

Knitting Machine

**Submitted by
Pratibha Thapa
Assistant Professor
Clothing and Textiles Department**

Knitting Machine

There are two types of Knitting:

Weft Knitting and Wrap Knitting.

In weft Knitting, Yarn is **knitted Horizontally** and in a **circular form**. Most of the Knitted fabric is produced by Weft Knitting.

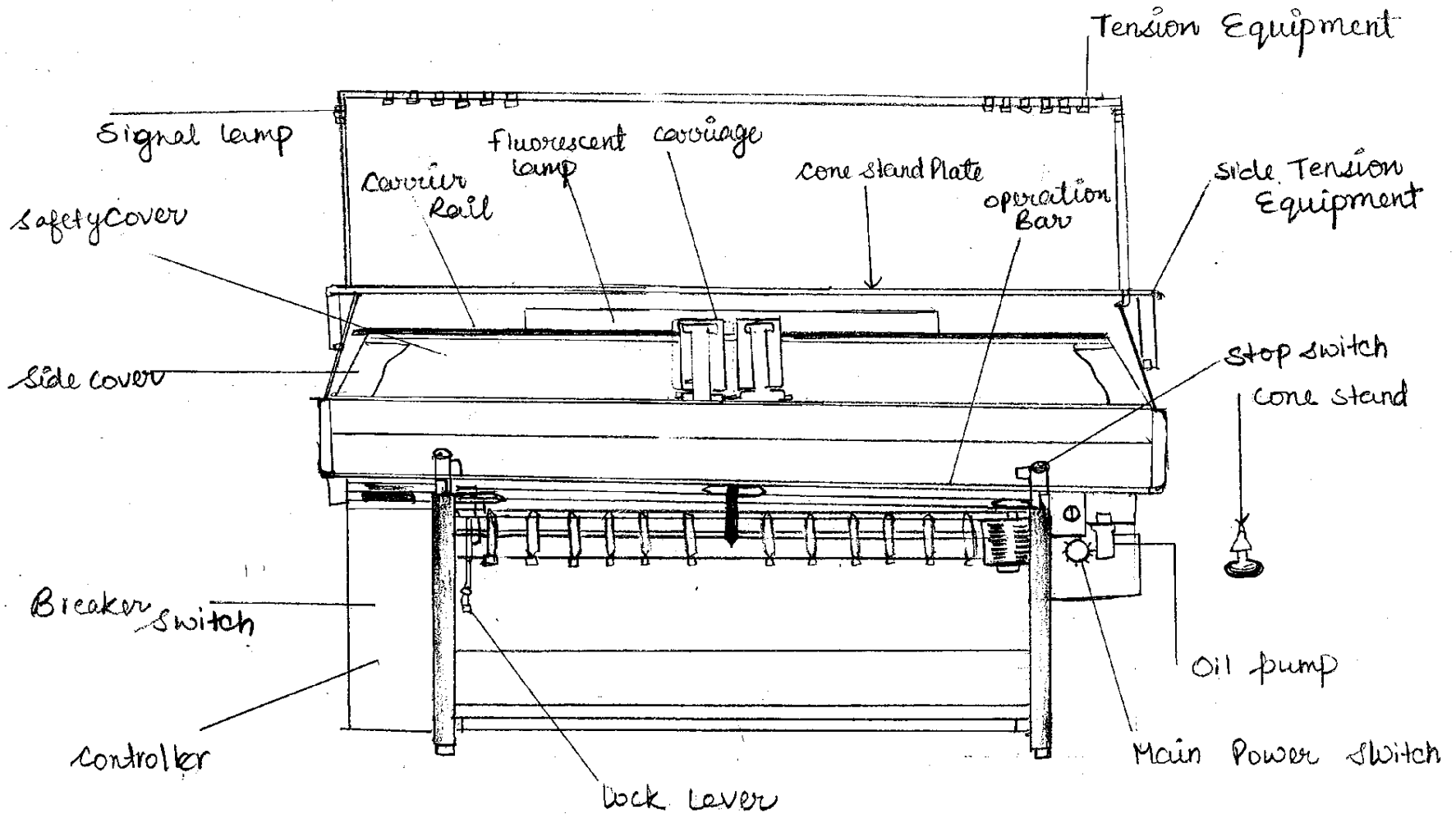
Various types of machine used for production of Weft Knitted fabric.

Types of Weft Knitting machines.

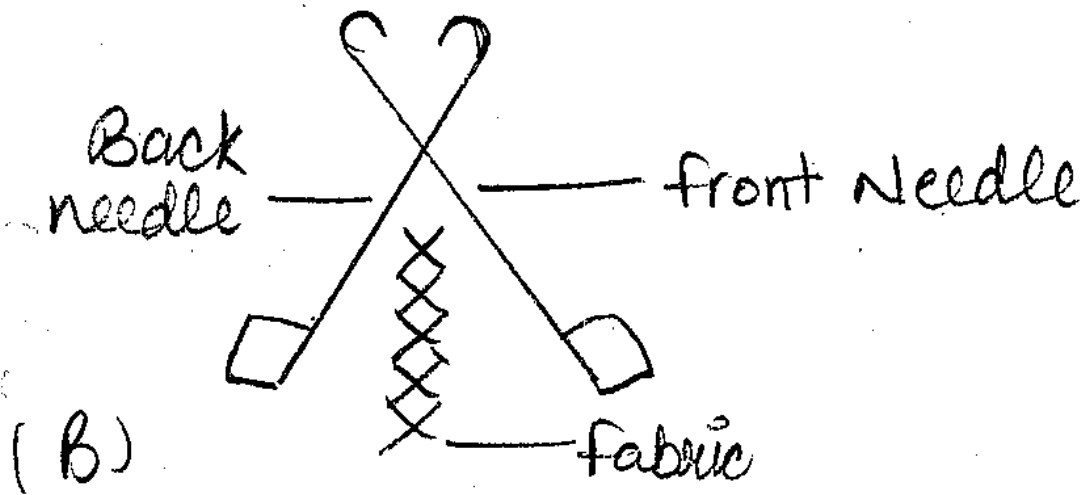
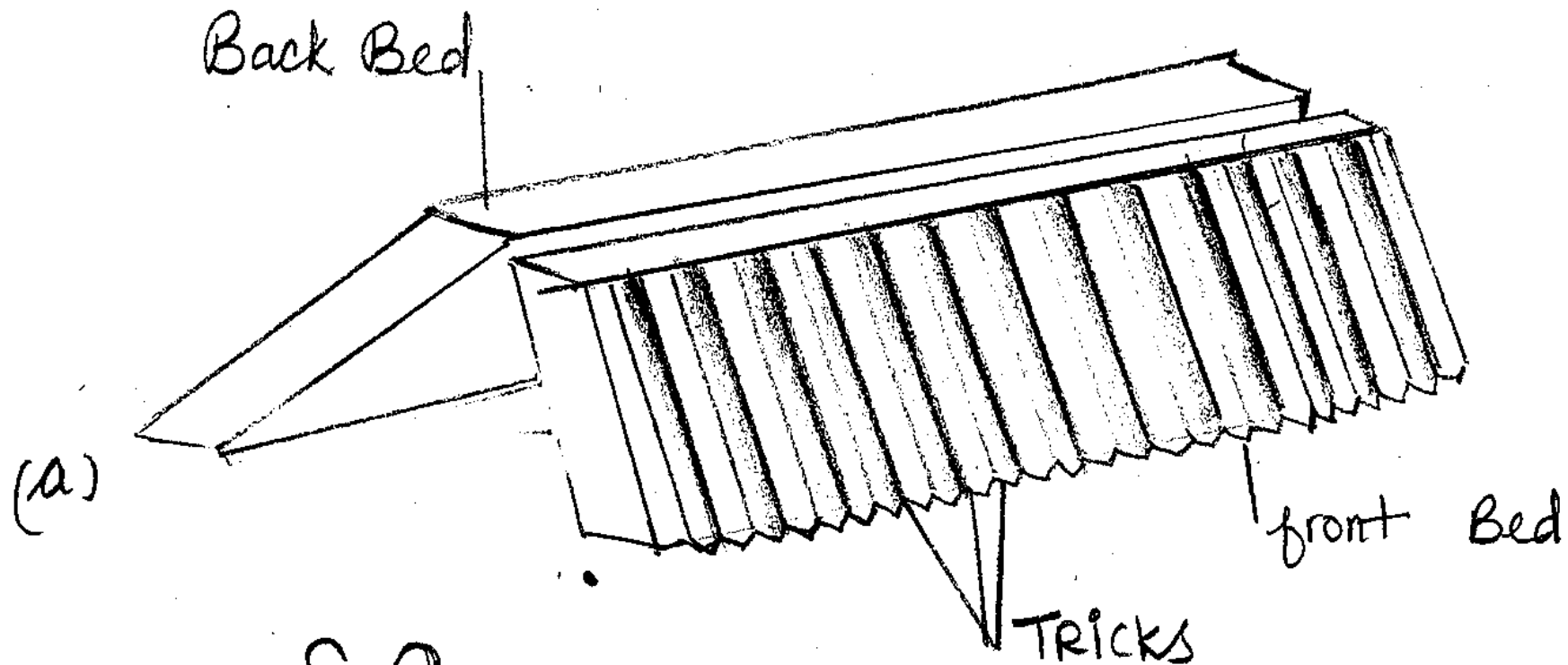
1. Flat Knitting machine
2. Circular Knitting machine

- ***Flat Bed Knitting Machine:-***

1. *Flat Bed Knitting machine produce flat pieces most common Knitting machine for knobbyist and Boutique produces.*
2. *Garments produced from a flat bed Knitting machine normally have side seams; It is not possible to knit in the round on a flat bed knitting machine.*
3. *Flat bed knitting machines cannot work pure stitches or greater stitch automatically.*



Flat Bed Knitting Machine



Main Features in Flat Bed Knitting Machine

- 1. Flat Knitting machine has two stationary needles beds.*
- 2. Latch needle are used.*
- 3. Angular Cams of a bi-directional cam system is used.*
- 4. There are a separate cam system for each needle bed.*
- 5. Normally machine gauge is 3 to 18 needles pen inch and machine width up to 79 inches.*

Advantage of Flat Knitting machine

- 1. The flat machine is the most versatile machines.*
- 2. A wide range of yarn counts may be knitted per yarn in one knitting system, the possibility of changing the machine gauge.*
- 3. The operation and supervision of the machine of simple type is relatively less arduous than for other Weft Knitting machines.*
- 4. The number of garments or panels simultaneously knitted across the machine is dependent upon its knitting width, yarn carrier arrangement, yarn path and package accommodation.*

Uses of Flat Knitting machine

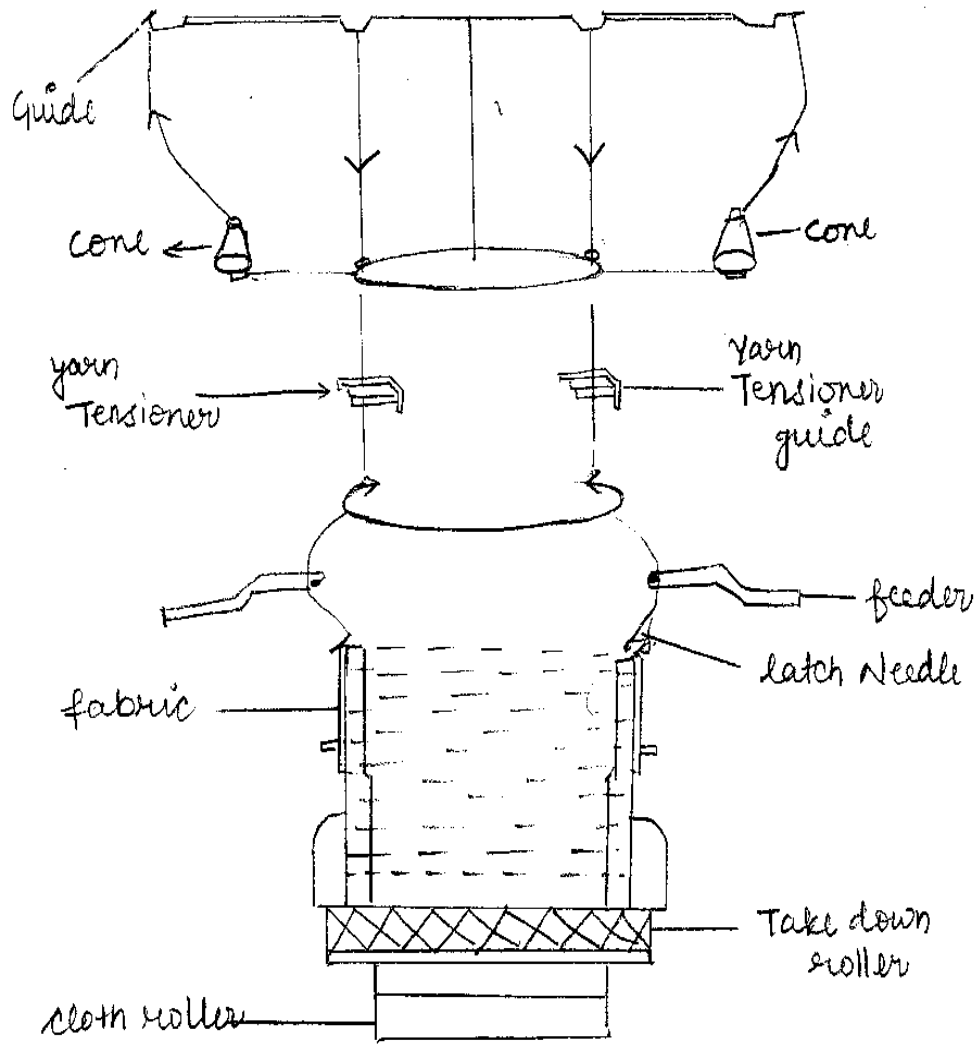
Articles Knitted on flat machine range from trimmings edgings and collars to garment panels and integrally knitted garments. The common products; Jumpers, Pullovers, Cardigans, Dresses, Suits, trouser Suits, hats, Scarves, Accessories, ribs for straight-bar machines(Fully fashioned machine).

Circular Knitting Machine

Circular knitting machine is widely used through out the knitting industry to produce fabric Machine for outerwear and underwear may vary from 12 inch to 60 inch in diameter according to manufactures requirement. This machine can be either as fabric or for making garments. Completely with fancy stitch. Latch needle are Commonly employed in all modern circular machines because of their simple action and also their ability to process more types of yarns.

Classification of Circular Knitting machine

- 1. Circular Bearded needle single jersey fabric machine.*
- 2. Revolving Cylinder latch needle machine.*
- 3. Circular garment length machine.*



Circular Knitting Machine

The common features of a circular knitting machine as follows ;

1. Circular knitting machine has normally rotating (clock wise)cylindrical needle bed.
2. On circular knitting machines latch, beard and compound needles are used.
3. For single jersey machine holding down sinkers are used, one between every needle space.
4. Normally CAM systems are used for needle and sinker.
5. Needle retaining spring is also used.
- 6 .Stationary yarn feeders are situated at regular intervals around the circumference of the rotating cylinder .
7. Yarn is supplied from cones placed either on an integral over head bobbin stand or on a free standing creel through tensioners, stop motions and yarn guide eyes down to the yarn feeder guides.
8. Here tubular Fabric is knitted with its technical back facing out ward.

Advantages of Circular Knitting Machine:

- Smooth passing of Needles between cylinder and cams.
- Better quality of plated fabric.
- Fewer loads by high precision.
- Life time guaranty of Ceramic yarn carrier.
- Less friction for each part.
- Longer needle's life.
- Save power consumption.
- Fantastic Machine Speed.
- Perfect gaps between all parts.
- Immediate restart after setting.
- Awesome Specification of Rib.
- Save maintenance cost.
- Longer needle life.
- Special servomotor for take-up system.

Uses of Circular Knitting Machine:

- This type of machine is used for producing fabrics of Jackets, sports & T-shirt, ladies tops, casual wear, suits, dresses, bath robes, swimwear, dressing gowns, track suits, furnishing, upholstery, jogging suits, automotive & technical fabrics, and household fabrics.



Thank you!