

DESIGNING AND FABRIC STRUCTURE.

FRINGES AND PEARL EDGES.

Fringes.

Shawls, curtains, tablecovers and similar textile fabrics are frequently produced with fringes. For this purpose there are placed on each side of the loom at a distance of from 2 to 6 inches (or more or less, according to length of fringe wanted) from the body of the fabric, heavy threads of yarn or a wire, and which (thread or wire) are made to work on the plain weave principle, so that the filling as passing first over

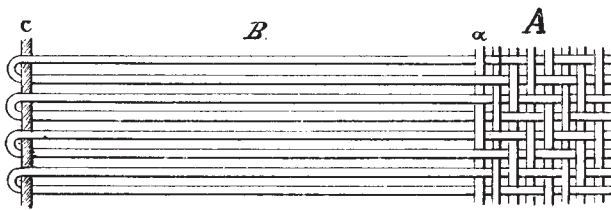


Fig. 1

said thread or wire is caught, *i. e.*, held in the next pick by said thread or wire, producing in turn a protruding loop, *i. e.*, a fringe, as clearly shown in illustration, Fig. 1, of which *A* represents the body portion

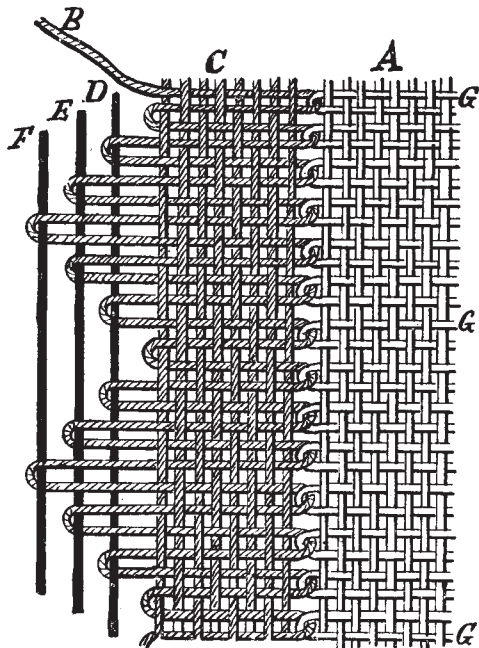


Fig. 2

of the fabric, *B* the fringe and *C* the wire or thread placed a distance apart from thread *a*, of the body of the fabric; the distance depending upon the length of the fringe *B*, wanted.

If required to produce a

FRINGE OF A DIFFERENT COLOR

from that of the body structure, take for producing the same a special warp thread placed on a small

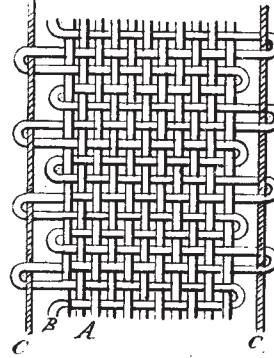


Fig. 3

bobbin and allow it to work with very little friction near the edge of the fabric. Have this special warp thread work "one pick up and one pick down," so that the filling passes alternately above and below. The tension for the filling must be more than the one for the warp thread, thus the filling, when returning into the main structure, will pull the special warp thread closely up to the body of the fabric; producing in this manner the required effect, *i. e.*, a different colored fringe compared to that of the fabric.

If interlacing the fringe with the $\frac{2}{2}$ rib weave, *i. e.*, 2 picks in a shed, the special warp thread will get drawn in through fringe and to the body part of the fabric, as shown in illustration Fig. 2. In the same, letters of reference represent thus:

A, the warp for the body of the fabric;

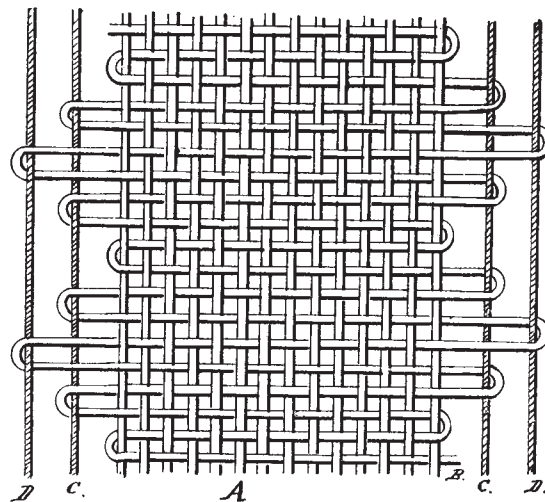


Fig. 4

B, the special warp for forming the different colored fringe;

C, the warp threads for the fringe, which may be

corresponding in color to that of the special warp *B*;

D, *E*, and *F*, three wires, horsehairs or threads of yarns for forming different sized loops (*i. e.*, pearl edges in this instance) to the edge of the fringe;

G, the filling for the body of the fabric.

Pearl Edges.

The selvages of ribbons are sometimes formed with loops either in a straight line or variegated. They are called pearl edges, and are produced by means of temporary interlacing threads of horsehair or of wire. To clearly illustrate the subject, the accompanying four illustrations Figs. 3, 4, 5, and 6, of such fabrics are given. In the same, letter of reference

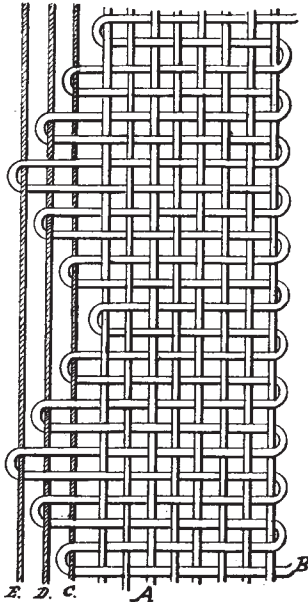


Fig. 5

A indicates the warp of the body part of the fabric;

B the filling;

C, *D*, *E*, *F* and *G*, the wires, horsehair or threads, necessary for forming the pearl edges.

Importance of Sizing of Woolen and Worsted Warps.

The sizing of woolen and worsted warps has for its purpose to impart to any inferior yarn sufficient smoothness and strength to withstand the strain and wear the same is subjected to at weaving, in turn resulting not only in production but at the same time in a most perfect cover to the cloth in the woven as well as the finished state.

In weaving, there are certain influences acting harmfully upon the yarns, *viz.*: the maintained tension on the warp which exerts a strain upon the threads; the shedding of the warp and the beating-up of the filling by the reed, both tending to weaken the yarn and in turn the finished cloth. There are also to contend with the friction of the moving heddles, the rubbing action of the reed and the wearing of the yarn by the shuttle as the latter passes over the threads lying on the race plate of the lay.

To minimize the effects of all these and give a stronger and smoother yarn, one which will be in the best condition to withstand weaving, is the object of sizing, a most important process of manufacturing. In spite of this, however, there is probably no other stage in the manufacture of woolens and worsteds that receives so little of its much needed attention. Its importance is too often undervalued.

As a rule, sizing is necessary more particularly to woolen yarns and single worsted yarns, it being, of course, understood that some of these yarns do not require sizing, the matter depending upon the nature of the raw materials used, the count and twist of the yarn, the texture of the fabric under consideration, etc.

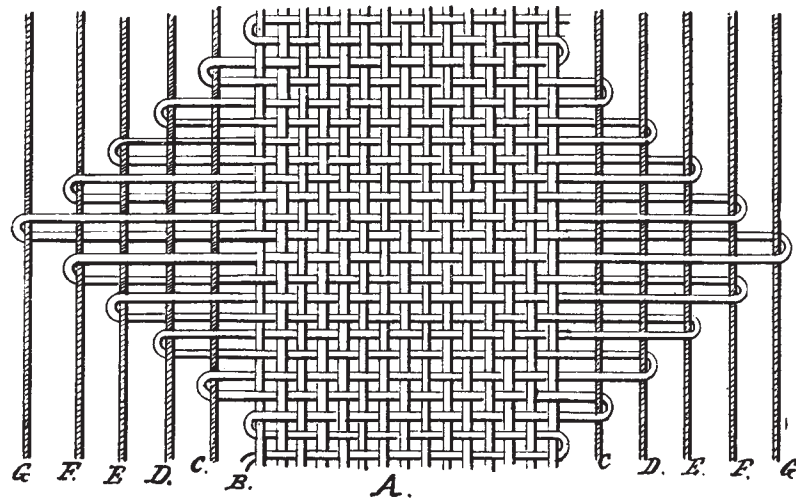


Fig. 6

The bulk of woolen fabrics refer to single yarn structures, being those most in need of sizing; woolen and worsted fabrics in which a double and twist yarn is used, require as a rule no sizing, since in connection with double and twist yarn any imperfection in one of the minor threads is counterbalanced by its mate thread, again the principle of twisting two or more ends imparts superior strength, smoothness and elasticity to the yarn as compared to a single thread yarn made from the same material and spun to the combined count of the double and twist yarn.

The amount of twist in a yarn is a most important factor in determining whether a warp has to be sized, and the amount of sizing to be done, or again if no sizing is required; the more tightly twisted the yarn under consideration the less need of sizing. The amount of twist is, of course, determined by the quality of the yarn, as well as the kind of fabric for which it is to be used.

Yarn of a fuzzy nature, *i. e.*, yarns in which the fibres protrude prominently from the core of the thread require a most careful sizing, whether single or two ply yarn, in order to lay this fuzz, to permit weaving. If such yarns are not sized, the fibres