# 23. STITCHING OF GARMENTS

In ancient times, the primordial man used to protect his body from the natural disasters. Animal hides, tree bark, leaves etc were used to cover the body. It was suitable for the protection of all things and disasters but as the culture and civilization developed, the human being also developed in thinking, rights, socialization. The desire to wear a systematic way, interlocking the grass awakened and trying to make garments according to the size of its body. Gradually, human started to knit garments. From the fibers to the process of making garments, it was done with human hands, without cutting the clothes they started to wrapped on their body. Man went on developing as time passed. In the same episode of this development, the cloth was seized by their own hand cut according to its physical structure and size cutting and stitching was developed. Then the mechanical era began. The invention of sewing machine was first invented by an Englishman in 1790, followed by a French man in 1830. These machines did not become objects of general household use. Success in this area was achieved by the machine manufactured by Elias Haas and in 1846, he also obtained the copy rights. Many people made significant contributions in the field of making the sewing machine more beautiful, in which the names of AP Wilson and Isaac Merit Singer are legible. Singer later made the sewing machine operated by the feet, making the fabric easier to sew.

Usha Sewing Machine factory was established in India in the year 1935. In the twentieth century, the sewing machine industry has developed countless new technologies. The sewing machines of many companies are also available in the market in varying prices from high to low.

Modern sewing machines are currently complete with many facilities. In addition to sewing and embroidery, cutting of the button, dyeing, darning, binding of open edges and lace apply etc. Now the sewing machines are being operated by electricity. Where excessive amount of apparel is stitched, machines are operated by electricity. This saves time and labor. At present, home-based sewing machines are essentially used, which are used for sewing and repair of textiles. Therefore, get general information about the parts of the sewing machine so that we can cure minor defects in the machine itself.

Different parts of a sewing machine :

1. **Pressure foot rod :** This is made of an metallic rod. The pressure foot is below it.
2. **Presser Foot :** The presser foot applies pressure consistently on the fabric as the sewing takes place. It is like pair of shoes and is called foot. It attached with needle bar.
3. **Needle bar :** It is an upright bar, adjacent to the pressure bar. The needle is attached by means of a clamp to its lower end.
4. **Clamp screw :** This is used to attach needle into the needle bar. By loosening the screw needle can be moved up and down.When inserting the needle, the round part of the needle fits the outside and the flattened part inwards.
5. **Spool Pin :** The Spool pin holds the spool of thread. It can be horizontal or vertical in place.

6. **Pressure foot bar lifter :** The pressure foot lifter is the device used to raise the pressure foot. It must be lifted before inserting or removing material off the feed rod.

7. **Thread tension device and disc :** This part controls the tension of the thread. In this there is a screw on the front between two round leaves in a spring. The tension of thread can be reduced or increased when tightened. That's why it's called a third tension device. The chakras behind them are called thread tension discus. The front thread is removed from the back of the chakras and removed from the tape lever and threaded in the needle.

8. **Take up lever :** The take up thread lever is a lever above the tension disc or regulator. The thread is passed through an opening at the end of the bar and as the lever moves up and down, it releases the thread to be interlaced with the thread from the bobbin to form a stitch. The stitch is tightened when it is in the raised position.

9. **Face plate :** The face plate or throat plate is the metallic plate directly under the pressure foot. It has opening for the feed rod, and the needle to move up and down.

10. **Slide plate :** It is a metallic squared shape part of a sewing machine and connected with a needle plate. The bobbin can be attached and removed easily by moving it left .

11. **Needle plate :** This is a steel plate situated below needle and 'pressure foot'. Through the hole in the plate thread is taken up from the bobbin. While stitching, through this hole the needle moves outward and inward and makes a stitch. Just below it is the "blades" that helps fabrics move forward after a stitch.

12. **Bobbin binder :** This is situated on the right side near the wheel. The needle is disengaged before winding the bobbin by loosening the fly wheel with the help of the bobbin winding latch.

13. **Stitch regulator :** The stitch regulator is a screw located above the tension spring. It is sued to lengthen shorten the size of a stitch. It can also be manipulated to stitch forward or backward. The range on this machine is from 0 to 5. The stitch width increases as the number increases from 0 till 5 meaning that the number 5 has the longest stitch and the stitch width decreases as the number descends from 3.

14. **Fly wheel :** It is a round tyre that allows the machine to run. By rolling the fly wheel stitching can be made possible on the machine. It is rolled with the help of a handle.

15. **Bobbin and bobbin case :** It holds the bobbin thread and the bobbin case holds the bobbin in the machine and regulates the tension of the bobbin thread.

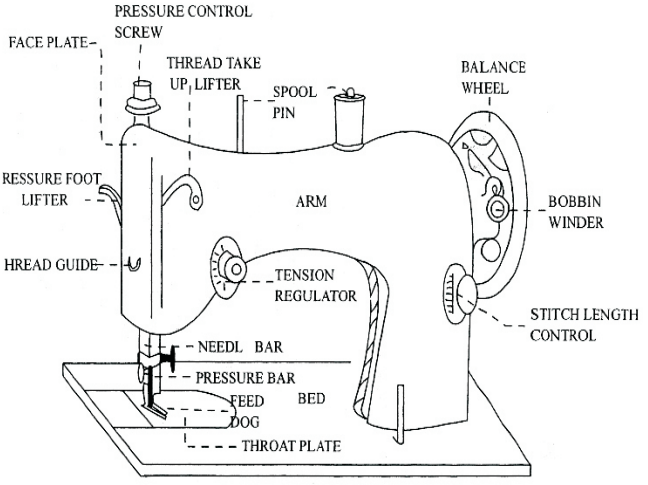



**Fig. 23.1 : Sewing Machine**

## Maintenance of a sewing machine :

1. The machine should be kept in a dry and warm place. By keeping the machine in a moist place, some parts of it may get affected by moisture thus increasing the chance of rusting.

2. It is necessary to clean the machine from time to time. Clean the machine every time before stitching and afterwards, remove dust and soil regularly. The threads of the clothes are stuck inside, they should also be removed after working and cover the machine.

3. Thread from the needle after the stitching work is complete should be removed and stuff some old clothes underneath the pressure foot.

4. Apply the oil only after cleaning the machine. Keep the machine under sunlight for some time after oiling.
5. Open the machine parts from time to time for cleaning, oil them and keep them in sunlight for some time and the reassemble the parts.
6. The machine oil should only be poured in the holes meant for it. Oil should not be used in huge amount. Only a few drops are enough for total cleaning. Oil should also be applied to all the moving parts of the machine. The machine should be run for few minutes after oiling .

A sewing machine is not the only requirement to sew the clothes. But for the best sewing, many other accessories are also needed. These tools should be of high quality. These are following :

**Measuring devices :**

**I. Measuring tape :** The stitching process is measured before starting. These are called 'inch tape' in general language. They are of flexible and soft nature and are capable of turning according to the body texture. On one side there are 1 inch to 60 inches, 1 to 162 cm mark on the other side.Brass edging are on both sides of the lace. Each 1 inch lace is divided into eight parts. There is a large line between the inch indicator digits. One half inch in diameter is divided into 10 centimeters each. Centimeter is a large line between the indicator digits which measures the size of half centimeter.

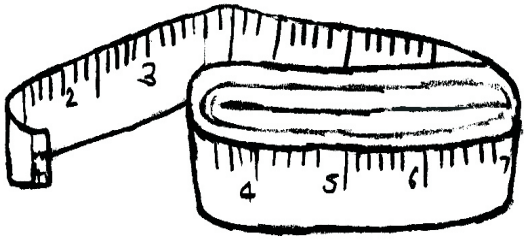



**Fig. 23.2 : Measuring tape**

**II. Pencil, eraser and notebook :** Notebook and pencil are required to record after taking measurement. Inorder to correct any mistakes erasers are used.

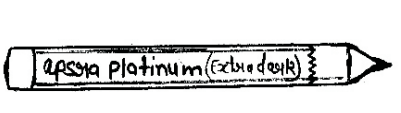


**Fig. 23.3 : Pencil**

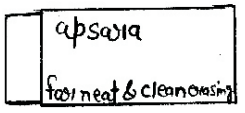


**Fig. 23.4 : Rubber**

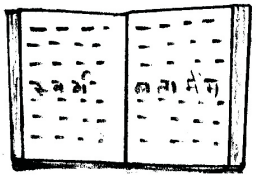


**Fig. 23.5 : Notebook**

## 1. Cutting and drafting devices:

**I. Cutting and drafting table :** Drawing and cutting table texture is of special type, its surface should be smooth, non-paired. The millstone cloth is pulled tightly around it. Its height should be 3: 00 to 3: 30 feet and the length should be 5 feet, which should be suitable for drafting of long clothes such as pants, house coats, nighty. Drawers should be made on the left or right side of the table, so that the necessary material can be kept in it.

**(i) Drafting paper :** First, the drawing of fabrics is made on the entire paper and then the outline on the clothes. After that, cutting of fabric is done. This process helps save the fabric, even if there appears a mistake thus saving wastage of fabric. There is only a wastage of paper.

**(ii) Tracing wheel :** It is used by the dress maker for tracing or to transfer pattern. Usual choice is serrated edge wheel, suitable for most fabrics. Smooth edged wheel makes firmer markings on hard to mark fabrics and also protect delicate smooth ones.

**(iii) Tailor's chalk :** is used for marking, for constructions and fitting alterations. It comes in several colors. Its edges should be kept sharp with a knife. Mark lightly. Left over piece could be sharpened and fitted into cast away pen barrels. It can be erased easily after use.

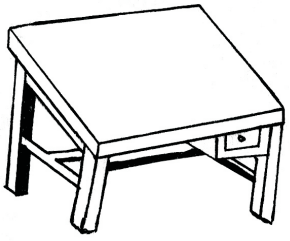


Fig. 23.6 : Cutting and Drafting Table

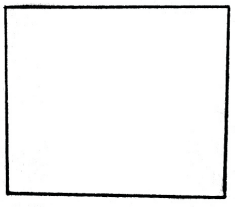


Fig. 23.7 : Brown Paper

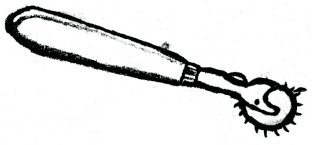


Fig. 23.8 : Tracing Wheel

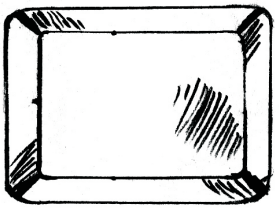


Fig. 23.9 : Tailors Chalk

## 1. Cutting devices :

(i) **Simple Scissor and Shear :** Different types of scissors are used to cut different types of garments. 4-inch to 6-inch scissors are used in common to cut ordinary cloth. Six-inch to 9-inch long scissors are used to cut thick and heavy and woollen cloth. They are called shears. The handles of these shears are slightly inclined. For the good grip of the fingers it has wide end. There is no need to lift large scissor while cutting the cloth.

(ii) **Small Scissor :** Small scissors are needed for hand as well as machine stitching. They are used to cut garments and trimming the edges, hemming, embroidery, while hinging buttons.

(iii) **Pinking shears :** This is a special type of scissors. They are excellent for finishing seams and raw edges on many types of fabrics and also for decorative use. They should not be used to cut out patters. After cutting with pinking shear scissors their is no need of locking, interlocking of edges.

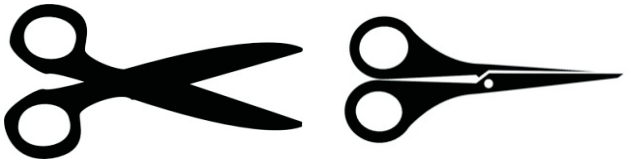


Fig. 23.10 : Scissor

## 2. Stitching devices :

(i) **Sewing machine :** Sewing machines are used for stitching garments. Nowadays, in market, other than hand driven, foot driven and electricity driven, sewing machines used for different purposes like button hole sewing, button stitching, embroidery and raffu are available.

(ii) **Needles :** The needle should be selected according to the fabric. There are separate sewing needlesfor hemming and stitching clothes. For light and thin clothes fine needles are used while for heavy clothes thick needles are used. The tip of the needle should be sharp and not be rusted.

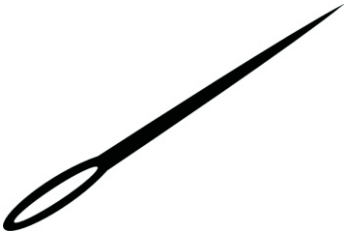


Fig. 23.11 : Needles

(iii) **Thread :** Threads used are of different types for stitching. The colour of the thread should match with that of the garments. For making stitches and embroidery, different types of threads should be used. The thread should be strong and colour should not bleed while washing the clothes.

(iv) **Thimble :** This protects the middle finger while hand sewing. These are made up of plastic, metal, leather, rubber etc. and it should be worn according to the size of the finger.

Fig. : 23.12 Thimble

(v) **Pin cushion :** it is a safe, handy place to store pins. Keep them accessible. Some have an emery pack attached for cleaning both pins and needles.

## 3. Ironing devices :

(i) **Iron :** It is used for pressing to remove creases and flattening clothes, especially seams. The lower surface of the iron is smooth. Hot iron is used to press clothes. Heating is done either by the use of coal and electricity. It is available in different types such as simple, automatic and steam.

(ii) **Ironing table :** Table is required for ironing on which clothes are spread and pressed. Tables may or may not be cushioned. Table that are not cushioned a thick cloth may be spread for ironing.

Other tools such as sponge, brush and bowl for holding water etc. are also used. Before pressing the clothes are brushed and moistened lightly with the use of sponge.

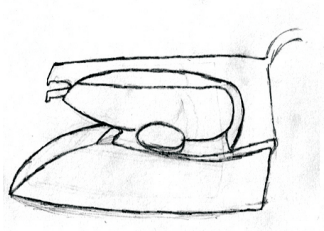


Fig. 23.13 : Iron

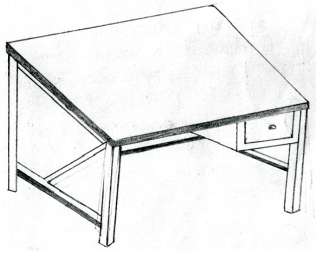
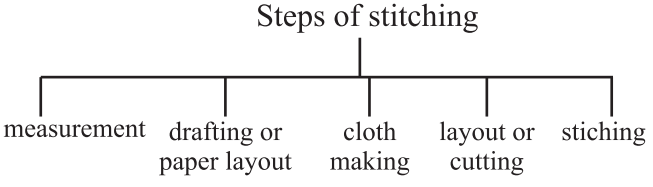


Fig. 23.14 : Ironing table

## Steps in stitching :

After basic information about sewing related equipment and sewing machine, it is important to know about the important steps for best sewing of textiles. Keeping the stage in mind will be able to do good sewing and will also be avoided from wastage of time and energy. These are the following steps:




(i) **Measurement :** It is necessary to measure the size of the dress of person who is going to wear before stitching. The right fitting of the ward is based on the right measure of the body. Therefore, before stitching, the measurement of the body should be taken carefully. Textile

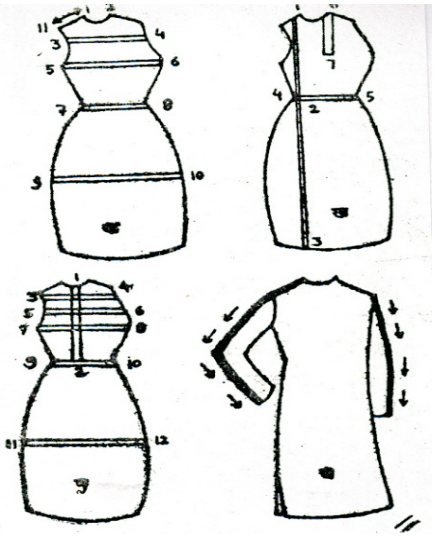


Fig. 23.15 : Horizontal and vertical measurement

fittings mostly depend on the willingness of the wearerr to go tight fittings or loose. There is a difference in the physical structure of each person, so it is necessary to measure the person's body measurement. It is necessary to keep the following points in mind while measuring any person's dress.

❖ When measuring, the person should stand upright and not be bowed down.

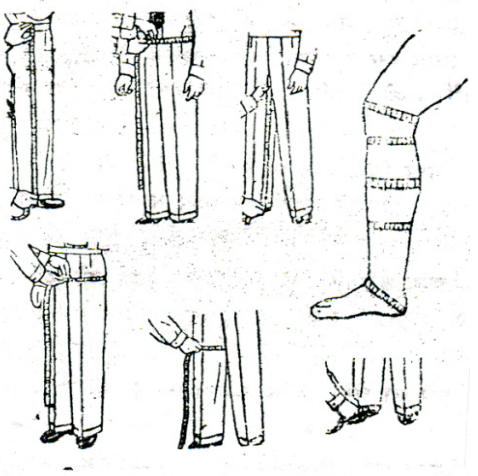


Fig. 23.16 : Under the belt measurement

- ❖ The person should stand in a normal position, neither bow down nor leave the body loose.
- ❖ The measurement should be taken from one side to the other, from left to right or up to down. Person should not be rotated repeatedly.
- ❖ Use soft inch tape for measurement. Keep in mind that the tape do not get twisted else there will be error in measurements.
- ❖ Measurement should be taken according to the costume.

All necessary measures such as length, width, shoulder, waist, length of arms, width of cuffs, depth of the neckline etc. should be taken accurately and should not be taken hastily.

**(ii) Drafting and making paper layout :** Drafting should be made on news paper and brown paper, which can be corrected on any kind of mistake. Depending on the measure taken after the measurement, the shape of the dress is made on brown paper or old newspaper. This is called diagramming or drafting. Pencil, rubber, inch tape and scale are required when drawing a diagram. All curve, roundness and depth should be made well. If the drawing is correct then ready dress will also be made perfect. Therefore, after complete satisfaction, the drawing should be cut. After the cutting, the pattern or figure that comes in our hands is called the paper pattern.

(a) Small scale drafting: this type of drafting is made on notebook or file. For this small scale I inch= 1 cm is assumed.

(b) Whole scale drafting: this drafting is taken in inch or cm on brown paper or newspapers.

**1. Cloth making :** It is necessary to prepare cloth before cutting and stitching. Most cotton fabrics are shrunk after washing. In such cases, if the cloth is not washed before stitching it may shrink and it is washed afterward, measurement decreases due to shrinking of clothes. As the length decreases, the texture is shrunk by shrinking from the width, so first of all, dip the cloth in the bucket in such water so that the clothes are submerged at least 2 hours. After that remove the cloth from the water, squeeze properly and then dry them. When the cloth is still moist, press them. Prepare for cloth layout.

**2. Layout and cutting :** Lay the cloth in cutting table or plain surface properly so that it does not make any fold. The cloth should be laid lengthwise, then place the prepared paper pattern over the clothes. After the pattern has been laid, mark th outline with a chalk. While laying paper pattern the line of the cloth, checks or prints should be considered. Location of lines and prints etc should also be considered. Before cutting it should be noted if all the patterns are placed appropriately or not so that anything might get left out. Only after this the layout should be cut with a scissor. When patterns are placed on cloth, two lines are made such as the line where stitching is to be done and the other which is supposed to be cut. Between the stitching line and hemming line Half to 2 inch lines are made which is called cutting line.

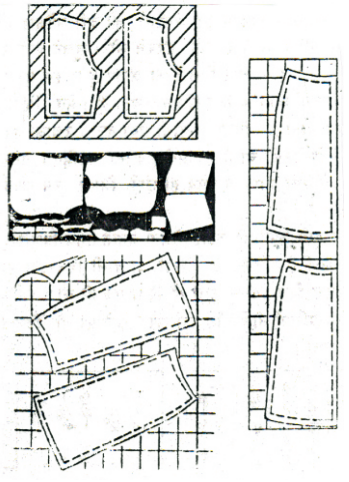


**Fig. 23.17 : Pattern**

The secret of correct cutting and fascinating fitting is pattern or drafting.

**(i) Stitching :** All the marked parts of the cloth should be attached with one another on the running lines and stitch together after correct cutting with cleanliness. Complete the apparel using the stitches as required.

## Important points :

1. For stitching all kind of apparels sewing machines are used.
2. Needle plate, slide plate, pressure foot, take up lever, thread tension device, spool pin, bobbin and bobbin binder, bobbin case, fly wheel, and handle are some important parts of a sewing machine.
3. The machine should be cleansed from time to time.
4. The machine should be oiled from time to time.
5. When not in use, the machine should be covered with a cloth.
6. For garment making, sewing machine, cutting to measurement, iron and other devices are also required.
7. For correct and appropriate stitching the important steps include measurement, drafting, cloth making, layout cutting and stitching.

## Questions :

1. Choose the correct answer for the following questions :

(i) Singer machine was invented on:

(a) 1830 (b) 1848

(c) 1891 (d) 1935

(ii) In the year 1935, factory of which machine was established:

(a) Simple machine (b) Singer machine

(c) Usha machine (d) None of the above

(iii) The thing on which threads are wound:

(a) Bobbin (b) Bobbin case

(c) Spool pin (d) Bobbin binder

(iv) The first important step in stitching is:

(a) Measurement (b) Drafting

(c) Layout (d) All of the above

2. Fill in the blanks:

(i) While sewing by hand ..... on the middle finger is worn.

(ii) To fit needle to the machine …….. is used.

(iii) Placing of paper pattern over the cloth is called ……..

(iv) For measurement, …….. is used.

(v) The machine should be …….. from time to time.

3. What is spool pin?
4. Explain the different important parts of sewing machine: pressure foot bar lifter, take up lever, bobbin binder.
5. What do you understand by scissors and shears?
6. List the different parts of sewing machine and explain them.
7. What is drafting?
8. Why is it important to take measurement? What are the points to be remembered while taking measurement?
9. What do you understand by cutting of fabric?
10. What do you understand by layout of cloth? Explain.
11. Describe briefly the correct and appropriate steps of stitching.

## Answers :

1. (i) c (ii) c (iii) a (iv) d
2. (i) thimble (ii) clamp screw
   (iii) layout (iv) inch tape (v) oil