

Oct. 8, 1957

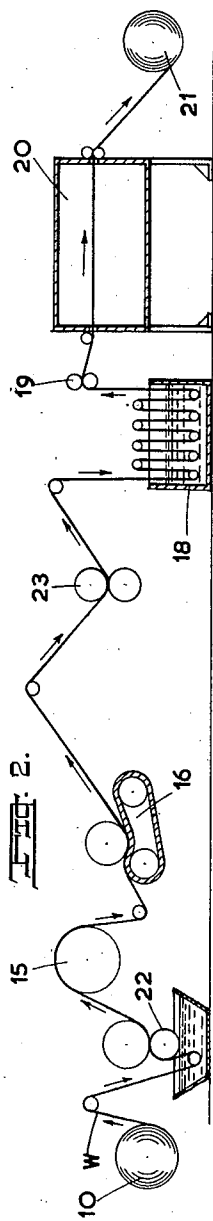
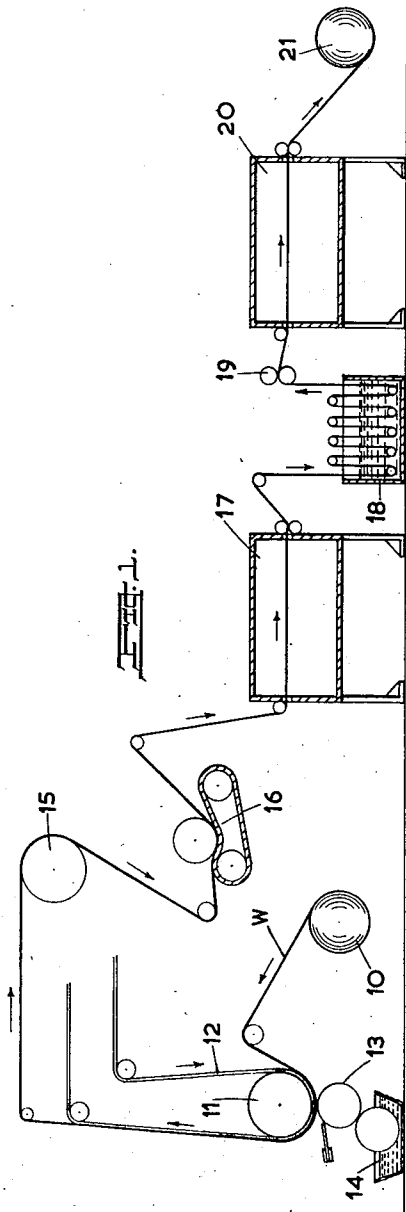
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2,808,635

ORNAMENTATION OF TEXTILE FABRICS

Filed Aug. 4, 1954

2 Sheets-Sheet 1



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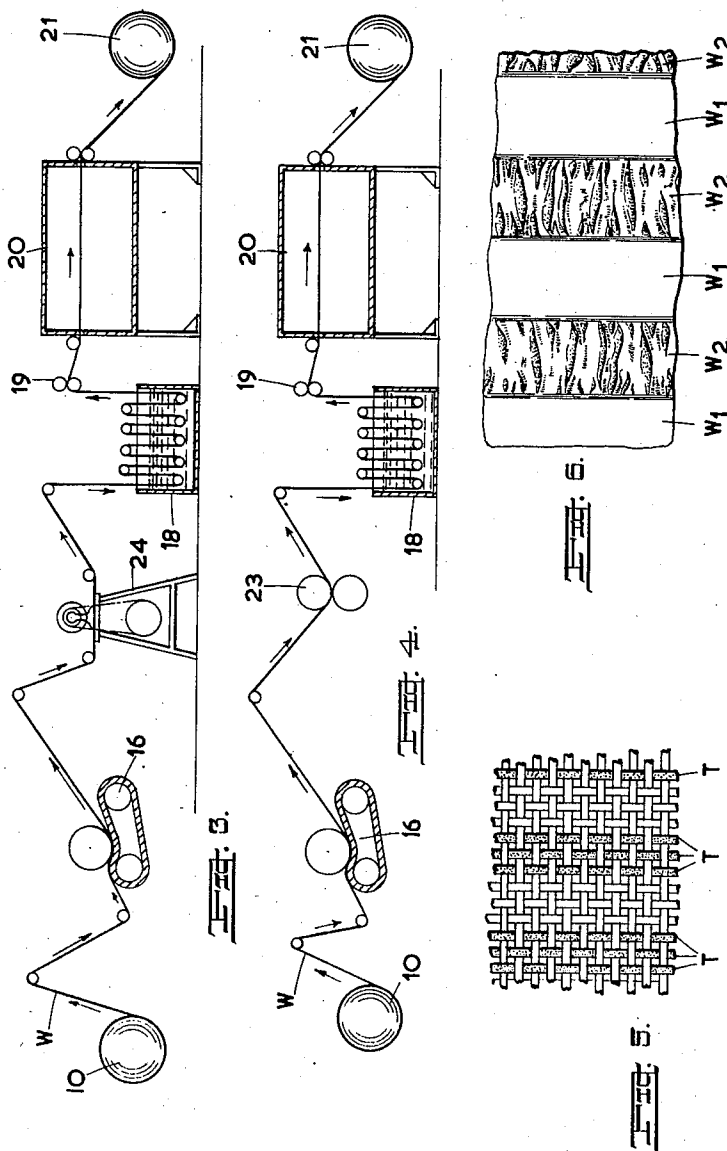
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ORNAMENTATION OF TEXTILE FABRICS

Filed Aug. 4, 1954

2 Sheets-Sheet 2



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2,808,635

ORNAMENTATION OF TEXTILE FABRICS

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Application August 4, 1954, Serial No. 447,808

Claims priority, application Great Britain August 11, 1953

17 Claims. (Cl. 28—74)

This invention concerns the ornamentation of textile fabrics to produce for example, crimps, puckers, blisters or other raised decorative effects thereon, either in stripes or in other patterns or designs.

It is known to produce such effects on textile fabrics by chemical treatment or by special weaving means. It has also been proposed to ornament textile and other materials with such effects by subjecting one or more localised regions of the material to compressive shrinking whilst allowing relative freedom of movement to the material in one or more other regions adjoining the localised region or regions being shrunk.

The effects obtained by the chemical treatment and the compressive shrinking methods, are brought about by causing certain parts of a fabric to shrink.

The present invention on the other hand, is specifically directed to creating such decorative effects on textile fabrics by manipulation, causing certain areas of a fabric to extend after it has been shrunk in length over its whole width. This is a more economical and readily controlled process for producing such decorative effects on textile fabrics. These effects have the attractive character of rugged handicraft work in contrast to machine produced effects. This process is effected by a combination of apparatus operating successively in stages on any textile fabrics, such as cotton, regenerated cellulose, linen, wool, or on synthetic thermoplastic fabrics such as cellulose acetate, nylon, and polyethylene terephthalate.

If a textile fabric is compressively shrunk in length to a degree shorter than its normal relaxed and dimensionally stable washed state so that a compressive stress is temporarily held by the fabric, it is at that time in a state such that when wetted it will extend in length almost immediately and visibly, to a length approaching its normal relaxed and dimensionally stable length.

An essential stage of the present invention, is one which produces this phenomenon, namely, that of compressively shrinking a fabric in length and over its whole width to a degree shorter than its normal relaxed or balanced state, that is to say to a degree sufficient to cause the fabric to extend when wetted.

According to the present invention, in a process of treating a textile fabric to produce ornamentation thereon, the fabric is compressively shrunk in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that the fabric will extend when wetted, the shrinkage is fixed in selected regions, and shrinkage in the unfixed regions is released by wetting the fabric which is subsequently dried. By this means these unfixed regions are caused to extend and form decorative effects such as crimps, puckers and blisters in stripes or patterns.

Various means of fixing the selected regions, for the purpose of restricting the freedom of movement of the fibres and yarns in the fabric when the fabric as a whole is wetted, are available. For example a fixative or fixing agent, such as a thermosetting resin, may be used when cotton, regenerated cellulose, linen, and the like fabrics

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are being ornamented so that shrinkage may be fixed in the selected regions of fabric which are to be prevented from extending when wetted. The fixative or fixing agent may be applied to the fabric discontinuously and in various designs by means such as printing rollers or by coating a film of fixative or fixing agent on the selected regions. It is preferred to apply the fixative or fixing agent before the fabric is compressively shrunk over its whole area and beyond its normal relaxed and dimensionally stable state. After the shrinking stage, the fixing agent is allowed or caused to fix and prevent the selected regions of the fabric extending when wetted.

If the agent is a thermosetting resin, the fixing is generally effected by heat, for instance by baking the fabric at a suitable temperature. After the stage of fixing the selected regions, the compressive stress set up in the fabric during the compressive shrinking operation is released, but such release only occurs in those regions to which a fixing agent has not been applied or set. The release of compressive stress in the unfixed regions of the fabric is brought about by wetting the whole fabric, for instance by washing it in hot water, which treatment causes these unfixed regions to extend and form raised, undulated or other decorative effects. After wetting the fabric is dried. The use of swelling agents other than water for cellulose fibres is not necessary.

The fabric may be treated according to the invention at its dimensionally stable width, or at a width narrower or wider than its stable width.

In one preferred method of carrying out the present invention as applied to a fabric of the non-thermoplastic type, the fabric is treated in selected regions with a thermosetting resin in stripes or patterns, it is compressively shrunk in known manner in length over its whole width and beyond its normal relaxed and dimensionally stable length, i. e. sufficient to cause the fabric to extend when wetted, the shrinkage in the resinated regions is fixed by baking, and the shrinkage in the unfixed regions is released by wetting the fabric which is subsequently dried. The unfixed regions are thereby caused to react and form into decorative effects such as crimps, puckers or blisters. The fabric may be partially or completely dried after treatment with the resin and before being compressively shrunk.

Whilst it is preferred to apply the fixing agent before the stage of compressive shrinking, it may be applied to the fabric after the compressive shrinking stage and before baking. In this case the fixing agent must be applied in such a way as to avoid premature release of the shrinkage in these regions, for example by applying it in an organic solvent, or under confinement.

The fixative may be applied in warpwise or weftwise stripes, or in other patterns such as diamond or square designs, the form of ornamentation obtained by this invention being pre-determined by the selective application of the fixative, or as will be explained hereinafter, by the selective setting of the fixative.

An alternative method of carrying out the invention is first to impregnate the whole of the fabric with a heat-setting fixing agent such as resin, dry it, compressively shrink the fabric in length over its whole width as previously described, then set the fixing agent in selected regions by, for example, passing the fabric through means such as hot rollers or hot plates at a suitable temperature, and under suitable conditions of pressure which bear a raised design of the selected regions. The fixing agent will thus only be set in those regions of the fabric which contact the raised design on the heated rollers or plates. In this case the temperature of the rollers or plates should naturally be sufficient to set the fixing agent and prevent the selected regions from extending when wetted. After this, the fabric is wetted thoroughly for the purpose of

releasing compressive shrinkage stress in the unset regions, and thereby producing ornamentation, and subsequently it is dried. Such wetting by washing will also remove the loose unrequired fixing agent from the unset regions. Obviously this method is not as economical as the preferred method. Obviously, the fixative or fixing agent, when used, may have dyes or other colouring matter added thereto, so that in addition to the decorative effects produced the compressively shrunk and fixed regions of the fabric may be coloured.

In yet another method of carrying out the invention, after compressively shrinking the fabric in length over its whole width as previously described, selected regions are fixed to prevent extension when wetted, by means such as stitching or by the attachment of tapes or a backing material in a dimensionally stable state, and after such fixation the fabric is thoroughly wetted to release the compressive stress in the unfixed regions and thereby cause these regions to extend and thus produce decorative effects in those regions. The fabric is then dried.

The degree of ornamentation obtained obviously depends upon the degree of compressive shrinkage imparted to the fabric, and whilst it is necessary to shrink the fabric beyond its normal relaxed and dimensionally stable state, to obtain the necessary reaction and extension, various degrees of ornamentation can be obtained by varying the amount of compressive shrinkage imparted. It has been found that a typically attractive decorative effect is obtained if a fabric which is dimensionally stable to washing is compressively shrunk by between ten and twenty percent of its length during the shrinking stage. If, on the other hand, a fabric which is not stable to washing and has, for example, a residual shrinkage of 5%, is treated, the degree of compressive shrinkage imparted to such a fabric may need to be increased by an amount equal to its residual shrinkage for the best result.

The fixing agent may be a thermoplastic instead of a thermosetting resin, in which case the baking stage may be unnecessary, the fixing being effected by allowing the thermoplastic to dry before wetting the fabric.

Textile fabrics made from thermoplastic fibres do not normally require a fixing agent such as a resin or a plastic because the compressive shrinkage in the selected regions in such fabrics may be held or fixed by the application of heat alone to these regions.

In the treatment of a fabric of thermoplastic fibres it is first compressively shrunk in length over its whole width and beyond its normal relaxed and dimensionally stable length at a temperature lower than the setting temperature of the particular fabric. After this operation selected regions are set by such means as hot rollers or hot plates at a suitable temperature and under suitable conditions of pressure which bear the design of the selected regions for the purpose of preventing same from extending when wetted. The fabric is then thoroughly washed in hot water to release shrinkage in the unfixed regions, thereby causing or allowing these unfixed regions to re-act due to the compressive build-up previously described and to form decorative effects according to the invention, and afterwards the fabric is dried. Means may be provided to assist, hasten or encourage the release of shrinkage in the unfixed regions. If desired, a fixing agent such as a synthetic resin may also be used in conjunction with the heat treatment described for fabrics of thermoplastic fibres but in this case the fabric may be baked before being washed.

In a further variation of the invention the fixing means for the selective regions may be in the form of thermoplastic yarns or threads woven into a fabric of non-thermoplastic material, or incorporated therein later. By this means a fabric mainly of non-thermoplastic material, for example a fabric mainly of cotton, rayon, linen or wool may be ornamented by incorporating designs of thermoplastic yarns, particularly warp yarns, to

correspond with the selected regions previously referred to. In this case the fabric is compressively shrunk in length, as previously described, and the fabric is heated to a temperature sufficient to set and fix the thermoplastic design in the selected regions. If desired, the shrinkage may be effected at that temperature so that the overall shrinking and the fixing of the selected regions is achieved in the one operation. After this the fabric is thoroughly wetted to release shrinkage in unfixed regions, as previously described, and dried.

A preferred form of continuously acting compressive shrinking apparatus for carrying out the shrinking stage of the invention is the type incorporating a contracting surface of rubber, felt or other material, although the type of compressive shrinking machine employing an adjustable confining passage is also suitable. Suitable machines are described in British patent specifications Nos. 372,803, 402,087, 400,950 and 529,579.

During ornamentation the fabric may have a glaze or other mechanical effect imparted to it. For instance a glaze may be given to the fabric during the compressive shrinking stage. When a fixative or fixing agent is used this glaze would be fixed in selected regions when the shrinkage is fixed, but would be removed from the unfixed regions when the fabric is washed. Again, when rollers or plates are used to set the fixing agent, or set a thermoplastic fabric, in selected regions, the rollers or plates may be used to impart a glaze.

Prior to the compressive shrinking process the fabric is preferably moistened to facilitate the shrinking action according to known practice. As stated, the fixative or fixing agent, when used, may be applied before or after the compressive shrinking operation, although the actual operation of fixing the selected regions can only be effected after the shrinking stage.

The various stages of the treatment according to the invention lend themselves to a continuously acting process, though, when used, a fixative or fixing agent may be applied by a screen roller, block, stencil or the like.

The fabric may be dyed before or after ornamentation, or the dyeing may be effected simultaneously with the stage of wetting for releasing the compressive shrinkage stress in the unset regions.

The invention will be further described by way of example with reference to the diagrammatic drawings accompanying this application, in which drawings:

Fig. 1 shows a complete process of ornamenting a fabric, for instance of the non-thermoplastic type, according to the invention;

Fig. 2 shows an alternative method;

Fig. 3 illustrates another complete process, suitable for ornamenting any type of textile fabric;

Fig. 4 shows a complete process for ornamenting a textile fabric of thermoplastic fibres;

Fig. 5 is an enlarged view of the weave of a textile fabric mainly of non-thermoplastic material having thermoplastic warp yarns incorporated therein, and

Fig. 6 is a diagram of part of a fabric which has been ornamented according to the invention to produce decorative effects thereon.

The method shown in Fig. 1 utilizes a thermosetting resin, and is particularly suitable for fabrics of the non-thermoplastic type, although as stated fabrics of thermoplastic fibres may also be treated with resin. The fabric web W is led from a batch 10 round a blanketed cylinder 11. Whilst passing round the cylinder 11 it is printed in selected regions with a thermo-setting resin contained in a box 14 by a printing roller 13. The blanket 12 on the cylinder 11 is led round a system of rollers (not shown) and washed and dried.

After being printed in selected regions the fabric web is led round a drying cylinder 15 to dry but not set the resin, before being compressively shrunk over its whole width and beyond its normal relaxed and dimensionally stable length in the shrinking machine 16.

The fabric is then baked in an oven 17 so that the resinated regions are fixed in their shrunk state. Subsequently the fabric is washed in a washing tank 18 to release the shrinkage in the unfixed regions as previously described. The fabric is then passed through a nip 19 to remove moisture and is dried in a drying chamber 20 before being batched in an ornamented state on roll 21.

Fig. 2 shows an alternative method suitable for non-thermoplastic fabrics. The fabric W from the batch 10 is passed round a resin impregnating pad generally indicated by 22, which impregnates the whole of the web with the heat-setting resin. After passing through a nip to remove the excess resin, the fabric is dried on cylinder 15 and compressively shrunk in machine 16 as previously described. It is then led through rollers 23 heated to a suitable temperature to set the resin and under suitable conditions of pressure. These rollers 23 bear a raised design of the selected regions to be fixed and set the resin on the fabric in those regions. The fabric is then passed through a washing tank 18, a nip 19 and a drying chamber 20 as previously described before being batched in an ornamented state on the roll 21.

Fig. 3 shows a method of ornamentation applicable to all textile fabrics. The web W is led from the batch 10 to the shrinking machine 16. On leaving this machine in a shrunk state the shrinkage is fixed in selected areas by a sewing machine 24. The fixing is achieved by stitching the regions or by attaching tapes or a backing material in a dimensionally stable state thereto. The shrinkage in the unfixed regions is then released by passing the fabric through the washing tank 18. Subsequently the fabric is passed through the nip 19 and drying chamber 20 as before, after which it is batched on a roll 21.

Fabrics of the thermoplastic type may be ornamented by the process illustrated in Fig. 4. The fabric W leaving the batch 10 is compressively shrunk as before in a machine 16. The thermoplastic fibres of the fabric are then set in selected regions by passing the fabric through rolls 23 heated to a temperature sufficient to fix the fibres and bearing a raised design of the selected regions. The fabric is then washed, dried and batched as before.

Fabrics mainly of non-thermoplastic fibres can be ornamented by weaving thermoplastic yarns or threads in Fig. 5. It will be seen that thermoplastic yarns T have been introduced into the warp at regular intervals. The remaining warp yarns and all the weft are formed by non-thermoplastic fibres. Such a fabric would be ornamented by the process illustrated in Fig. 4 except the hot rolls 23 need not necessarily bear the raised design i. e. they may be plain rolls, as only those regions of the fabric containing thermoplastic threads are capable of being set by the application of heat. After treatment according to the process illustrated in Fig. 4, the fabric shown in Fig. 5 would have stripes of crimps, puckers or blisters, corresponding to those regions not containing thermoplastic yarns, alternated with plain flat stripes in those regions containing the thermoplastic yarns which had been set in their shrunk state. In the example shown the stripes forming the raised design would be of equal width to the plain stripes, but it will be appreciated that the thermoplastic fibres may be woven into the fabric to produce any desired design.

Fig. 6 is a diagram of part of a fabric ornamented according to the invention. After being compressively shrunk in length over its whole width and beyond its normal relaxed and dimensionally stable length, the fabric has been fixed to retain shrinkage in the selected regions marked W1. Shrinkage in the unfixed regions has been released by wetting the fabric and subsequently drying it. The unfixed regions have thereby been caused to extend and form into decorative effects W2, such as crimps, puckers or blisters.

The following examples describe the ornamentation of various fabrics according to the processes of the invention:

Example 1

A plain-woven white cotton fabric was printed in stripes $\frac{1}{4}$ " wide and $\frac{1}{8}$ " apart warpwise with a composition consisting of 25 parts of a partially condensed ureaformaldehyde resin, 2 parts of a copper phthalocyanine pigment; 2 parts of diammonium hydrogen phosphate, 70 parts of sodium carboxymethyl cellulose thickening and 125 parts of water.

The fabric was then dried and compressively shrunk in length over its whole width to a length 15% shorter than its normal relaxed and dimensionally stable length. The fabric was then baked at a temperature of 300° F. for a period of three minutes to fix the resin. It was then thoroughly wetted in water and dried.

As a result the fabric produced had a pleasing ornamentation thereon consisting of alternate plain blue flat stripes $\frac{1}{4}$ " wide and white crimped stripes $\frac{1}{2}$ " wide.

A fabric of spun rayon produced similar results.

Example 2

A plain-woven white cotton fabric was printed to form white diamond shaped patterns of about 1" wide having a blue border $\frac{1}{4}$ " wide, with a composition consisting of 10 parts of a methylated trimethylol melamine resin, 4 parts of a copper phthalocyanine pigment, 0.75 part of ammonium thiocyanate, 35 parts of tragacanth thickening and 50 parts of water.

The fabric was treated as that in Example 1 and as a result a fabric having white crimped diamond shaped effects inside flat blue borders $\frac{1}{4}$ " wide was produced.

A fabric of spun rayon produced similar results.

Example 3

A plain-woven cotton fabric was printed in stripes $\frac{1}{8}$ " wide with $\frac{1}{8}$ " plain stripes with a composition consisting of 30 parts of a non-drying oil modified ureaformaldehyde modified glycerol phthalate resin, 10 parts of a non-drying oil modified glycerol phthalate resin and 1 part of the red pigment 1-sulpho- β -naphthalene-azo- β -naphthol.

The fabric was then dried and compressively shrunk as in Example 1. The fabric was then heated at 120° C. for 5 minutes to fix the resin, it was then thoroughly wetted in water and dried. As a result the fabric produced had a pleasing ornamentation thereon consisting of alternate plain red flat stripes $\frac{1}{8}$ " wide and white crimped stripes $\frac{1}{8}$ " wide.

Example 4

A plain-woven white cotton fabric was printed with stripes $\frac{1}{4}$ " in width separated by a distance of $\frac{3}{4}$ ". The printing composition consisted of 12 parts of nitrocellulose, 42 parts of acetone, 6 parts of dioctyl phthalate and 3 parts of the pigment prepared by coupling diazotised m-nitro-p-toluidine with acetoacetic-anilide.

Before the composition dried the fabric was compressively shrunk in length over its whole width to a length of 15% shorter than its normal relaxed and dimensionally stable length. After allowing the composition to dry the fabric was then thoroughly wetted in water and dried.

As a result a fabric having alternate flat yellow stripes $\frac{1}{4}$ " wide and crimped white stripes $\frac{3}{4}$ " wide was produced.

A spun rayon fabric produced similar effects.

Example 5

A plain-woven white cotton fabric was printed in $\frac{1}{4}$ " stripes with $\frac{3}{4}$ " plain stripes between with a composition comprising 12 parts of cellulose acetate, 42 parts of acetone, 6 parts of dimethyl phthalate and 3 parts of the red pigment 2:4-dinitrobenzene-azo- β -naphthol.

The fabric was then treated as that in Example 4 and

as a result a fabric having alternate flat red stripes $\frac{1}{4}$ " wide and crimped white stripes $\frac{3}{4}$ " wide was obtained.

Similar effects were produced by using a spun rayon fabric.

Example 6

A plain-woven white cotton fabric was printed in $\frac{1}{4}$ " stripes with $\frac{3}{4}$ " plain stripes between with a composition comprising 50 parts of an aqueous dispersion of polyvinyl chloride (30% solids), 20 parts of tricresyl phosphate emulsion, 2 parts of the pigment prepared by coupling diazotised m-nitro-p-toluidine with acetoacetic-anilide 25 parts of water and 10 parts of ammonium polymethacrylate.

Before the composition dried the fabric was compressively shrunk in length over its whole width to a length of 15% shorter than its normal relaxed and dimensionally stable length. After drying the composition, the fabric was then thoroughly wetted in water and dried.

As a result a fabric having alternate flat yellow stripes $\frac{1}{4}$ " wide and crimped white stripes $\frac{3}{4}$ " wide was produced.

A spun rayon fabric produced similar effects.

Example 7

A plain-woven cotton fabric was compressively shrunk in length over its whole width to a length 15% shorter than its normal relaxed and dimensionally stable length. It was then stitched in warpwise lines $\frac{3}{4}$ " apart. The fabric was then thoroughly wetted in hot water and dried and the result was that rows of crimps were produced $\frac{3}{4}$ " wide, between the stitched lines.

Example 8

A plain-woven fabric consisting of fibres of poly ethylene terephthalate was compressively shrunk in length over its whole width to a length 15% shorter than its normal relaxed and dimensionally stable state, at a temperature of 120° F. It was then passed between a nip comprising two rolls, one of which was cut with grooves $\frac{3}{4}$ " wide with $\frac{1}{4}$ " plain bands between, and this roll was heated to 350° F. The other roll of the nip was an ordinary woollen paper roll, with a flat surface. After this the fabric was thoroughly wetted in warm water and dried and the result was that rows of crimps were produced $\frac{3}{4}$ " wide with flat plain stripes $\frac{1}{4}$ " wide between the rows of crimps.

Example 9

A plain-woven cotton fabric which incorporated yarns of polyethylene terephthalate forming stripes $\frac{1}{4}$ " wide and $\frac{3}{4}$ " apart running warpwise, was compressively shrunk in length at a temperature of 350° F. over its whole width to a length 15% shorter than its normal relaxed and dimensionally stable state. It was then thoroughly wetted in warm water and dried and the result was that rows of crimps were produced $\frac{3}{4}$ " wide with plain $\frac{1}{4}$ " stripes between the rows of crimps.

We claim:

1. In a method of treating a textile fabric to produce ornamentation thereon, the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a critical degree such that said fabric will extend when wetted, fixing the shrinkage in selected regions only of said fabric, releasing shrinkage in the unfixed regions by wetting the whole of said fabric, and subsequently drying said fabric.

2. In a method of treating a textile fabric to produce ornamentation thereon, the steps of applying an agent to selected regions of said fabric for subsequent fixation, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, fixing said agent to retain the shrinkage in only those regions of the shrunk fabric to which

said agent has been applied, releasing shrinkage in the unfixed regions by wetting the whole of said fabric, and subsequently drying said fabric.

3. A method as set forth in claim 2 in which a film of said fixing agent is coated on to said selected regions of the fabric.

4. A method as set forth in claim 2 in which said fixing agent is applied to said selected regions of said fabric by use of printing rollers.

5. A method as set forth in claim 2 in which said fixing agent is a thermoplastic resin.

6. A method as set forth in claim 2 in which said fixing agent has dyes added thereto.

7. In a method of treating a textile fabric to produce ornamentation thereon, the steps of applying a thermosetting resin to selected regions of said fabric for subsequent fixation, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, fixing said resin to retain the shrinkage in only those regions of the shrunk fabric to which said thermosetting resin has been applied, releasing shrinkage in the unfixed regions by wetting the whole of said fabric, and subsequently drying said fabric.

8. A method as set forth in claim 7 in which the fixing of the thermosetting resin is effected by the application of heat.

9. In a method of ornamenting a textile fabric the steps of applying a fixing agent to said fabric, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, fixing said agent in selected regions only on the shrunk fabric, releasing shrinkage in the unfixed regions by wetting the whole of said fabric, and subsequently drying said fabric.

10. In a method of ornamenting a textile fabric the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, applying a fixing agent to said fabric, fixing said agent in selected regions only of said fabric, releasing shrinkage in the unfixed regions of said fabric by wetting the whole of said fabric, and subsequently drying said fabric.

11. A method of ornamenting a textile fabric of non-thermoplastic fibres, which comprises the steps of treating said fabric in selected regions with a thermosetting resin, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that the fabric will extend when wetted, fixing the shrinkage in the resinated regions by baking, releasing the shrinkage in the unfixed regions by wetting the whole of said fabric, and subsequently drying said fabric.

12. A method of ornamenting a textile fabric, which comprises the steps of impregnating the whole of said fabric with a thermosetting resin, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, passing said fabric through means to heat selected regions of said fabric to a temperature sufficient to fix regions of said resin, washing said fabric to release shrinkage in the unfixed regions of said fabric and wash out the unfixed resin, and drying said fabric.

13. A method of ornamenting a textile fabric which comprises the steps of applying a thermoplastic resin to selected regions of said fabric for subsequent fixation, compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that it will extend when wetted, fixing said thermoplastic resin by allowing it to dry to retain shrinkage in only those regions of said fabric to which said thermoplastic resin was applied, washing said fabric to release shrinkage in the

unfixed regions of said fabric and wash out the unfixed resin, and drying said fabric.

14. A method of ornamenting a textile fabric comprising the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, fixing selected regions of the shrunk fabric by stitching, releasing shrinkage in the unfixed regions of said fabric by wetting, and subsequently drying said fabric.

15. A method of ornamenting a textile fabric comprising the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length and to a degree such that said fabric will extend when wetted, fixing selected regions of said fabric by the application of a backing material in a dimensionally stable state, releasing shrinkage in the unfixed regions of said fabric by wetting said fabric and subsequently drying it.

16. A method of ornamenting a textile fabric formed of thermoplastic fibres, which comprises the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length to a degree such that said fabric will extend when

wetted, applying heat to selected regions of the shrunk fabric sufficient to ensure that the thermoplastic fibres are set in those regions, releasing shrinkage in the unfixed regions of the fabric by wetting the whole of said fabric, and subsequently drying said fabric.

17. A method of ornamenting a textile fabric formed mainly of non-thermoplastic fibres but containing some thermoplastic threads, which comprises the steps of compressively shrinking said fabric in length over its whole width beyond its normal relaxed and dimensionally stable length to a degree such that said fabric will extend when wetted, fixing the shrinkage only in the regions of the fabric containing said thermoplastic threads by applying sufficient heat thereto to set said threads in the shrunk condition, releasing shrinkage in the unfixed regions of the fabric by wetting and subsequently drying it.

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