

well or badly calculated. This satin, worked with thick silk threads, after being woven, is placed in the hands of women, who cut every length of the threads with little special tools worked with the hand. The plush then is raised or left flat according to the nature of the thread employed, and the close or loose texture of the satin. The most satisfactory results are thus obtained. Among charming combinations may be mentioned one representing, on taffetas, a peacock embroidered in relief, accompanied, on each side of the ribbon, with a plush border, happily imitating the beautiful iris eyes which glitter at the end of the peacock's feathers. A large quantity of ribbons are bordered with bands of imitation fur.

The finishing workshops, common to all the manufacturers of Saint-Etienne, give the last figuring to the different kinds of ribbons which are to receive them. Most of these figures are impressed by rolling; thus moire is obtained by passing the stuff between cylinders ranged with various cuttings. Satin, on the contrary, between smooth cylinders, the action of which compresses the threads of the warp, and gives them the polish peculiar to this beautiful material. In some special cases, the ribbons, before being rolled, are passed through a bath of starch or gum. A rigid inspection of the completed products, both on their return from the houses of the workmen and before their sale to the purchaser, weeds out all defective pieces.

Ribbons for hand-stamps are tapes saturated with an oily pigment, which becomes impressed upon an object when the stamp is brought down upon the two, which are placed in contact beneath it. It is an inky ribbon, and is used as a substitute for inking the face of a stamp.

**Rib'bon.** 1. (*Fabric.*) A narrow fabric used for trimming.

Ribbons are of various materials, textures, and qualities. Among these are the following: *chiné*, *ferret*, *galloon*, *love*, *lustring* (lutestring), *ribbon velvet*, *sarsnet*, *satin*, *taffety*, etc.

The ribbon manufacture is largely carried on at Coventry, in England, and at Saint-Etienne, in France. A great number of the improvements in the different branches of the manufacture are due to the Swiss and Germans, among others the bar-loom, brought from Switzerland, in 1756, by M. Flachet, of Saint-Chamond, and the economical processes for fining velvet, introduced in 1775, by Roland de la Platiere.

The application to the bar-loom of the Jacquard machine, and of the various improvements derived from it, have resulted in the production of an admirable working instrument, with which a skilled workman is able to make everything, from simple taffetas to elaborate portraits. The ornaments vary considerably in style and arrangement. Sometimes these are purely fanciful compositions, — Byzantine, Indian, Oriental, Chinese; at others, of birds and animals, more or less approaching nature. The commonest ornaments, and generally the most successful, are borrowed from flowers. Buds, corn-ears, — fruits even, — are all suitable for composition. Birds, and some species especially, lend themselves very readily to the fancy of the designer, but quadrupeds which are able to find suitable place in an ornament are rare.

Whatever may be the nature of the design, a practical application is given to it by the card-setter, who transfers it, while enlarging the size, to a checkered sheet. This sheet assists the stamping-out machine to prepare the cardboard sheets for the Jacquard machine. The warps are made under careful supervision, and the threads composing them consist of organzines thick enough to support the strong tension necessary to the weaving. The warping requires an extreme attention, especially in the case of ribbons which are to include different kinds of web and different colors of warp. Each warping-mill is composed of a "bank," a frame slightly inclined and arched, fixed, at its two extremities, into a wooden frame. It bears a variable number of bobbins, among which are divided the organzines destined to form the web. Parallel to the bank is placed a vertical divider, on which each warp revolves when it is made. The workwoman, with her left hand, moves a crank, which transmits the motion to the divider, and with her right hand she guides the passage of the threads between the glass teeth of a kind of large toothed comb. The warps prepared in the divider are then rolled by large bobbins, called blocks, belonging to the master weaver, who is intrusted with the making of the ribbon. The threads of weft are not twisted and doubled like the organzines of the warp, but are more or less twisted, according to the nature of the tissue desired. To produce plushes in various designs, imitating either fur or the feathers of birds, especially of the peacock, they imprint on a warp the ornament they wish to reproduce, only on a wider scale, and weave it in satin; and by means of the shortening of the threads, caused by weaving, the figure is formed more or less exactly as the imprint was