

Extra Weft Handloom Machine



By : Mr Dipak Bharali, Kamrup, Assam

Innovation Description

Profile

Innovator Mr. Dipak Bharali hails from Kamarupa district of Assam.

Purpose

Shri. Dipak has developed a machine that ensures weaving of better quality fabrics.

Technical details

The device consists of three components 1. Base frame 2. Magnet bearing shaft and 3. Specially design bobbin. A base frame is a U shaped wooden frame with two small elevated sidewalls. The upper side and both ends of the frame are kept open. The shaft facilitated with a pair of magnets at equal intervals fits into the slot of the base frame, and the base frame act as a rail to make the shaft move both ways. The base of the frame is covered by a synthetic cloth with a woolly surface and the shaft with narrow wooden frame. The magnets fitted at the lower surface of the shaft are specially designed magnets. The magnets are placed in pairs facing each other at equal intervals and the arrangement or the distance between the magnets depends upon the required design pattern of the fabric. There are two protuberances at each end of the shaft, serving as locks to prevent the shaft from moving beyond a limited distance. The shaft fits perfectly into the slot of the base frame and sits on top of the base surface cloth. Once fitted into the slot, then the shaft can slide both ways. The specially designed bobbin has two magnet sensitive rollers, fitted with small bearings inside. These two rollers are connected by a round shaft made up of a hollow plastic pipe. The bobbin is quite similar to a dumbbell, in terms of appearance. The weft thread is filled into the plastic shaft, in between the two movable rings. On filling of weft thread lasts for a whole fabric. The magnet sensitive rollers on the bobbin allow each bobbin to stick the designed magnet pieces attached to the shaft separated by the base surface. The shaft fitted with magnets slides on the base frame and the bobbins attached to it also drag from one side to other.

Benefits

Saving time and human efforts. No skilled person is required to operate this machine. Better quality fabrics are achieved.

Suggested Reading(s):

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Zefrehyee, A. A., Nosraty, H., & Aghajani, M. (2013). Design and implementation of weft density feedback control system on weaving loom. In *The 3rd International Conference on Control, Instrumentation, and Automation* (pp. 296-300). IEEE.

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