Feb. 9, 1937. W. HUELLER 2,069,760

EMBROIDERED FABRIC

Filed Aug. 18, 1933

Fig. 1.

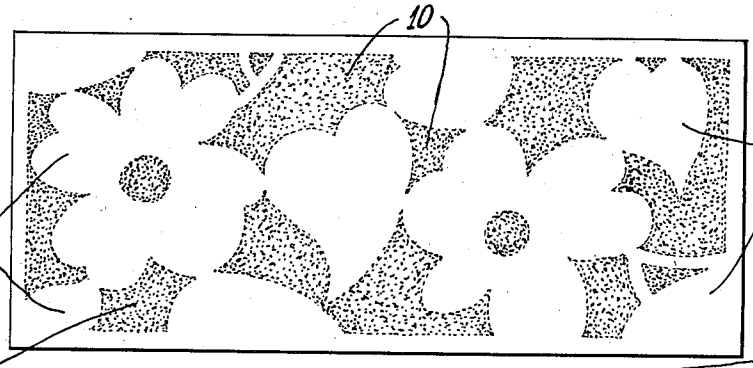


Fig. 2.

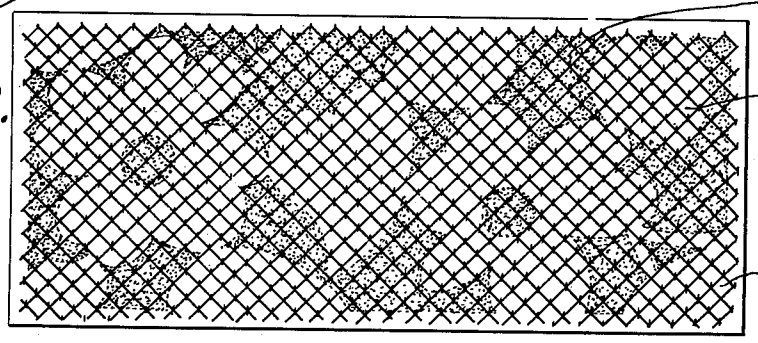


Fig. 3.

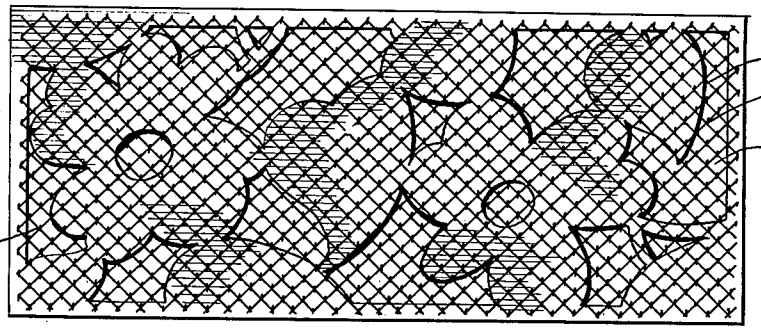


Fig. 4.

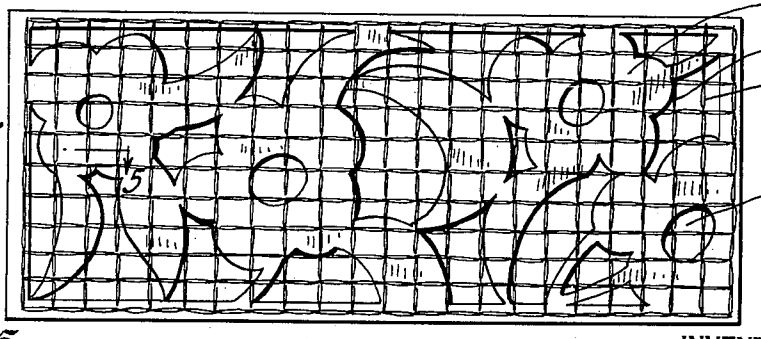
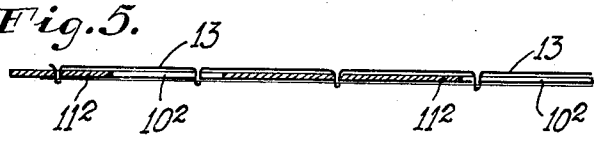


Fig. 5.



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EMBROIDERED FABRIC

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Application August 18, 1933, Serial No. 685,673

2 Claims. (Cl. 2—278)

The present invention relates to a new fabric and it particularly relates to an embroidered fabric.

Up to the present time "appliqué" fabrics have been particularly expensive to manufacture and their manufacture has involved a relatively large amount of tedious skilled hand labor, so that they could only be made on a relatively small scale or in countries where such labor might be obtained very inexpensively.

These "appliqué" fabrics consist of an embroidery in which has been placed in the embroidered design a plurality of pieces of fabric, between which pieces of fabric is the open lace-like or net-like embroidered structure or ground material.

In making these fabrics it has been necessary to prepare a base fabric, which before embroidering was treated with an etching material or an acid burning material, to which base fabric was applied the embroidery.

To this embroidered base fabric was then applied the covering fabric, portions of which were to remain on the embroidered background and other portions of which were to be removed. The portions which were to remain were embroidered onto the base fabric in such a manner that the design portions thereon would remain firmly connected with the embroidery on the base fabric.

Then the base fabric which has been previously treated with an acid burning or etching material was steamed, heated or otherwise treated to burn out this material, leaving only the covering fabric and the embroidery which had been originally applied to the base fabric.

Finally, it was necessary to laboriously cut out by hand labor the portions of the covering fabric which were not to remain with the result that the final "appliqué" fabric with the fabric designs encircled by an open net-like or lace-like embroidery would be obtained.

Due to the expense and amount of labor involved and also due to the fact that most of these "appliqué" fabrics had to be made in foreign countries where skilled labor was obtainable at a relatively low cost, the utilization of these fabrics has been limited in this country.

An object of the present invention is to produce fabrics including openwork embroidery between fabric designs with a minimum of cost and manual labor and in such a manner that these fabrics may be readily produced under modern mass manufacturing conditions with great facility.

Another object of the present invention is to provide new and improved embroidered and printed fabrics which will simulate relatively expensive "appliqué" fabrics and which may be largely utilized in place of such "appliqué" fabrics for decorative effects.

Other objects will appear during the course of the following specification.

In acomplishing the above objects according to one embodiment, a single fabric is utilized in forming the "appliqué" product, which fabric is printed previously to embroidering with an etching material which subsequently to embroidering will burn out certain portions of the fabric, leaving the residual portions, which residual portions may be printed with different colors or designs.

After this print has been made upon the fabric the entire fabric is worked with an embroidery design which will hold the residual portions, of the fabric together after the burning out process, by an open network or lacework as may be desirable. The spacing of the embroidery should be such that there will be a large number of loops in the interstices between the residual fabric pieces and so that there will also be similar loops extending over the entire surface of said residual portions of the fabric.

After the embroidery has been applied the fabric is treated so as to burn out the etched portions which have been treated with acid material or some other etching material, with the result that the desired fabric design remains. This fabric will be composed of fabric elements, the various parts of which are joined together and positioned by the embroidery.

The above and other objects will appear more clearly from the following detailed description, when taken in connection with the accompanying drawing, which illustrates a preferred embodiment of the inventive idea.

In the drawing:

Figure 1 illustrates a piece of fabric after it has been printed with the etching material and also if desired with suitable designs or colors.

Figure 2 represents the fabric of Fig. 1 after it has been provided with embroidery.

Figure 3 represents a piece of fabric in Fig. 2 after the etched portions have been burned out.

Figure 4 represents a fabric with a different style of embroidery illustrating how the effect may be varied.

Figure 5 is a sectional view illustrating the design of Fig. 4 after the etched portions have been burned out and removed.

Referring to Figure 1 the etching material is printed upon the portions of the fabric indicated

at 10 and the same may consist of any suitable acid or etching paste, which has the effect of disintegrating the fabric upon a subsequent burning-out operation, such as steaming, heating or treating in an aqueous bath or so forth. By printing the acid etching material upon the fabric in the designs indicated, the untreated portions 11 are provided, which will remain unaffected upon the subsequent burning-out operation. The untreated portions 11 may be colored and/or printed with suitable designs.

The etching material as shown in Fig. 1 may be applied by printing with screens, rollers, stencils, and so forth and as stated above it may be either a dry etch which can be removed by heat or a wet etch which is removable by dipping in an aqueous treating bath.

In Fig. 2 the embroidery 12 has been applied to the fabric and it will be noticed that a plurality of loops of this embroidered effect occur in the interstices in the design and over the unaffected portions.

This embroidery design as shown at 12, may be conveniently applied upon embroidery machines or a stitching machine of any desired character.

As shown in Fig. 3, after burning-out or removal of the etched portion, the embroidery 13 extends over the interstices 10 binding together the residual fabric 11 portions. If desired the edges of the design as indicated at 15 may be also embroidered in an embroidery machine so as to give the edges of the fabric elements 11, a finished appearance. In this case, lace effects are not necessary.

In Fig. 4 a slightly different embroidered design 13 is employed to bind together the fabric 11^2 remaining across the open interstices 10^2.

The present invention may also be employed in embroidering in frames, as for example, in embroidering cut out designs, such as ornaments, initials etc., in which application, the open portions of the fabric to be edged in are held in frames placed in the embroidery machine.

It has been frequently proposed in the past to weave together a plurality of weft and warp threads which have been alternately treated with materials enabling such fibers to be burned out, and/or which alternately are of different materials, such as cotton and wool so that in the final fabric it is possible to remove the impregnated fibers by heat and/or steam, or to print an acid burning material upon the combined fabric so that the intermediate weft and/or warp threads may be conveniently burned out, leaving unaffected threads in position, whereby designs in the fabric may be obtained. In such instances, however, by removing an integral part of the woven fabric, the entire fabric is greatly weakened and will rip and tear most readily when subjected to any stress or strain.

In the present application, by using an overall reinforcing and interlocked embroidery stitch, even though relatively large areas of the fabric be removed by burning out processes, the embroidery stitching will nevertheless lock the weft and warp threads of the woven fabric together, so that the resultant fabric even when decorated pursuant to the process of the present application by the removal of the said portions, will be as strong, or stronger, as the original fabric and will not be subject to damage by stretching or strain.

What is claimed is:

1. The process of making an ornamented cotton fabric which comprises providing a closely woven fabric, printing predetermined areas of said fabric with an acid burning printing paste to render all the warp and weft cotton threads within said area removable without affecting the untreated areas, then locking the warp and weft threads in position by an overall locking embroidery stitch, and then removing all the said printed warp and weft threads in said areas by steaming.

2. The process of making an ornamented cotton fabric which comprises providing a closely woven fabric, treating said fabric with an acid burning printing paste so that all the warp and weft cotton threads within certain limited areas may be removed, then locking the warp and weft threads in position by an overall locking embroidery stitch, then removing all the said treated warp and weft threads in certain limited areas by steaming and leaving the remaining areas unaffected.

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