless a piece of fabric is under the presser foot!

Fig. 32

## A. Ordinary Sewing, done without «Elna-discs» and with Standard Presser Feet

### 1. STRAIGHT SEWING

For ordinary sewing jobs, the **presser foot** shown at the right should be used.

The chart on the inside of the back cover indicates how the machine should be prepared and adjusted.

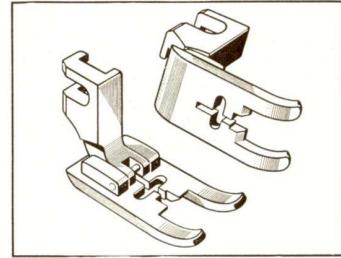


Fig. 33

The stitch length must be set in accordance with the kind of work and the thickness of the pieces to be sewn together.

To turn a corner, lower the needle into the material at the extremity of the corner, raise the presser foot, turn the material around the needle into the desired position, lower the foot and continue sewing.

### Sewing with Elastic Thread.

For adjusting the ELNA see chart on the inside of the back cover.

Wind the elastic thread around a bobbin by hand (do not use bobbin winder mechanism). Tighten the upper thread tension and set for a rather long stitch (3-4). While sewing it is important to keep the fabric taut before it moves underneath the presser foot.

For difficult designs it is best to pin a sheet of paper, on which the ornament has been sketched, to the material. While sewing simply follow the design on the paper. After the work has been finished, remove the paper carefully.

Since the material will gather, care should be taken to provide sufficient material for this type of work. For sheer fabrics usually twice the normal (finished) length of the work should be provided for.

## 2. HEMMING

To prepare and adjust the machine : see chart on inside of back cover.

Attach the hemmer foot "4" (5/32" wide). To prepare the hem, fold over the edge of the fabric about 1/8", then fold another strip about 5/32" wide. Hold the beginning of the hem with the left hand. Stretch the material with the right hand and introduce the fold into the scroll of the hemmer. Lower the presser foot. Lower the needle into the beginning of the hem. Sew. To make a perfect hem, guide the material, so that the scroll of the hemmer is always well filled (Fig. 34).

A longer stitch length than for ordinary sewing is desirable (about 2 1/2 to 3 1/2).

While sewing hems, a soutache can simultaneously be sewn on by slipping the end of the soutache into the lateral slot of the hemmer foot (Fig. 35).

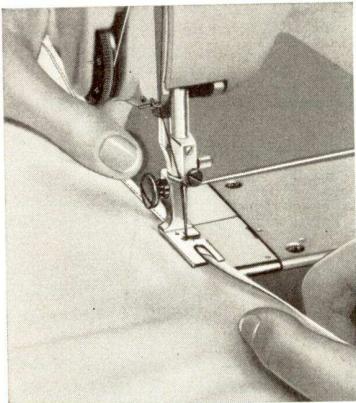


Fig. 34

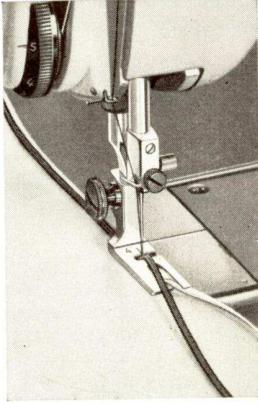


Fig. 35

## 3. DARNING

To prepare and adjust the machine : see inside of back cover.

To attach the darning foot : see page 13.

For darning, the feed dog must be covered with the darning plate. The material is thus no longer fed by the machine and has to be moved by hand ; the protruding darning plate stretches the material automatically. It is easier to carry out this work **by resting the forearms on the working surface and moving the material by stretching it and moving it with the fingers, held as closely as possible to the darning foot.**

For all darning jobs it is absolutely necessary to sew tiny stitches in serpentine lines which are parallel and rounded off at the corners (a).

**To obtain tiny stitches, run the machine quickly and move the cloth slowly.**

Darning with sharp turning points will cause holes at these turning points and result in a job which is less attractive, less strong and less soft and flexible (b).

### Reinforcing Worn Out Materials.

To reinforce worn out spots in kitchen linen, sheets, etc., use also serpentine lines. To obtain a soft and almost invisible reinforcement, it is advisable to vary the height of the serpentine turns (c). The strength of the darn can be increased by darning-on a strip of gauze.

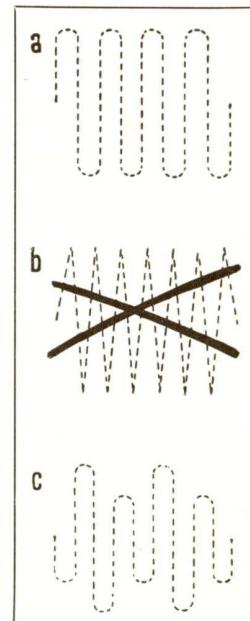


Fig. 36

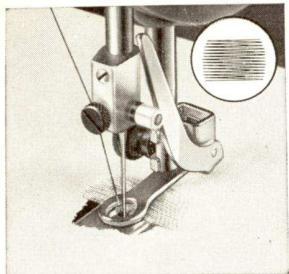


Fig. 37 a

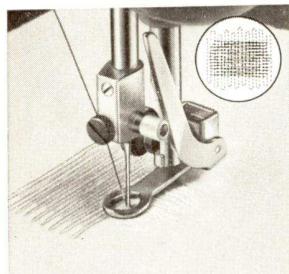


Fig. 37 b

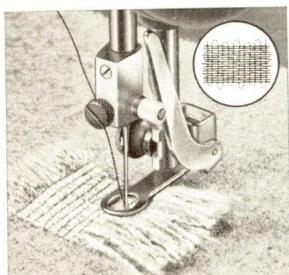


Fig. 38

#### Darning a Hole.

##### a) on cotton and silk fabrics.

First fill in the hole by darning a screen across it from left to right and from right to left, in closely spaced parallel rows. Fasten the stitches well in the side of the material, without overstepping the edge of the hole too much.

**To make the darn soft and flexible, make long stitches by running the machine slowly and moving the fabric rapidly with the hands (Fig. 37 a).**

Finish the darn by darning back and forth with tiny stitches, making long serpentines and varying the height of the turns. Start and finish the darn outside of the first screen (see Fig. 37 b), which will make the darn soft and flexible.

##### b) on heavy woollen cloth.

It is best to fill in the hole with yarn taken from the same material (pulled out of the edges) and laying it across the hole, on the right or wrong side of the material (depending on its appearance). Then darn as shown in Figure 38.

##### c) on silk stockings.

When darning silk stockings, the upper tension should be tighter than for ordinary darning. Slip the stocking over the free arm. Stretch the stocking underneath the darning foot and sew a row of **tiny stitches** around the hole in order to fasten the meshes (Fig. 39). Then darn as shown on page 34 and in Fig. 37 a and b.

##### d) on knitted woollen materials (socks, pull-overs).

Place the work on the machine; lower the darning foot. Darn around the hole, in order to prevent it from becoming larger. Place the same kind of knitting yarn across the ring of the lowered darning foot and fasten it to the edge of the hole with a few stitches (Fig. 40 a).

Place and stretch the yarn across the hole in the direction of the meshes, then move the material, while darning with long stitches, and fasten the yarn with a few stitches at the other side of the hole. Turn over the yarn in the opposite direction and fasten this turn with a

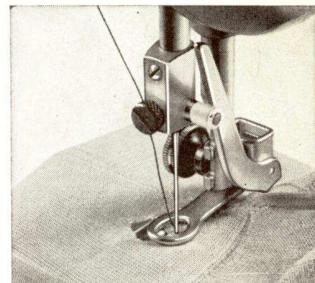


Fig. 39



Fig. 40 a

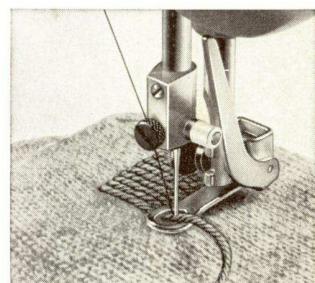


Fig. 40 b



Fig. 40 c

few stitches; stretch the yarn again across the hole, and continue in the same manner (Fig. 40 b) until the hole is fully covered with the woollen yarn.

Cut off the yarn. Then darn back and forth in serpentine lines of equal length with small stitches (Fig. 40 c), leaving a space about equal to the width of the yarn between each of the lines.

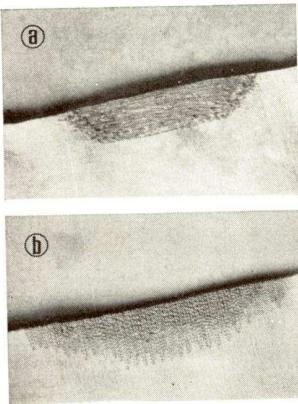


Fig. 41

#### Darning Worn Out Edges of Fabrics

The worn out portions of edges are first filled in with rows of long darning stitches, sewn lengthwise and spaced closely together (a). Then, similarly to the darning of holes, cover the seams, obtained in the aforementioned manner, with closely spaced serpentine lines which run up and down (b). To obtain a neat and even edge, vary the length of the serpentine lines on the inside of the material only. When you reach the edge, turn back rapidly to avoid the formation of knots there.

#### B. Decorative Work with Standard Accessories (Without « Elna-disc »)

##### Pearl Stitch

Preparation and adjustment: see inside of back cover.

The pearl stitch is a decorative stitch sewn with the ordinary presser foot, a fine upper thread (finest sewing thread, darning thread) and a coarse lower thread (pearl cotton, etc.). The stitch length is set from  $2\frac{1}{2}$  to  $3\frac{1}{2}$ , depending on the thickness of the lower thread. The upper thread tension must be tight. The pearl stitch is formed on the underside of the material; the design must, therefore, be drawn in reverse on the wrong side of the material (especially for monograms). It is easier to do this kind of work if a piece of paper, on which the design has been drawn, is fastened to the material, or if the material is stretched in a hoop.

For decorating borders, as well as for making small intricate designs, the presser foot can be replaced with the **darning foot** and the **darning plate**. Set the stitch length regulating lever at "0". Run the machine slowly and move the material with your hands.



Fig. 42

### Small Cord Stitch

Preparation and adjustment : see inside of back cover.  
**To make a small cord stitch, prepare the ELNA as for darning ; use a heavier upper thread (sewing thread No. 40 or 60) and a thin lower thread (darning thread). The small cord stitch is formed on the upper surface of the material. The stitches must follow each other very closely, so that the upper thread will be entirely covered by the lower thread, without being pulled into the material. This is done by tightening the upper thread tension. It is advisable to stretch the material in a hoop ; run the machine rapidly and move the material slowly by hand.**

For sewing straight lines (hems, etc.), the darning foot and the darning plate may be replaced by the ordinary presser foot. The material will then be moved by the feed dog (stitch length approximately  $\frac{1}{2}$ ).

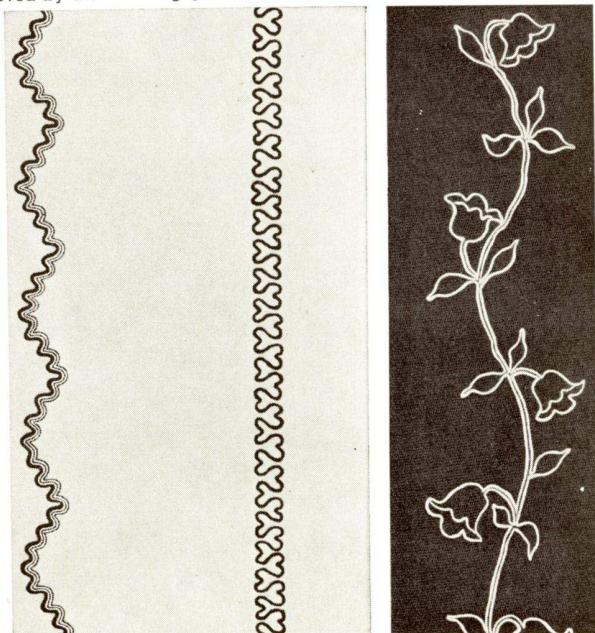


Fig. 43

### Shaded Embroidery

Preparation and adjustment : see inside of back cover.  
**Prepare the ELNA as for darning. Use darning thread for both the upper and lower threads. Stretch the material in a hoop.**  
First follow the outlines of the sketched design with darning stitches ; then fill in the surfaces with very long darning stitches by moving the material back and forth unevenly (Fig. 44 a). Very soft and flexible work is obtained in this manner. Very attractive work can be performed by varying the colors of the threads. The same kind of embroidery can be used to fill in only the edges of the design with darning stitches, leaving a part of the surface uncovered (44 b).

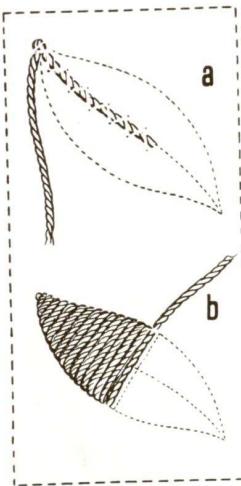


Fig. 44 a

Fig. 44 b

### Satin Stitch

Prepare the ELNA as for darning, but without attaching the darning foot. Do not forget to lower the cloth presser bar. Use upper and lower thread of the same kind (darning thread). Stretch the material in a hoop.



First follow the outline of the sketched design with large darning stitches (Fig. 45 a). Then fasten the coarse thread, chosen as trimming (pearl cotton, etc.), from the center toward the end of the design.

To fill in the design, stretch this thread from one side to the other, back and forth, fastening it evenly with a few darning stitches slightly beyond the traced outline (Fig. 45 b).

This work is done best by filling in the design from the left to the right.

Fig. 45

Depending on the quality of the thread or the material, there is a possibility that small knots will form themselves. To prevent this, it may be necessary to increase the lower thread tension, as indicated on the inside of the back cover, since in this case the normal lower thread tension at "1" is no longer sufficient.

Fig. 46



### C. Working with Standard Accessories and « Elna-discs »

#### Simple « Elna-discs »

The simple « discs » 01, 02, 03, 05, 06 and 10 are supplied as standard accessories with every ELNA. A large number of other « discs » can be purchased separately, depending on the kinds of practical work or decorative designs that are desired.

**Attach the presser foot; insert the « disc » you have selected (with the number and design facing upwards) and adjust the machine in accordance with the instructions given on pages 23 and 24 and in the chart on the inside of the back cover.** Adjust the width of the design by means of the stitch width regulating lever. To obtain a more or less closely stitched design, set a corresponding stitch length with the stitch length regulating lever.

##### a) « Elna-disc » "01" for Overcasting.

The « disc » "01" for overcasting produces a zig-zag stitch with intermediate stitches, thus making the overcasting particularly durable.

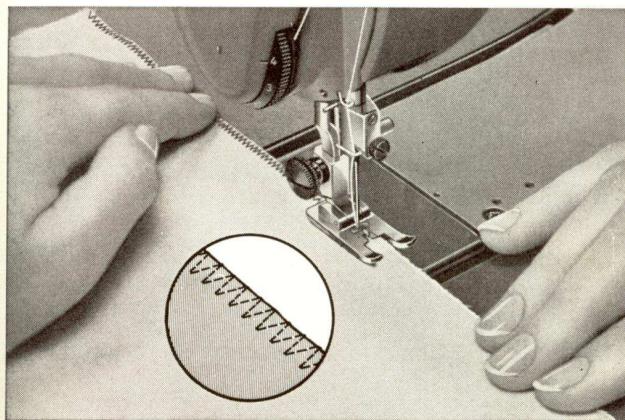


Fig. 47

Place the edge of the material underneath the presser foot in such a manner that the needle, when stitching toward the outside of the fabric, will stitch just beyond the edge of the material. **Use stitch width 2-4, depending on the type of material.**

b) « Elna-disc » " 02 " for Tricot Material.

The « disc » " 02 " guarantees full elasticity of the seam in this material by sewing serpentine seams automatically. The length and width of the stitch can be adjusted by means of the corresponding regulating levers.

Prepare the machine for sewing and use preferably darning thread or a very fine sewing thread.

**« Disc » " 02 " for tricot material is always used together with the regular presser foot.**

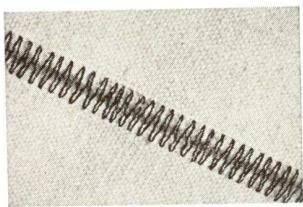


Fig. 48

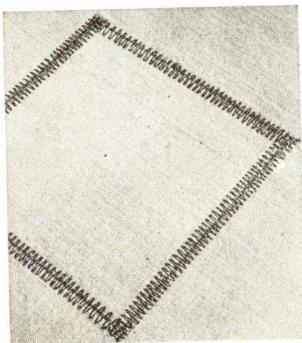


Fig. 49

**Joining two edges of material and inserting a patch (excepting for tricot material).**

For sewing together two pieces of material edge to edge, place the two pieces so that there is no gap between their edges and sew along the joint, making the turns of the serpentine line enter equally into both pieces.

Before inserting a patch, cut a rectangle or a square around the hole. The patch must have exactly the same size and must be cut from a piece of the same material which has already been washed. Insert the patch and sew the edges together as shown in Figures 48 and 49.

## Sewing Tricot Material

**Ordinary Sewing.**

Place one piece of material on top of the other and sew serpentine stitches along the edges (a),

or

place one piece on top of the other and baste them together about half an inch from the edge with an ordinary straight seam (stitch length  $1\frac{1}{2}$ ); open out the two pieces and sew over the seam in serpentine stitches (b).



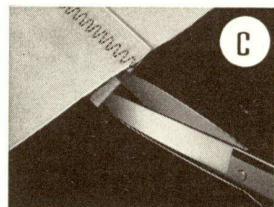
a



b

**Overlapping Seams.**

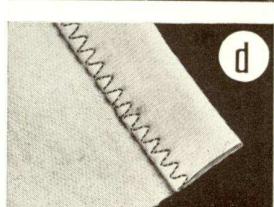
Place one piece on top of the other so that their edges overlap by about half an inch. Sew the seam in serpentine stitches about  $\frac{1}{16}$ " from the edge of the upper piece of material. Then cut away the loose edges neatly (c).



c

**Hems.**

Fold over the edge of the material twice and make the hem by sewing a serpentine seam along the inside edge (d).



d

### Patching Tricot Material.

To cover the defective portion fully, cut the patch, to be attached, sufficiently large and, preferably, in a square or rectangular shape. Fasten the patch to the tricot material with several pins, taking care that the ribs of patch and material run in the same direction. Sew closely along the edges of the patch (on the two less elastic sides of same) with serpentine stitches. On the two more elastic sides, the serpentines should be sewn about  $\frac{1}{4}$ " from the edges, to prevent "runs" in the knitted material (Fig. 51 a).

Cut off the two protruding loose edges on top of the material; then cut out the defective portion on the underside of the fabric (Fig. 51 b).

The tricot material will thus remain soft and elastic (Fig. 52).

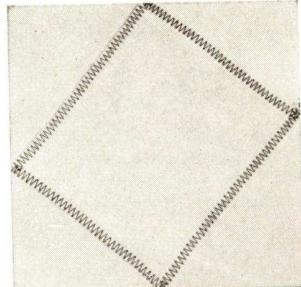


Fig. 51 a

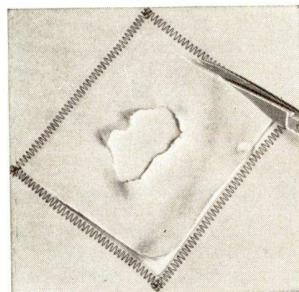


Fig. 51 b

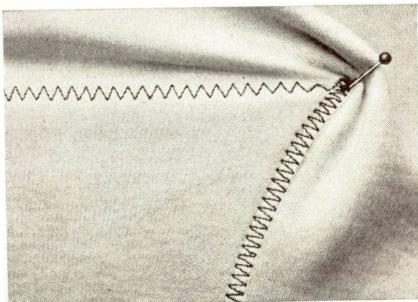


Fig. 52

c) « Elna-Disc » 03 - Zigzag. This « Elna-disc » is used for sewing buttonholes, sewing on buttons and for all other zigzag sewing jobs, such as the cord stitch and its various uses.

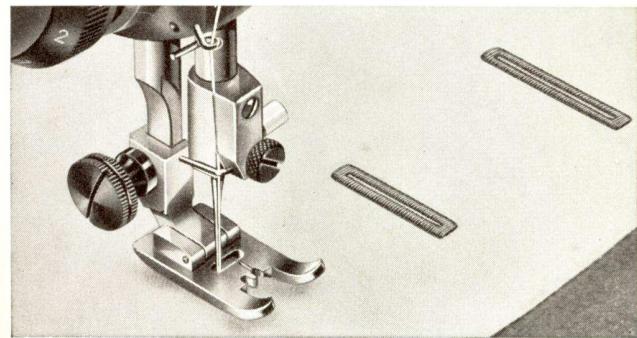


Fig. 53

### Buttonholes.

For preparing and adjusting the machine, see the chart on the inside of the back cover.

Attach the buttonhole foot and insert the « Elna-disc » 03. Adjust for a very small stitch length and adhere closely to the following instructions pertaining to the positions of the stitch width regulating lever and the centering wheel. **During this entire operation the centering wheel must remain in its extreme left position.**

- Set the stitch width regulating lever at "2" and sew the first row of stitches of the buttonhole. Having reached the end, bring the needle into the material at the right side of the row just made.
- Raise the foot and pivot the material half a turn around the needle. Lower the foot.
- Let the needle stitch into the material at the left and set the stitch width regulating lever at "4"; then sew for about  $\frac{1}{16}$ ".

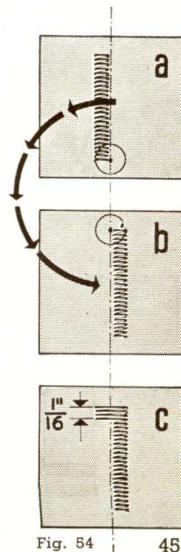


Fig. 54

d) Let the needle stitch again at the left into the material; set the stitch width regulating lever at "2" and sew now the second row of stitches of the buttonhole, taking care that it is parallel to the first row, **only a trifle shorter**.

e) Let the needle stitch again at the left into the material; set the stitch width regulating lever at "4" and sew for about  $\frac{1}{16}$ ", thus finishing the buttonhole.

Let the needle stitch again at the left into the material; set the stitch width regulating lever at "0" and fasten the buttonhole securely with a few straight stitches, holding the material back by hand so that it will not be fed.

Smaller buttonholes can be obtained in the same manner, using the stitch width "1" and "2" and placing the centering wheel exactly half-way between the center and the extreme left positions.

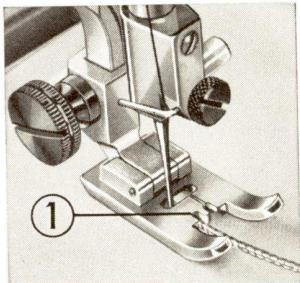


Fig. 55

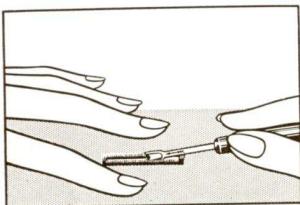
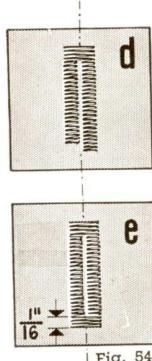


Fig. 56

To strengthen a buttonhole with a soft cord (gimp), thread the cord into the opening (1) at the left of the buttonhole foot (Fig. 55). Then proceed in exactly the same manner as for ordinary buttonholes. The cord will thus be entirely covered with stitches. When the buttonhole is finished, pull slightly both ends of the cord and cut them off close to the buttonhole.

For cutting the buttonhole, use the special buttonhole knife, supplied as standard accessory. Place the material flat on the table and hold it with the left hand, so that it will be properly stretched. Insert the point of the buttonhole knife at one end of the buttonhole opening and cut the material by pushing the knife to the other end (Fig. 56).



| Fig. 54

### Cord Stitch.

A zigzag stitch sewn with a very short stitch length produces the **cord stitch**. Its main uses are: monograms, decorations, borders, appliquéd work, etc.

Prepare the ELNA as explained in the chart on the inside of the back cover, using a very short stitch length. Darning thread should be used as upper and lower thread. Attach the cording foot and insert «Elna-disc» 03. If possible the material should be stretched on a hoop for monograms. Now sew the zigzag seam. To increase the relief effect the first row of cord stitches can be sewn over once or twice. Be careful that the stitches are sewn symmetrically on both sides of the cord stitch. When sewing over again, the stitch width remains unchanged.

Narrow cord stitches sewn with stitch width "1" are not to be sewn over a second time; to obtain more relief a soft cord may be sewn into the stitch.

To cause a cord stitch to taper the stitch width lever is to be pressed down and slowly to be removed towards the position "0" while sewing.

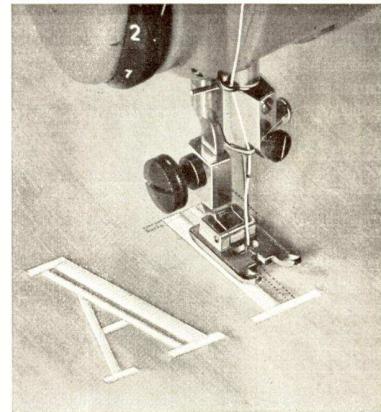


Fig. 57

### **Button Foot.**

For sewing on buttons, snap-buttons, hooks and eyes, etc., cover the feed dog with the button plate (small plate with slot) and attach the button foot. The chart on the inside of the back cover explains how to adjust the machine.

Insert the «disc» "03", set the stitch length regulating lever at "0" and move the needle bar to its extreme left position with the aid of the centering wheel. Place the button on the material, underneath the button foot; lower the foot; adjust the width of the stitch, so that the needle will descend exactly in the center of each of the two holes of the button, then sew about 6 to 8 stitches. When sewing on four-hole buttons, move the button, after having sewn the first two holes, and sew the other pair of holes in exactly the same manner. To prevent the stitches from unravelling, set the stitch width regulating lever at "0" and lock the stitches by sewing a few straight stitches in the same hole.

Snap-buttons as well as hooks and eyes are sewn to the material in the same manner.

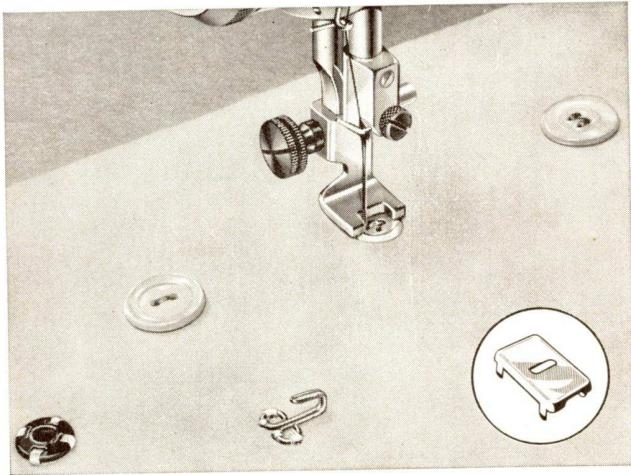


Fig. 58

### **d) «Elna-Disc» 10 - Blind Stitch.**

The «Elna-disc» 10 is used for sewing the blind stitch. This stitch is mainly used for sewing invisible seams on dresses and coats of medium or heavy material. For the preparation and adjustment of the machine, see chart on the inside of back cover.

#### **Instructions**

First fold the seam and press, then fold over again as shown in the illustration at the right. The fold "a" should protrude beyond the fold "b" by  $\frac{1}{8}$  inch. To guide the work more easily, it is best to pin the hem. Place the work on the machine, so that the fold "b" lies between the two edges "c" and "d" of the sewing foot. Lower the cloth presser bar and sew the blind stitch. Make sure that only the lateral stitches penetrate slightly into the fold "b" of the material.

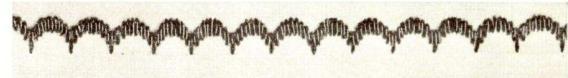
When the work is finished, unfold it and press.

The «Elna-disc» 10 may also be used for decorative stitches.

### **e) «Elna-Discs» 05 and 06 - Decorative Stitches.**

The decorative stitches that can be sewn with these «Elna-discs» are illustrated below.

«Elna-Disc»  
05



06

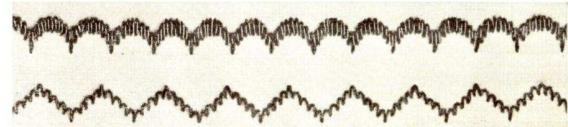


Fig. 60

## Double « Elna-discs »

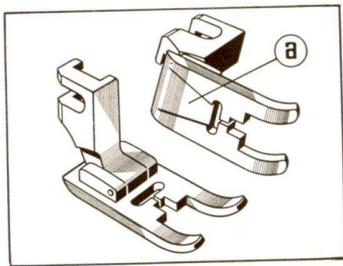
The double « Elna-discs » 101, 107, 108, 109 supplied with the machine enable you to sew the following decorative stitches fully automatically (see Fig. 61).

**For adjusting the ELNA, see pages 22, 23 and 25, as well as the chart on the inside of the back cover.**

The width of the design can be varied by changing the position of the stitch width lever. It is not necessary to push or to pull the fabric.



Fig. 61



A few examples of the work done with the numerous other double « discs », which can be supplied on demand, are shown on pages 53 and 54.

**For decorative work with « Elna-discs », use the cording foot, which has an indentation (a), on the underside, as shown at the left.**

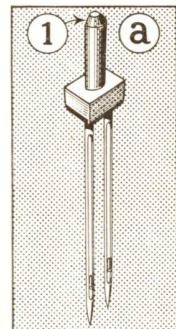
## Twin Needle

Twin needles are mainly used for decorative work with « Elna-discs » (see page 53) or for sewing tucks (see page 55).

To sew with two needles, the machine should be prepared as follows :

### a) Attaching the Presser Foot.

Attach the cording foot (for tucks, the tucker foot), in accordance with instructions given on page 13.



### b) Inserting the Twin Needle.

Insert the body of the twin needle with the flat side of the shank (1) facing the rear, push it upwards as far as it will go, then tighten the needle clamp screw (2) firmly.

### c) Threading.

**Thread both upper threads separately.** Raise the presser foot and bring the thread take-up lever to its highest position. Place the two spools of thread on the spool pins (1). The spool nearest to the flywheel must, when looked upon from above, unwind clockwise, the other counter-clockwise. Pass the two threads separately through the thread guide (2), one after the other, then pass them through the upper tension on either side of the separating disk (3). Check that the threads do not cross.

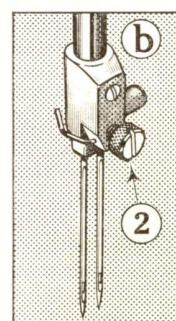


Fig. 63

Insert both threads separately into the thread take-up lever (4), pass them through the thread guide (5) and thread them individually through the thread guide (6) of the needle clamp. Now thread the two needles.

**Thread the lower thread** (bobbin thread) through the small hole in the shuttle ring (Fig. 16, Point 6) and pick it up as usual, holding both upper threads in the left hand.

**Whenever two needles are used, never set the stitch width beyond position "2" when manipulating the stitch width regulating lever (when working with "Elna-discs") and leave the needle centering wheel at its center position. To remind you of this, positions "3" and "4" on the stitch width scale are shown in red.**

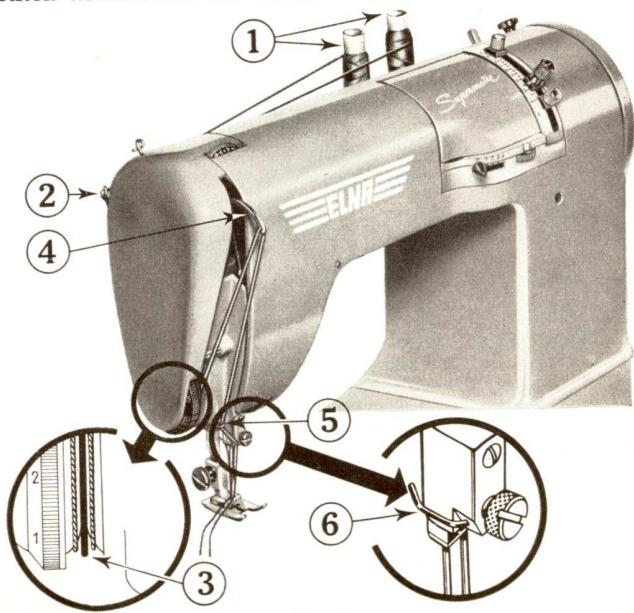


Fig. 64

## Working with Two Needles and with Various Simple and Double « Elna-discs »

To execute decorative designs with two needles, always use the **cording foot**, which is supplied as a standard accessory (see page 50).

**Neither pull nor push the fabric.**

To prepare the ELNA, see the chart on the inside of the back cover.

**When working with two needles, it must always be remembered to set the stitch width not wider than at position "2", with the centering wheel at its center position,** since otherwise the needles will hit the needle plate and break.

Working with two needles can be done with simple « discs » as well as with double « discs ».

The following are a few sample designs :

« Elna-disc »  
No.

05  
07  
08  
16  
103  
106  
107

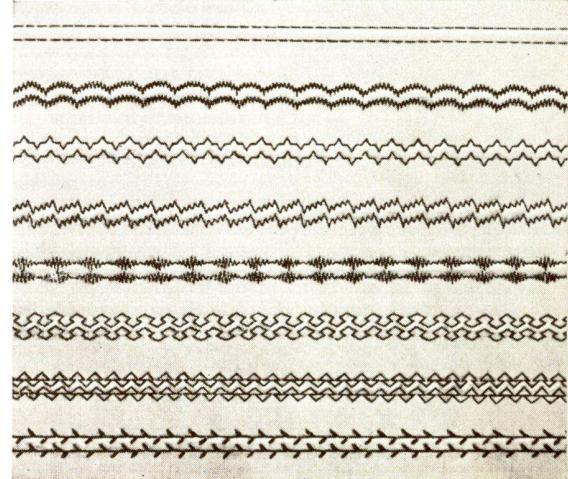


Fig. 65

## D. Extra Accessories

### Various Simple and Double « Elna-Discs »

In addition to the « Elna-discs » supplied with the machine as standard accessories, numerous further « discs » can be purchased separately. The number of designs is constantly being increased. Here are a few samples:

Simple « Elna-discs »	N°	Double « Elna-discs »	N°
	04		102
	07		103
	08		104
	09		105
	11		106
	12		110
	13		111
	14		112
	15		113
	16		114
	17		115
	18		116
	19		117
	20		118
	21		119
	22		120
	23		121
	25		122
	26		123
	27		124
	29		125
	31		

Fig. 66

All of the decorative designs sewn with the simple and double « discs », with the exception of the "Turkish Hemstitch" (« disc » 101), can also be sewn with twin-needles (see page 53).

### Extra Feet and Attachments :

**Hemmer Feet** 2 and 6 ( $\frac{5}{64}$ "") ( $\frac{15}{64}$ "") for narrow and wide hems, which are in addition to the 4 ( $\frac{10}{64}$ ") hemmer foot supplied as a standard accessory.

**Rolled Hem Foot** for making rolled hems in combination with the zig-zag stitch or other decorative stitches. The rolled hem is mainly used for making fine handkerchiefs.

**Felling Foot** for sewing two pieces of material together with a felled hem.

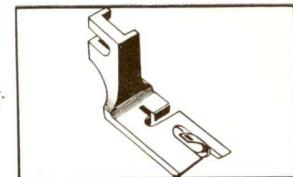


Fig.  
67

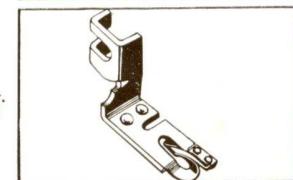


Fig.  
68

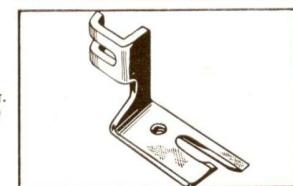


Fig.  
69

**Tucker Foot** for making tucks. For this work the twin needles supplied as standard accessories are also to be used.

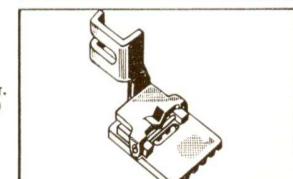


Fig.  
70

**Roller Foot** for various types of sewing and decorative work, mainly on plastics, edges of thick material and for sewing pieces of elastic or slippery materials together.



Fig.  
71

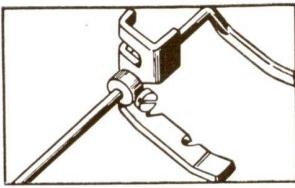


Fig.  
72

**Zipper Foot** with Guide for sewing parallel lines at equal distances that can be adjusted (quilting), for guiding edges and for sewing in cords.

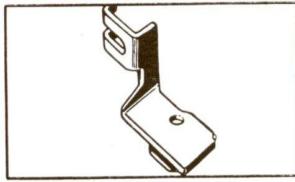


Fig.  
73

**Gathering Foot** for gathering materials or for sewing on gathered valances.

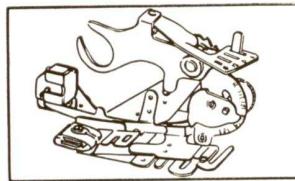


Fig.  
74

**Ruffler.** For ruffling. The fullness of the ruffle can be adjusted.

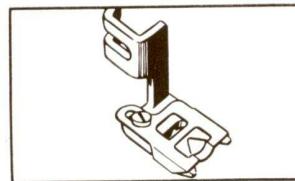


Fig.  
75

**Braiding Foot.** For sewing braids, soutaches and cords.



Fig.  
76

**Multiple-Cord Foot.** As many as five fine cords can be inserted into this foot. By covering them with decorative stitches very decorative designs can be obtained.

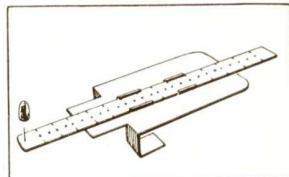


Fig.  
77

**Circular Sewing Device.** This attachment makes it possible to sew in circles up to a diameter of  $21\frac{1}{2}$  inches.

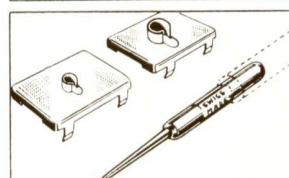


Fig.  
78

**Eyelet Plates 2 and 4** ( $\frac{5}{64}$ ") ( $\frac{15}{64}$ ") - **Awl.** These plates make it possible to embroider eyelets with a diameter of 2 and 4 mm. The awl is used for piercing the material to obtain the desired holes.

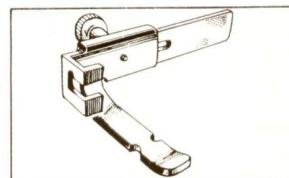


Fig.  
79

**Adjustable Zipper Foot.** This foot can be displaced to the left or right side of the needle. It is used for sewing zippers and cords without having to turn the material.

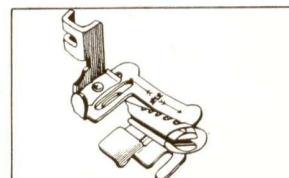


Fig.  
80

**Binder.** This foot makes it possible to bind edges of material with bindings. It holds as many as five bindings simultaneously.

## **Minor Disorders and their Remedies**

Minor disorders which may occur, may be due to the following reasons. They can easily be avoided by adhering to the directions for the use of your machine.

### **The Upper Thread Breaks :**

The upper thread tension is too tight (see Page 27).  
The darning thread does not have a left twist (see Page 14).  
The machine is not threaded correctly (see Page 18).  
The thread is of poor quality, or it is knotted.  
The thread has become too dry due to long storage (see Page 14).  
The thickness of the thread is not suitable for the kind of material.  
The needle is not of the style  $15 \times 1$  (system 705) ; it is of poor quality, poorly polished or bent (see Page 17).  
The needle has not been inserted correctly ; the long groove must face the person sewing.  
The machine needs cleaning.

### **The Lower Thread Breaks :**

The lower thread tension is too tight (see Pages 27 and 28).  
The thread has not been wound evenly on the bobbin.  
The thread has not been brought up correctly above the needle plate.

### **The Machine Skips Stitches :**

The machine is incorrectly threaded.  
The needle is not of the style  $15 \times 1$  (system 705) ; it may be bent.  
The needle is not fully inserted in the needle clamp.  
The needle has been incorrectly inserted ; the long groove must face the person sewing.  
The thread is too thick for the size of the needle.

### **The Stitches Are Uneven :**

The two threads do not link in the center of the material ; check the tensions.  
Either of the two thread tension devices are clogged (with pieces of thread).  
The machine is incorrectly threaded (check upper and lower thread).  
The lower thread has not been properly wound on the bobbin.

The bobbin does not unwind counter-clockwise.  
The needle does not suit the size of thread or the type of material.

### **The Material is Fed Unevenly or Insufficiently :**

The needle plate has not been inserted properly.  
The feed dog is clogged with dirt (teeth should be cleaned).  
The pressure of the presser foot is not correct.

### **The Needle Breaks :**

The material has been pulled during sewing ; the needle, being bent, hits against the needle plate, close to the stitch hole.  
The needle has been incorrectly inserted, or it is bent.  
The needle size is too fine for the type of fabric or thread.  
The thread is knotted.  
The upper thread tension is too tight.  
The needle is poorly centered and strikes the needle plate or darning plate.

### **The Machine Runs Slowly :**

The machine has not been oiled for quite some time (see lubrication chart on page 11).  
Lint and pieces of loose thread have collected underneath the needle plate and in the rotary hook (should be cleaned as described on page 12).  
The machine is too cold (should be placed in a warm room for a while before being used).

### **The Rotary Hook is Noisy :**

The rotary hook is too dry (should be lubricated with oil).  
The rotary hook is clogged (with remains of thread or lint).

### **The Machine (Rotary Hook) is Blocked :**

A loose piece of thread may have become stuck in the rotary hook. Turn the flywheel by hand in both directions, despite the stiff resistance, in order to cut the thread. Remove the remains of the thread. Oil the rotary hook and run the machine without thread for a short while.

### **The « Elna-disc » Cannot be Inserted :**

Set the stitch length and stitch width regulating levers at "0".

## **About Your Guarantee :**

Your guarantee certificate should be kept in a safe place.



Please note that your guarantee becomes null and void, if the machine is not cared for properly, or if it is repaired or tampered with by any unauthorized person. The very explicit instructions for use, contained in this booklet, should, therefore, be strictly adhered to. Moreover, you can be sure of satisfactory service by calling on us, should any adjustments become necessary.

## **C H A R T**

How to Prepare the  
ELNA for Different  
Sewing Jobs.

Work	« Elna-disc »	Sewing Foot	Small Plate (Accessory)	Needle			Upper Thread Tension	Lower Thread Tension	Thread lower thread through hole in shuttle ring	Stitch Length	Stitch Width	Centering Wheel	Work Des- cribed on Page
				European (705) New	Old	Ameri- can (15 x 1)							
Normal Sewing .	—	Presser f.	—	80/90	11/14	B / ½	3 - 8	1	no	2 - 3½	0	centre	31
Sewing Sheer Fabrics . . . .	—	Presser f.	—	80	11/12	B	2 - 4	1	no	1½ - 2½	0	centre	31
Sewing with Elastic thread .	—	Presser f.	—	80	11/12	B	3 - 7	½	no	3 - 4	0	centre	31
Hemming . . . .	—	Hemmer f.	—	80/90	11/14	B / ½	3 - 8	1	no	2½ - 3½	0	centre	32
Darning . . . .	—	Darning f.	Darning pl.	60/70	7/10	00 / 0	0 - 3	1	no	0	0	centre	33
Pearl Stitch . . .	—	Presser f.	—	80/90	11/14	B / ½	3 - 8	½	no	2½ - 3½	0	centre	37
Small Cord . . .	—	Darning f. (Presser f.)	Darning pl.	80/90	11/14	B / ½	5 - 8	0 - ½	no	0	0	centre	38
Shaded Embroidery . .	—	Darning f.	Darning pl.	70/80	9/12	O / B	1 - 3	1 - 1¼	no	0	0	centre	39
Satin Stitch . . .	—	—	Darning pl.	70/80	9/12	O / B	3 - 5	1½ - 2	no	0	0	centre	40
Pract. Work with Simple « Discs » :													
Overcasting . .	01	Presser f.	—	70/80	9/12	O / B	2 - 6	1	no	½	2 - 4	centre	41
Sewing on Tricot .	02	Presser f.	—	60/70	7/10	00 / 0	2 - 6	1	no	¼ - ¾	4	centre	42
Buttonholes . .	03	Buttonhole f.	—	70/80	9/12	O / B	2 - 3½	1½ - 2½	no	¼ - ¾	2 - 4	at left	45
Buttons . . . .	03	Button f.	Button pl.	70/80	9/12	O / B	2 - 3½	1½	no	0	dep.on button	at left	48
Blind Stitch . . .	10	Cording f.	—	70/80	9/12	O / B	3 - 5	1	no	1	1	centre	49
Decorative Work with Simple « Discs » :													
with one needle	option- al	Cording f.	—	70/80	9/12	O / B	1 - 5	1	no	¼ - 2	1 - 4	centre	49
with two needles		Cording f.	—	70/80	9/12	O / B	1 - 5	1 - 2½	yes	¼ - 1	2	centre	53
Cord Stitch . . .		Cording f.	—	70/80	9/12	O / B	1 - 2	1½	no	¼ - ½	1 - 4	centre	47
Decorative Work with Double « Discs » :													
with one needle	option- al	Cording f.	—	70/80	9/12	O / B	1 - 5	1	no	A	1 - 4	centre	50
with two needles		Cording f.	—	70/80	9/12	O / B	1 - 5	1 - 2½	yes	A	2	centre	53
Turkish Hemstitch		Cording f.	—	110	17-18	2	1½ - 3½	1½-2½	no	A	2 - 3	centre	50

Printed in Switzerland.