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## THREE-PILE FIGURED VELVET FABRICS.

These three-pile figured velvets are the invention of Frank Warner, the President of the Silk Association of Great Britain and Ireland; their construction being patented here and abroad. They have created a great interest in England, following a late exhibition of specimens of it in London, by the inventor, and are described abroad as the most gorgeous examples of figured velvets ever seen, remarkable alike in beautiful design, richness of coloring and perfection of fabric structure.

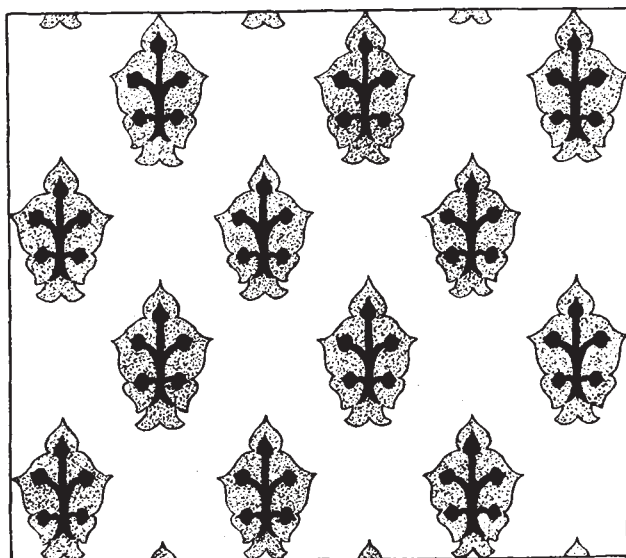


Fig. 1

Mr. Warner in 1908 produced for the first time velvets, which his firm then displayed at the Franco-British Exhibition. A subsequent advance in the same lines has now been achieved by Mr. Warner in the form of his three-pile figured velvet or plush previously referred to.

It was not until the latter part of the Sixteenth Century that the art of velvet weaving was introduced into England from the Netherlands, and it was a century later before velvet weaving in silk was practiced to any great extent in England, caused by the exodus of the Huguenots from France. The late Benjamin Warner, to whom the revival of the craft of furniture silk weaving in England was to a large extent due, in 1879 began the weaving of figured velvet. After great perseverance he succeeded in producing decorative velvets in all respects, as regards technique equal to the velvets of Venice, Genoa and Lyons.

Most of the looms in England for the production of the early specimens of figured velvet were set up in the cottage homes of the Spitalfields weavers, but, in 1895, the industry was centered at Braintree, Essex county, where the weaving of velvets and other silk fabrics was carried on under modern conditions by the descendants of Spitalfields weavers, whose history dates back to about 1700.

While the sale of these new velvets in England

might not be great at this time, on account of the war, the British papers express the hope that many a golden sovereign which had gone over to America would be exchanged for them.

On account of the personality of the inventor among the Silk Industry in England as well as here, we will give in the interest of our readers a description of the construction of these Figured Velvet Fabrics.

The novelty of fabric structure consists in the production of pile or plush fabrics in which the loops constituting the pile are of different lengths, and particularly of the kind known as velvet with either loop or cut pile, or a combination of loop and cut pile, the chief object being to produce figured velvets with varying depths or lengths of pile, and whereby richer effects may be obtained than heretofore, especially in floral or like designs.

The design or pattern in these fabrics is produced by looping the pile warp to form different heights of pile, while the ground of the design is formed by looping the warp to effect a short or low pile; thus the various portions of any floral design may be woven with two heights of pile or plush, a higher portion standing out to show effectively above the other, a lower or shorter plush than either figure pile being used for the ground.

In order that the new fabric structure will be clearly understood by our readers and readily carried into effect, the same will now be more fully described by the aid of the accompanying two illustrations of which Figure 1 shows (by way of example) the shading effect produced in the finished fabric, the design showing the figure on a greatly reduced scale from that of the woven fabric. Fig. 2 is a section of a portion of the fabric disclosing the weave and also showing the pile wires in their section, opposite their respective piles.

In connection with illustration Fig. 1 *white* = ground or *low* pile; *shaded* = first figure effect, *i. e.*, *medium* height of pile; *black* = second figured effect, *i. e.*, *high* pile effect.

### How the Fabric is Constructed.

A description of method of fabric structure observed on the loom, will be best given by quoting letters of reference accompanying illustration Fig. 2



Fig. 2

and of which *a* indicates the ground warp, *b* the low pile, *c* the medium pile and *d* the high pile, *b'*, *c'*, *d'*, at the left hand side of the illustration, are the three different sets of wires used; the thickness or depths of the three wires corresponds to the respective piles *b*, *c*, and *d*.

This method of interlacing the pile warp results in the production of the three figured effects superimposed upon each other, thus enabling a facial effect to be obtained in which high pile constitutes the prominent portion of the figure. (See *black* Fig. 1).

The design or pattern to be produced is effected by the Jacquard in which the harness is mounted and adapted to operate to give the required lift to the

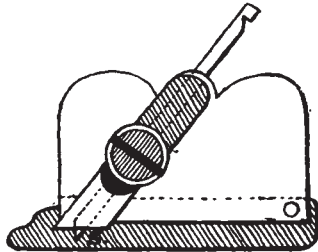


Fig. 3

pile warp and thereby enable the wires *b'*, *c'*, *d'*, to be inserted to produce the varying heights according to the pattern or design required to be woven.

For example, the high portion of the figure is produced by those pile warp-threads as lifted for the insertion of the highest or deepest wire *d'*, (see *black* in Fig. 1). The lower parts of the figure are produced by those pile warp-threads that are lifted at the time of insertion of the medium wires *c'* (see *shaded* in Fig. 1) while the ground of the fabric is formed by raising those pile-warp threads when the lowest wires *b'* (see *white* in Fig. 1) are inserted.

**TERRY AND COMBINATION OF TERRY AND VELVET PILE.**

Certain ones, or all the pile warp-threads may be left in loop-form, as may be desired, in which case these wires are withdrawn, leaving the loops intact.

**VELVET PILE.**

In the production of cut pile, after a certain portion of the fabric has been woven, the first interwoven wires may be cut out of the fabric in rotation, either by passing (in connection with handwork, *i. e.* handweaving) a special sharp knife (known as *trevette*) along the groove, cut in the upper surface of each wire, or (in connection with power loom weaving) by means of knives or blades attached to the ends of the wires, which on being drawn out automatically by the loom cause the knives or blades to effect the necessary cutting or severing of the pile loops, as will be readily understood.

Fig. 3 shows such a trevette or hand cutting device. *S* shows the knife of this trevette, which enters



Fig. 4



Fig. 5

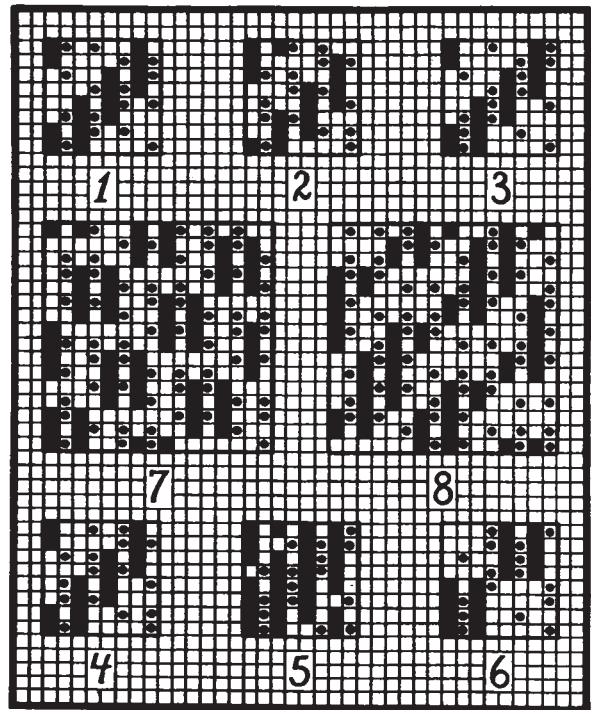
the groove in the pile wire and by passing (pushing) along by hand, cuts the pile loop, transforming terry in velvet pile. Fig. 4 is a pile wire for a power loom, having a knife, *i. e.*, blade formed on one of its ends, which by pulling the wires automatically out cuts its way out of the pile loops, as cover the wire and thus accomplishes the same result as the trevette has done, *i. e.*, transforms the terry loop into velvet pile. Fig. 5 shows a plain wire for the power loom, which when automatically pulled out by the loom, leaves the loops formed over the wire intact, producing in this way terry or uncut pile in the fabric.

The interlacing of the ground warp, pile warp and the filling, are clearly shown in Fig. 2, showing the formation of the various sheds required to produce the three pile effects wanted.

**Novelty in Fabric Construction.**

The same refers to a new method of fabric structure, designed by A. Beaumont, Willesden, Kirkcowan, Wigtownshire, England, and for which method of procedure a patent has just been granted to him in Great Britain.

The novelty consists in the construction of cloths made of two or more classes or counts of yarn composed of different materials, one superior to the other, both yarns being interlaced in such a manner that the lower qualities of yarn are rendered almost invisible, while the cloth produced is similar in appearance and handle to one composed entirely of one standard of quality of yarn throughout.



The combined cloths are built up of an inner and an outer fabric, joined together solely by the method of interlacing the inner fabric by the outer fabric. The eight weaving plans shown herewith indicate specimens of how the two fabrics are bound together solely by the warp and filling interlacing themselves.

The warp-threads and picks of the surface fabric are given a larger float than is allowed to the warp-threads and picks of the inner fabric, so that the latter is practically hidden from sight. The combined cloth is warped and woven one thread of worsted and one thread of cotton throughout the piece, and in weaving plans odd warp-threads counting from the left to the right of each weave, and odd picks counting from the bottom of each weave, are worsted yarn, while the even warp-threads and picks of the weaves are cotton yarn.

Weaves Figs. 1 to and inclusive 6 repeat on 8 warp-threads and 8 picks, whereas weaves Figs. 7 and 8 repeat on 16 warp-threads and 16 picks. Any amount of other weaves can be similarly designed.