

## **General view on Auxiliary motions of loom:**

In order to produce a good quality of cloth and to prevent damages it is necessary to have some stop motion provided on the loom. They can be termed as auxiliary motions.

Auxiliary motions are added to a loom to get high productivity and good quality of fabric.

These motions are useful but not absolutely essential. They are...

1. Warp stop motion:
2. Weft stops motion:
3. Weft replenishment motion:
4. Warp protector motion:
5. Weft mixing motion:
6. Feeler motion:
7. Brake motion:
8. Temple

### **Warp stop motion:**

To stop the loom when a warp thread breaks or excessively loose.

This motion is able to stop the loom when a warp thread breaks or get excessively loosened. When a drop wire fall as the result of end break. The broken end is repaired and handled by the operator.

Weft replenishment motion

It ensures a continuous supply of weft yarn to the loom whenever supply package exhausted. WEFT REPLENISHMENT

This motion provides uninterrupted filling insertion by switching from a depleted to a full package.

### **Weft stop motion:**

This motion able to stop the loom when a weft breaks or runs out of the pirn (weft package). In case the loom is allowed to run even after the weft breaks there will be no woven cloth except long threads of warp

**Warp protector mechanism:** To protect the warp thread by stopping the loom when the weft fails to reach, and box properly into either the winder during picking.

This motion protect the warp threads by stopping the loom when the shuttle fails to reach, the selvedge side and box properly into either the shuttle box during picking.

If shuttle fails to reach its proper box, a loom must either be instantly stopped by a fast reed motion or gradually stopped by loose reed motion.

It will stop the loom to prevent excessive damage to the warp threads, cloth, and reed if the weft carrier becomes trapped between the top and bottom of the shed lines and the reed

**Brake motion:** A mechanism to stop the loom when a weft yarn breaks.

A brake is a device by means of which artificial frictional resistance is applied to moving body in order to stop the motion of a loom. The brake stops the loom immediately whenever required. The weaver uses it to stop the loom to repair broken ends and picks.

Types of Brake – •Shoe Brake •Band Brake BRAKE

### **Temple motion:**

The temples are used to hold fast the width of the woven cloth as equal to as possible to the width of the warp. It may be made of wood or metal. Metal is useful for rugs.

## TYPES OF TEMPLES

Ring Temple Roller Temple

### SELVEDGE

The narrow edge of woven fabric that runs parallel to the warp.

It is made with stronger yarns in a tighter construction than the body of the fabric to prevent ravelling.

#### **Weft mixing motion:**

This motion able to insert various coloured weft yarn into the same fabric for check and stripe effect.

**Feeler motion:** This motion able to indicate whether the weft yarn in pirn is almost used up or not.

**Warp stop.-** To stop the loom when a warp thread breaks or excessively loose.

The operating system is the following :-

Each warp thread is passed into the bottom slit of a metallic drop wire 2,

Which this way is supported by the thread under tension. Through the top slit of the drop wire passes the contact rail 3 composed of an u-shaped outside coating in stainless steel, of a strip of insulating material and of a flat conductive inside blade in nickel-plated copper, Provided on the upper part with a toothing.

The contact rail 3 is part of a low voltage electric circuit, of which the drop wire 2 acts as circuit Breaker.

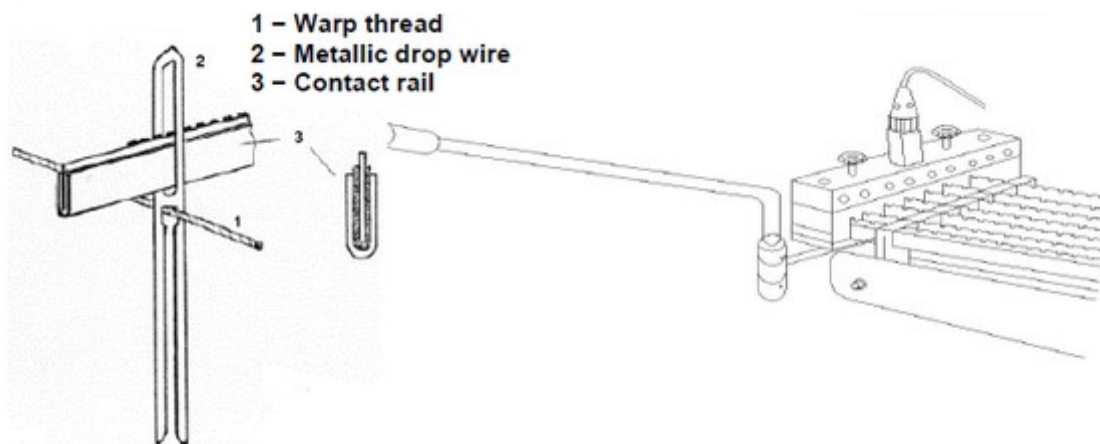


Fig-Warp stop motion

**Weft stop.**- To stop the loom when a weft breaks or the weft runs out of the weft package.

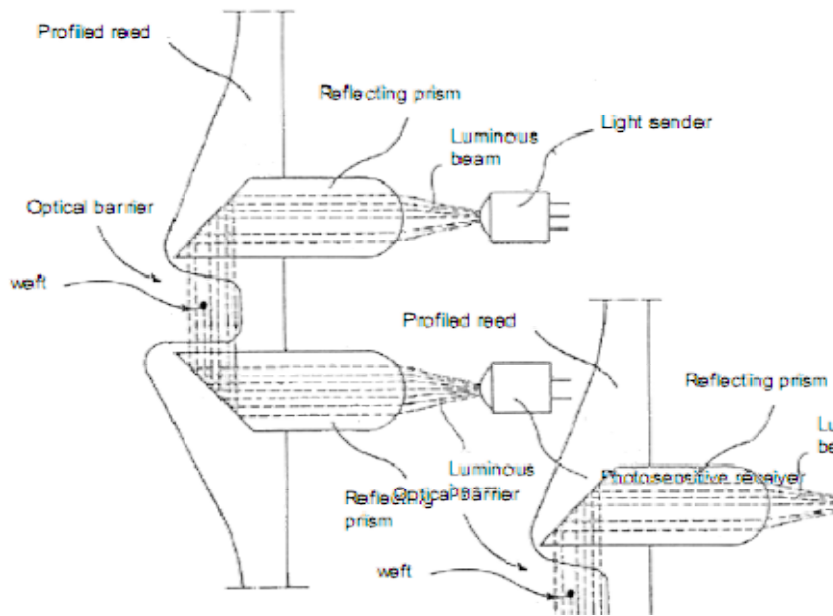


Fig-Weft stop motion

In the case of air jet machines for staple yarn weaving, an optoelectronic weft stops motion in twin arrangement can be delivered. While the first of the two weft stop motions serves as support for the machine control, the second one records the weft threads broken in the shed or expelled.

When the first one gets the weft, which means the weft thread has travelled the predetermined distance, the loom remains running. And in case of the second one gets the weft, which means the weft thread has broken and travelled excess than the predetermined distance, it knocks-off the loom instantly.

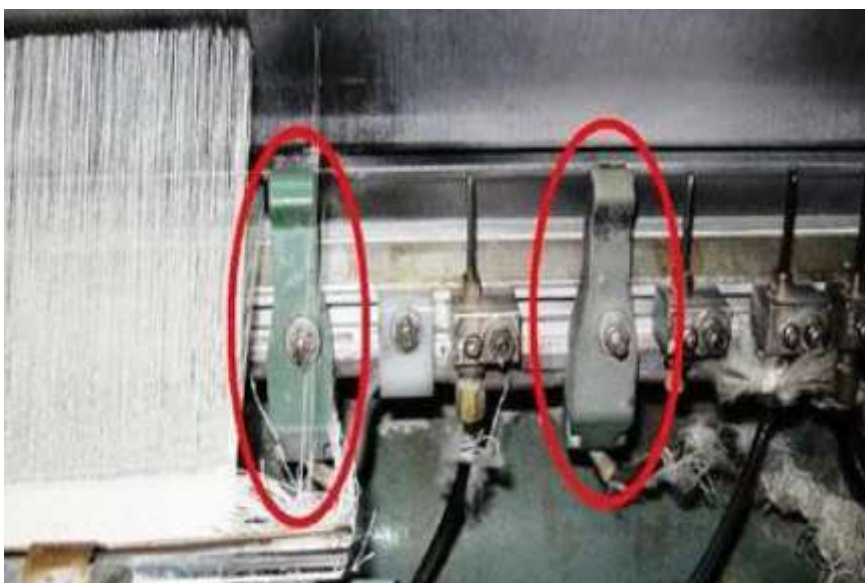


Fig-Weft detection sensors

