

by two lease rods, placed across the warp between the back rest and the healds, the alternate ends passing under one rod and over the other, to keep them thoroughly separated, and independent of each other.

The healds are carried by straps and cords from heald rollers fixed to the cross framing over the top of the loom, and are operated from a tappet shaft below the machine by means of levers, the tappet shaft being driven from the crank shaft by spur gearing outside the loom framing.

The shuttle containing the weft yarn traverses the warp by the action of a cam or picking plate on the tappet shaft, which communicates by a blow a quick movement to the picking-stick, on which is a leather strap connected to the picker—a piece of leather or buffalo hide—against which the shuttle rests in the shuttle box ; the motion of the picking-stick is transmitted to the picker, and the shuttle is driven over the slay and across the loom into a similar box on the other side.

A positive take-up motion is applied to the cloth roller to take up the woven cloth at a definite rate, and thus determine the density of the cloth by controlling the number of picks or shots of weft in a given space ; and a motion is also applied to stop the loom when the weft breaks, or when the cop or pirn in the shuttle is empty.

The variety of cloths that may be woven on the loom is almost illimitable, while for the weaving of checks, figured goods, gauze, pile, or other patterns of fancy cloths, special appliances or motions are used, such as additional tappets of various kinds, circular or drop shuttle box motions for 3, 4, or 6 shuttles on one or both sides, and dobbies and jacquards for complicated or figured cloths.

The cloth from the loom is taken to the warehouse, where, after being examined, it is folded and made up into bundles of about 10 pieces ready for transport.

Cloth Folding Machine.—This machine, as its name implies, folds the cloth in plaits or layers, varying in size from 18 inches to 44 inches, according to requirements.