SARMENT CONSTRUCTION - II



CHAPTER - 2

Garment Finishing Machines

We had previously learned about the Lock stitch machine for sewing the garments. When garment making was industrialized, specialized machines were developed for specialized operations to meet the needs of mass production. These operations may be over locking, sewing buttons, making button holes, making pleats and pin tucks, and many more.

A comprehensive review of all different machines available in the market may be possible to include in this book, but the following are some of the machines widely used for production of clothing.

2.1 The Lock–Stitch Machine

The Lock–stitch machine sews a straight seam by making the top thread to go under the bottom thread around a bobbin, creating a lock. This is the most secure stitch possible, but it leaves unfinished seam allowances, undesirable in fabrics that rave easily. Also, the operations need to be stopped frequently to rewind the bobbin.

2.2 The Chain-Stitch Machine

The chain-stitch machine works on a principle similar to crocheting; it makes a series of loops pulled through one another. The top needle goes in and out of the fabric, making loops underneath that catch into one another. The chainstitch is not as secure as the lock-stitch, as the stitch ravels easily when the thread is pulled. However, because the chain-stitch machine does not have a bobbin, the operator does not need to stop in mid operation to rewind it. Chain stitch also lends stretch ability to the seams.



Figure - 4: Chain Stitch Machine

2.3 The Flat Lock or Serging Machine

The flat lock or serging machine is based on the same principle as the chain-stitch machine and is also not as secure as the lock stitch. It was created to make an edge finish as well as to sew seams. In one operation it sews the fabric together, cuts off the fabric to make a smooth edge, and wraps thread around the edge. A simple over lock machine has one needle and two loopers (which look like thick, bent needles) and works with three spools or cones of thread. The needle and loopers work together in a reciprocating pattern, the loopers moving back and forth from the needle to the fabric edge. This stitch is ideal for knits because it gives the stretch of the fabric.





Figure - 5: Flat Lock Machine

2.4 The Safety Overlock Machine

The safety over lock machine is a combination of the chain-stitch and the over lock. The safety factor is that if one row of stitching comes out, the other still holds the garment together. With a total of two needles, three loopers, and five cones of thread, it functions as two machines in one. It provides the straight chain-stitch needed for factory assembling plus an edge finish.



Figure - 6: The Safety Over Lock Machine



2.5 The Blind-Stitch Hemming Machine

The blind-stitch hemming machine is also based on the chain-stitch. The hem is folded back and caught by the needle at even intervals.

2.6 Button Machines

Button machines sew buttons onto a garment. Button placement is marked on the fabric. A sew-through button is placed in a holder, which moves the button back and forth while the needle sews it onto the fabric underneath. A shank button is held in position sideways so that the needle can go through the shank on its back.



Figure - 7: Button Machine

2.7 The Buttonhole Machine

The buttonhole machine is essentially a zigzag lock stitch machine with automatic devices to control the width and length of the buttonhole and to cut it open.



Figure - 8: Buttonhole Machine



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2.8 The Feed off Arm Sewing Machine

It is an industrial sewing machine ideal for seaming long tubular pieces of material such as pants and jeans in seams, shirt sides and shirt sleeves.



Figure - 9: Feed off Arm Sewing Machine

2.9 The Pin Tucking Machine

The best pin tucks are made on lightweight fabrics, such as batiste or lawn. Pin tucks are created using a combination of a double needle and a grooved pin tucking foot. (Ref. figure.10)



Figure - 10: Pin Tuck Machine



ACTIVITY

Visit a garment factory and identify various kinds of machinery being used in operation for woven and knit fabric.

Fill in the blanks

- 1. The chain-stitch machine works on a principle of _____; it makes a series of _____ pulled through one another.
- 2. Pintucks are created using a combination of a _____ and a _____ pin tucking foot.
- 3. The buttonhole machine is essentially a _____ stitch machine.
- 4. The safety overlock machine uses a total of two _____, ____loopers, and _____ cones of thread it functions as two machines in one.
- 5. The feed off arm is an_____ sewing machine ideal for seaming _____ pieces of material such as _____&___.