

Opening the case

Place the case (handle towards you) on the table. With both index fingers, press the buttons (1) at either side (Fig. 2 a).

Pull the cover towards you, raising it to its vertical position.

To remove the machine from the case, it should first be pulled outwards into a slightly oblique position, as indicated in Fig. 2 b.



Fig. 2 a

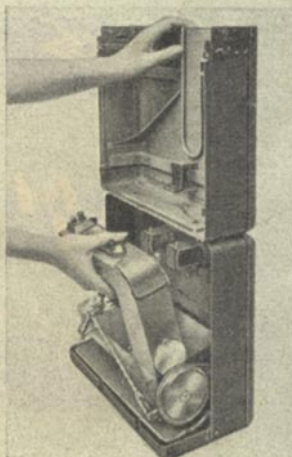


Fig. 2 b

Lowering the knee control lever

After the machine has been taken out of the case, the accessory box (1) should be removed.

The knee control lever (2) should then be swung out and folded downwards over the edge of the table. In this position it can easily be controlled with the right knee.

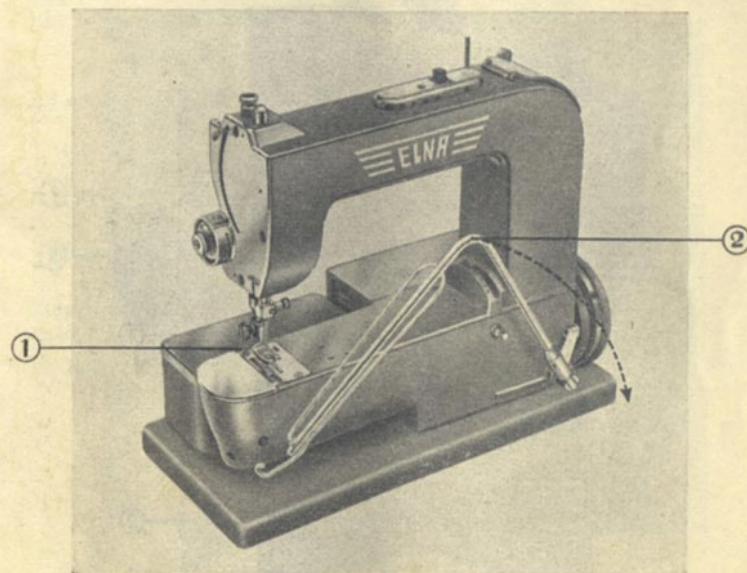


Fig. 3

Transformation of the case into a table

(Fig. 4.)

Take hold of the case at the top with the left hand.

Remove the electric cord from its holder (1).

Grasp the floor of the case (2) by the middle and fold it upwards.

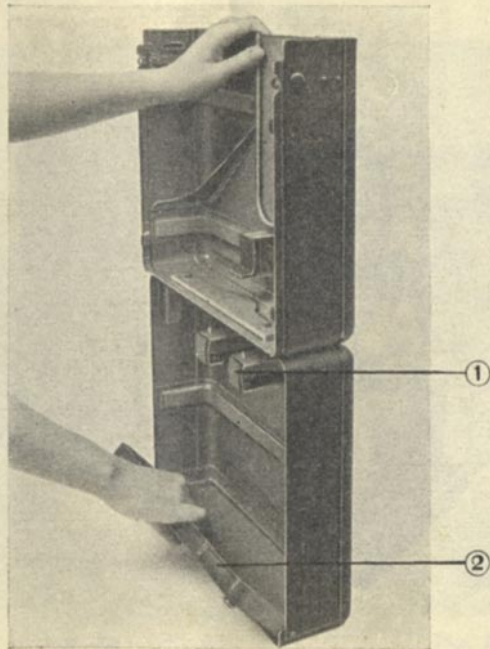


Fig. 4

(Fig. 5.)

Lay the open case down on the table. Fold the plate (1) over towards the opposite half (2) of the case. This exposes the opening for the free arm of the machine. By sliding the case on to the free arm, a uniform work-table is formed.

The case is equipped with rubber feet to protect the surface of the table or other furniture upon which it may be placed.

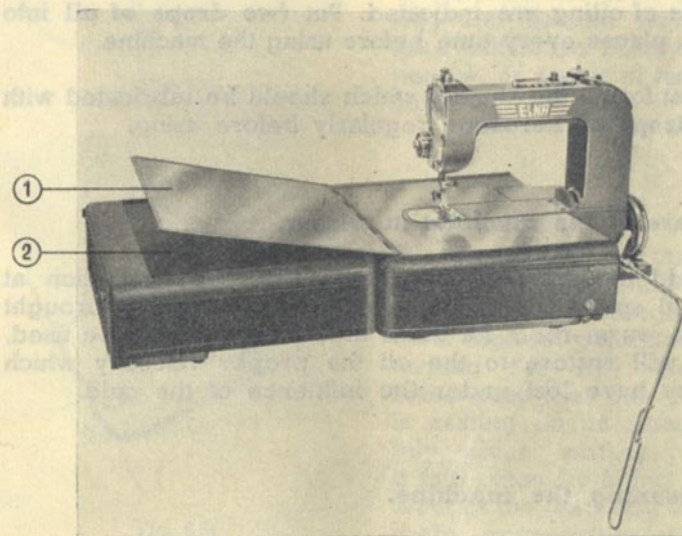


Fig. 5

Maintenance of the machine

In order to derive fullest satisfaction from your ELNA at all times over many years we recommend to your attention the following points:

1. To oil the machine correctly.

The most important thing in the care of your ELNA is regular oiling. In the pages immediately following, you will find a lubrication chart, in which all the important points of oiling are indicated. Put **two drops of oil** into these places every time before using the machine.

Do not forget the shuttle, which should be lubricated with **2-3 drops of kerosene** regularly before using.

2. Care of the machine in winter.

In cold countries, so that your ELNA will function at normal speed just as in summer, it should be brought into a warm room for some time before it is to be used. This will restore to the oil the proper viscosity which it may have lost under the influence of the cold.

3. Cleaning the machine.

Remains of threads around and in the shuttle may be removed by means of the dry, fine brush found in the accessory box. Blowing into the machine should be avoided (danger of rusting), also do not remove the shuttle.

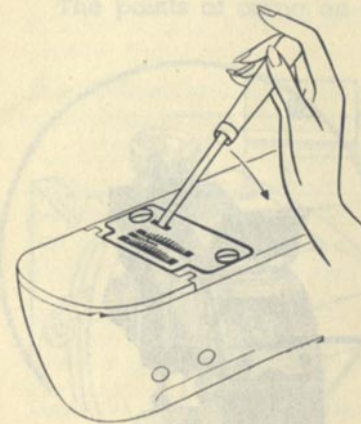


Fig. 6 a

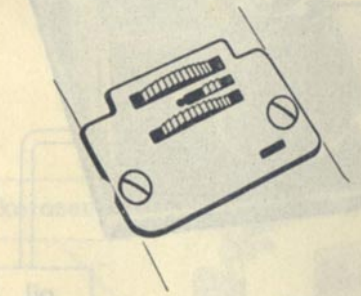


Fig. 6 b

In order to clean the feed dog, first remove the needle and the presser foot. Then lift out the throat plate by inserting the screw-driver into the slit and pressing slightly downwards. (Fig. 6 a).

For throat plates without slits unscrew the two screws.

The teeth as well as the grooves between the rows of teeth on the feed dog may be cleaned with a hard brush, the point of a needle, or a pair of tweezers.

When replacing the throat plate, the teeth of the feed dog should be brought to **their highest position** by turning the fly wheel. Make sure that the plate is resting on an absolutely clean surface. Put it into place by fitting the teeth of the feed dog **into their appropriate slits** (fig. 6 b). Then press with your hand on the plate

near the screws until the press button system catches. **The plate, when correctly inserted, is on a level with the cover of the free arm.**

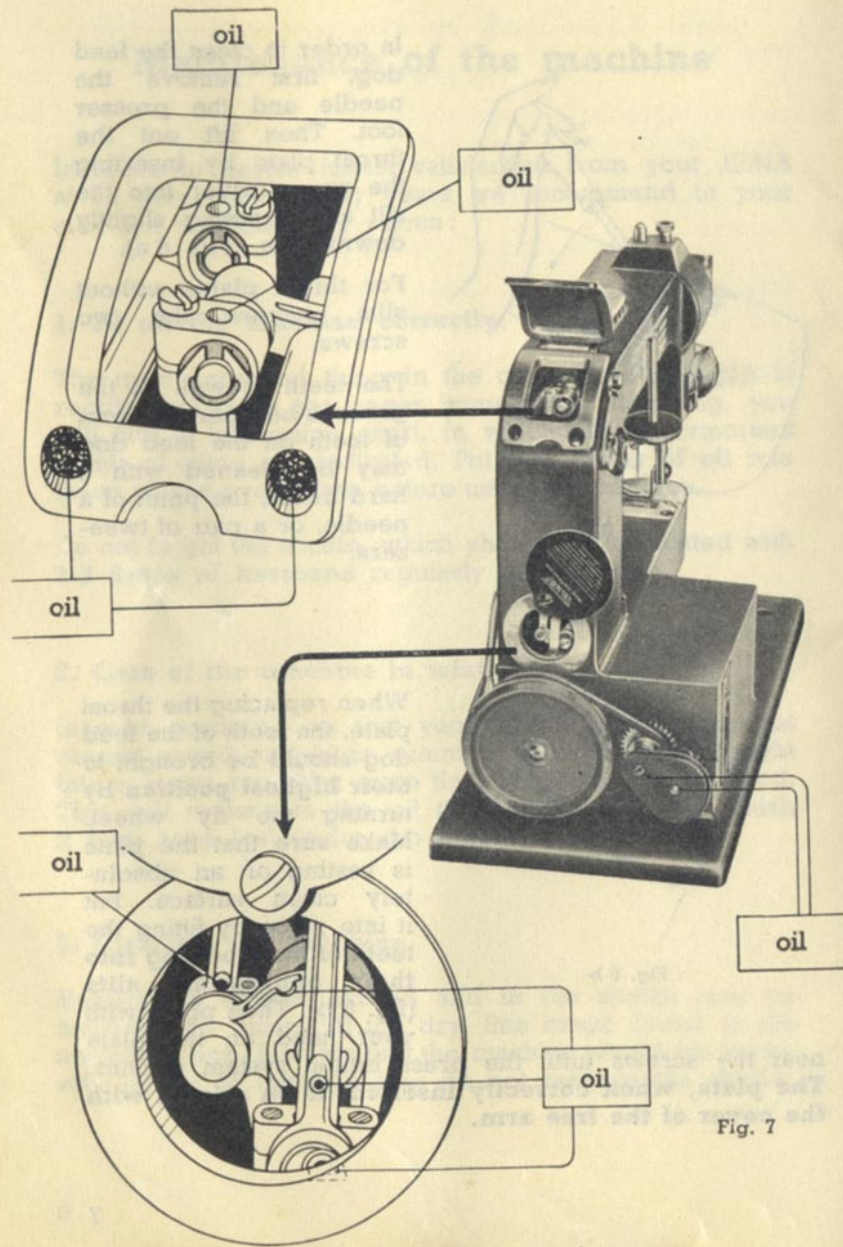
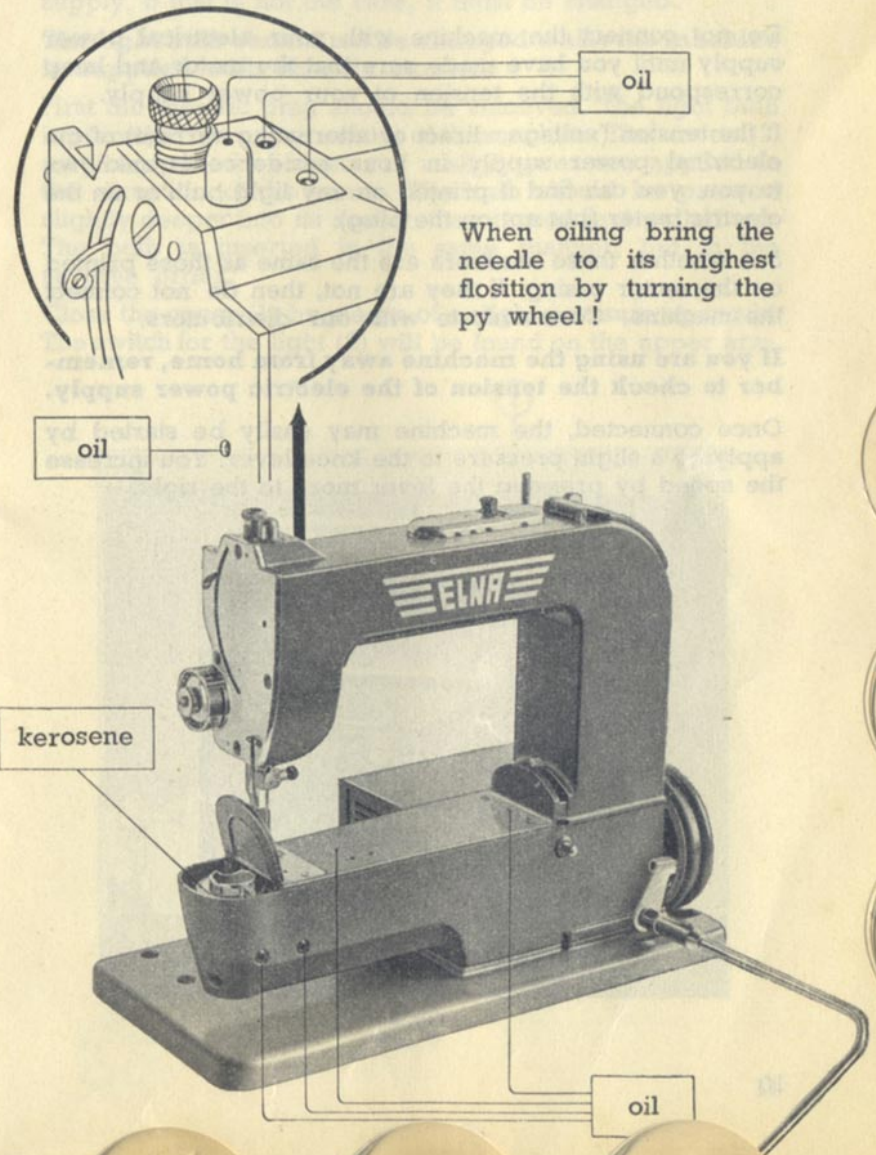


Fig. 7

LUBRICATION CHART

The points of oiling on your machine are painted red.



Connecting the machine to electric circuit

Do not connect the machine with your electrical power supply until you have made sure that the motor and lamp correspond with the tension of your power supply.

If the tension (voltage, direct or alternating current) of the electrical power supply in your residence is unknown to you, you can find it printed on any light bulb or on the electric meter (but not on the plug).

See whether these numbers are the same as those printed on the motor casing. If they are not, then do not connect the machine. Communicate with our distributors.

If you are using the machine away from home, remember to check the tension of the electric power supply.

Once connected, the machine may easily be started by applying a slight pressure to the knee lever. You increase the speed by pressing the lever more to the right.

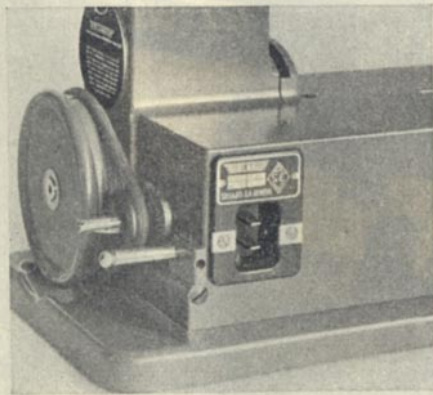


Fig. 8

Changing the light bulb

Please remember that the light bulb in your machine has to correspond with the tension of your electric power supply. If this is not the case, it must be changed.

The light bulb should not be changed while the machine is supplied with electric current.

First the electric plug should be removed. The light bulb is placed in the upper casing of the machine. The cover (1) may be opened by means of a slight pressure applied in the direction of the arrow. The bulb should be pressed slightly deeper into its socket, then turned and pulled out. The bulb is inserted in the same manner, but in the reverse order.

Close the cover (1) by means of a slight pressure upwards. The switch for the light (2) will be found on the upper arm.

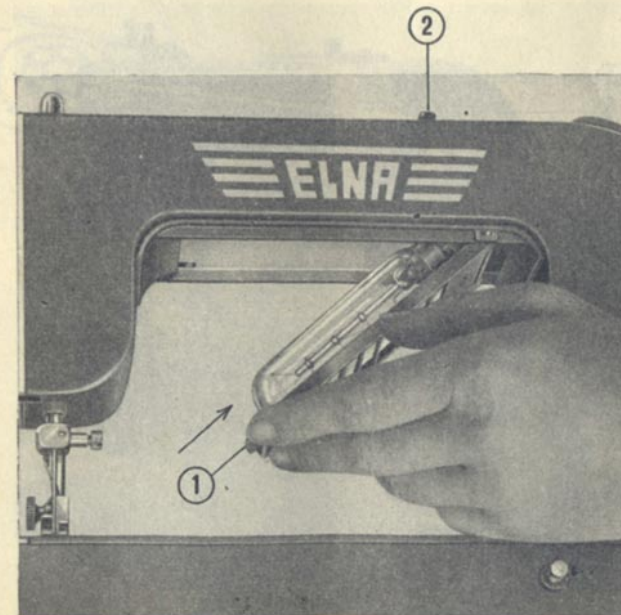


Fig. 9

Winding the bobbin

Place the spool of thread on the spool pin (1). Fold down the thread guide arm (2). The thread from the spool should then first be passed through the upper thread guide of the front plate, then over the roller on the arm (2), and finally hung in the hook (3) with a slight pressure of the finger. The metal bobbin should be placed on the motor axle (4), pushing it into the cavity of the cog wheel. The thread should then be wound several times around the metal bobbin in the direction of the arrow in Fig. 10 c. The motor should then be started in **slow motion**, until the bobbin is completely wound with thread. As long as the bobbin is on the motor axle, the machine will not sew. Hence, the piece to be sewn may be left on the machine during the winding and changing of the bobbin.

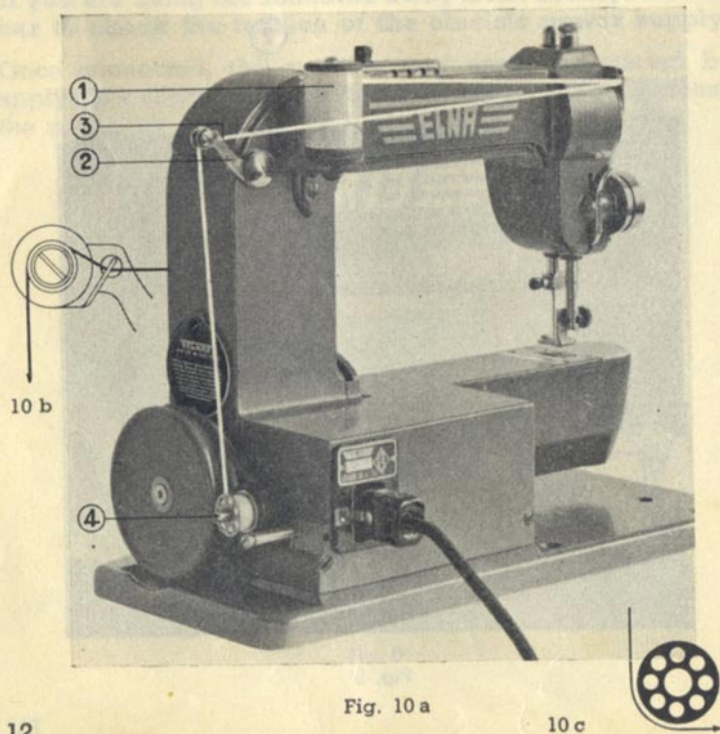


Fig. 10 a

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Inserting the bobbin and threading the lower thread

Open the cover of the shuttle (1). Lubricate the shuttle with two or three drops of kerosene. Place the bobbin (2) in the capsule as indicates Diagram 11 b. While the bobbin is being held lightly with the finger of the right hand, with the left hand feed the thread through the slot just above the regulating screw of the tension spring. The thread is then led further beneath the spring by pulling it backwards along the upper edge of the free arm as far as the hinge of the cover. Be sure that the thread holds well and slides normally; draw it backwards to a length of about 15 centimetres (6 inches). Close the cover.



11 b

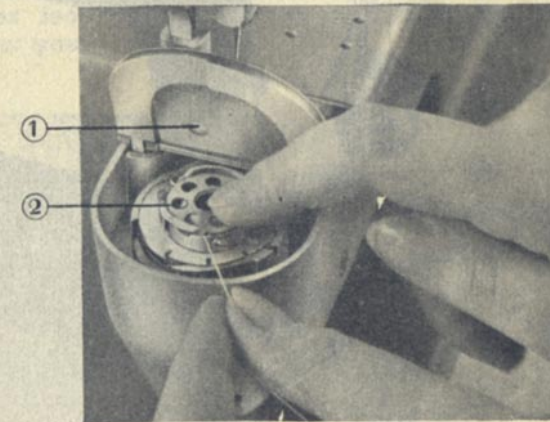


Fig. 11 a

13

Inserting the needle and threading the upper thread

By rotating the fly wheel towards you, bring the needle clamp (6) to its highest position. Loosen the tension screw (7) a little and insert the needle (Syst. 705 and 705 A) in the needle clamp **with its flat side towards the left**, as far as it will go. Then tighten the screw with the screw-driver. Leave the thread take-up lever and presser foot in the highest position. Take the thread from the spool and pass it through the thread guide (1), through the groove of the thread tension device (2), through the hole in the thread take-up lever (3), the thread guides (4) and (5), and finally through the eye of the needle **from right to left**. Allow for a free length of thread of about 15 cm (6") (Notice the thread cutter (8).)

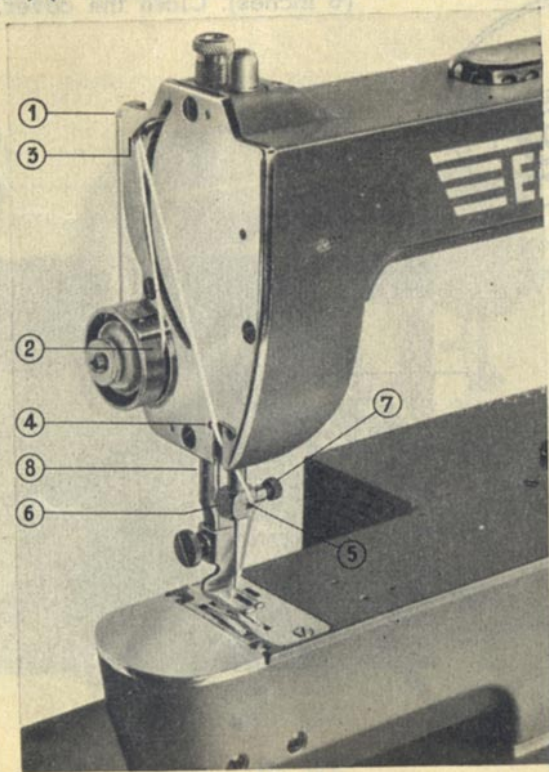


Fig. 12

Drawing up the lower thread

With the presser foot in its highest position open the shuttle cover, holding the end of the upper thread in the left hand. With the right hand turn the fly wheel towards you far enough to bring the thread take-up lever once again to its highest position. Pulling the upper thread will cause the lower thread to come up at the same time. Then pass both of them under the presser foot, allowing for a free length of about 15 centimetres (six inches).

Be sure that the lower thread passes across the bobbin, as shown in Fig. 13 b, then close the cover.

Once the machine has been set up ready for sewing in this way, under no circumstances should it be set in motion without cloth to sew, otherwise tangling of the thread will result.

Once the length of stitch and tension of thread are adjusted, put the sewing on the machine, pierce the cloth with needle by turning the fly wheel by hand, lower the pressure foot and set the machine in motion by applying slight pressure to the knee lever.

Before taking off the cloth, always bring the needle and the thread take-up lever to their highest positions, lift presser foot and only then withdraw the cloth away from you.



Fig. 13 a

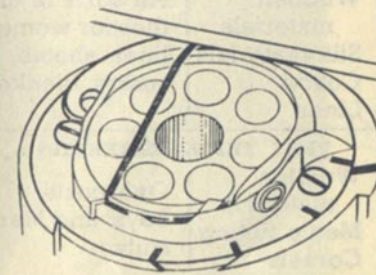


Fig. 13 b

Table of needles and threads for sewing and darning

Needle System 705 should be used exclusively. For sewing dull thread is preferable. For darning we recommend left-spun yarn.

Principal kinds of materials	Needle No.	Thread	Stitch length
VERY THIN MATERIALS : Muslin Cambric Linen	8 60 *	Cotton 100 - 150 Silk 30	1 - 2
THIN MATERIALS : Calico Linen Cotton Silk Shirting	10/11 70 *	Cotton 80 - 100 Silk 24 - 30	1 - 2
THIN TO MEDIUM MATERIALS : Poplin Calico Silk	12 80 *	Cotton 70 - 80 Silk 24 - 30	1 1/2 - 2 1/2
MEDIUM MATERIALS : Shirting Calico Cotton	14 90 *	Cotton 60 - 80 Silk 20	1 1/2 - 2 1/2
THICK MATERIALS : Calico Woollen materials Silk materials Cotton Linen	16 100 *	Cotton 40 - 60 Silk 16 - 18	2 - 3
VERY THICK MATERIALS : Woollen materials Men's suiting Corsets	18 110 *	Cotton 30 - 50 Silk 10 - 12	2 - 3
Darning women's stockings	10/11 70 *	Darning silk	0

* New needle specifications

Regulating the stitch length

Loosen the screw (1) for the fixation of the stitch length regulating lever, and place the lever (2) in the position corresponding to the required length of stitch. The numbers 0 to 4 engraved in front indicate the length of stitch when sewing forwards; those engraved behind indicate the length of stitch when sewing backwards. After the lever has been set at the number required, the fixation screw should be screwed in again lightly.

(For darning the lever should be in the 0 position.)

When switching from forward sewing to backward sewing, the lever should be shoved backwards.

The regulation of the length of stitch has no connection with the regulation of the thread tension.

Choose the length of stitch according to the thickness of the materials used. See Table, p. 16 and 21.

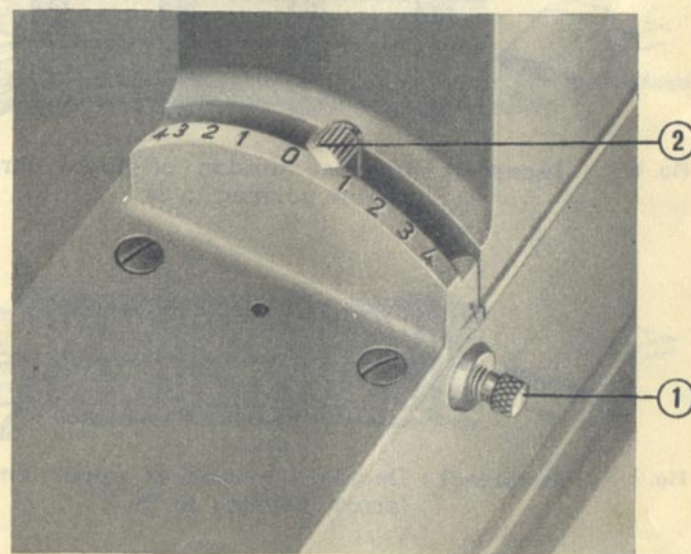


Fig. 14

Regulating the thread tension

The machine is adjusted in the factory for sewing materials of medium strength.

A seam sewn by the machine may appear as follows :

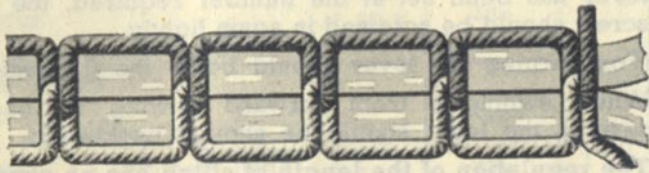


Fig. a

Correct.

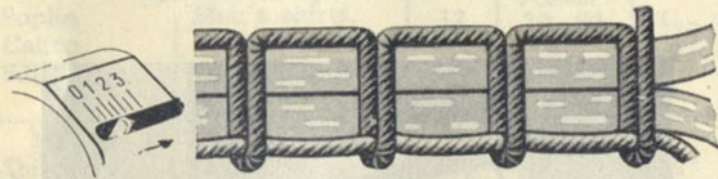


Fig. b

Incorrect : Increase tension of upper thread (arrow pointing to 3).

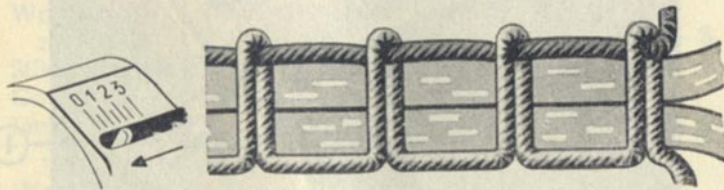


Fig. c

Incorrect : Decrease tension of upper thread (arrow pointing to 0).

Fig. 15

Fig. a shows a good seam. Both threads cross each other in between the two materials.

Fig. b shows a seam with too small a tension of the upper thread. The lower thread stays taut, whereas the upper thread goes through the whole thickness of the material. In this case the tension of the upper thread must be increased, for the seam to be formed as in Fig. a.

Fig. c shows a seam with too great a tension of the upper thread. The upper thread stays taut, whilst the lower thread goes through the whole thickness of the material. In this case the tension of the upper thread must be decreased.

In order to obtain a correct seam as in Fig. a, it is sufficient to regulate the tension of the upper thread.

Adjusting the tension of the lower thread

In every machine leaving our factory, the tension of the lower thread is adjusted by means of a calibrated instrument and should therefore not be altered. In order to obtain a correct seam, it is sufficient to regulate the tension of the upper thread.

Adjusting the tension of the upper thread

Loosen or tighten the tension nut (1) on the upper thread regulating device. A small pointer indicates the tension on the scale.

It is to be recommended that the pointer's position be noted for the various kinds of work and entered in the free column of the table on page 21. In this way you can always find the right tension immediately, without having to search for a long time.

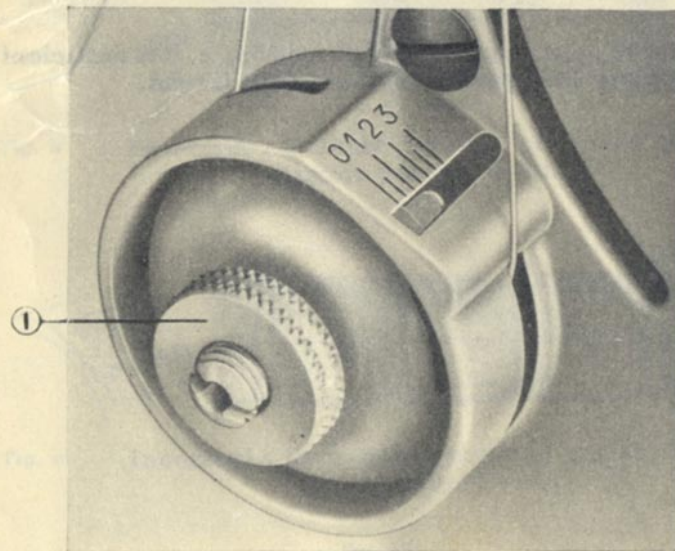


Fig. 16

Table for the regulation of the thread tension

This table gives a starting point for the correct regulation of the tension of the upper thread. Small deviations are possible according to the kind of material and thread.

Kind of Work	Upper thread tension		Stitch Length	Needle No.	Foot
	Medium	Exact			
Normal Sewing	1-2		1-3	14	Presser foot or movable sewing foot
				90 *	
Fine Sewing	1/2-1		1-2	10/11	Presser foot or movable sewing foot
				70 *	
Darning, underclothes, stockings	0-1/2		0	10/11	Darning foot and darning plate
				70 *	
Hemstitching	1 1/2-2		0	10/11	Darning plate
				70 *	
Embroidering	1/2-1		0	10/11	Darning plate
				70 *	
Plaiting with plaiting foot	1-2		2-3	14	Plaiting foot
				90 *	
Plaiting with elastic thread**	2-3		4	14	Presser foot or movable sewing foot
				90 *	

* New specification numbers.

** Pay attention to the directions for use given with the elastic thread you purchase. (With the Elna machine there is no need to change the tension of the lower thread.)