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TEXTILE FABRIC AND ITS METHOD OF
MANUFACTURE

Hyman Louis Shoub, Brooklyn, N. Y., assignor
to The Starchless Curtain Perfector Institute,
New York, N. Y., a corporation of New York

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The present invention relates generally to textile fabrics and the treatment of such fabrics. More particularly, the present invention relates to the treatment of thin and more or less flimsy textile fabrics and to the treatment of such fabrics so as to impart to them a desired degree of permanent stiffness without in any way altering any of the other qualities of the fabric. Fabrics known as organdy or muslin and other fabrics falling in the same class, which are employed for blouses, dresses, curtains, hangings, are illustrative of the type of fabric to which the present invention has ready application.

Such fabrics are highly porous and more or less transparent, and, in common practice, are starched at every washing for the purpose of imparting to the fabric a desired degree of stiffness. By the present invention the necessity for such repeated starching is eliminated. This is accomplished by coating the fabric with a minutely thin layer of a suitable artificial resin in the form of a thin solution so that when the fabric is dried and/or ironed, the material is stiffened to the desired degree, the other qualities of the material, such as color, transparency, remaining unaffected.

More specifically, under my invention, I employ the vinyl type of resin in the form of a solution in acetone or in dichlormethane or in a mixture of the two solvents. The strength of the solution will vary with the type of textile fabric which is being treated from five to twenty per cent solid resin in the solution.

In the treatment of such thin fabrics as organdy and muslin, a substantially five per cent solution sprayed in a thin spray on one or both faces of the product will give the desired results. The invention may, however, be applied also to heavier fabrics such as table cloths, bed spreads, or the like. In such cases, a more concentrated solution of from ten to twenty per cent may be employed.

Fabrics treated in this manner, whether applied to dress materials or to table cloths, bed spreads, or curtains and hangings, have many advantages over starched fabrics. In the first place, starch has to be applied at each washing, whereas the fabrics once treated as disclosed herein do not need to be starched or retreated in any manner except to be washed and ironed. The resinous coating is insoluble and remains with the material during washing and the mere ironing imparts to the fabric, whether it be in the form of a dress or a table cloth, or the like, the desired degree of stiffness, or semistiffness.

Secondly, a starched dress soon loses its stiffness and has to be washed, not because it is soiled; but because of the loss of its stiffness, it has lost its shape. This is due in part to the fact that with wear the fabric loses its starch. The vinyl resin coating when applied to the dress or the like in accordance with the present invention, remains with the fabric and, therefore, it loses its stiffness only after longer wear or more violent treatment.

In fabrics of the type treated by the present process the appearance and texture are of primary importance. By the present treatment these qualities of the fabric are not affected. This is accomplished by the use of a colorless resinous solution of the type described, this solution also having the quality that it does not discolor on repeated washings of the fabric. The solution is also preferably applied to the fabric in a manner, such as by spraying or dipping, so that only a minimum amount of the solution adheres to the fabric and sufficient in quantity to impart to the fabric the desired degree of stiffness.

The present invention may be employed by the manufacturer of textile fabric and produce a permanently semistiffened fabric which does not need any starching and which has the quality of becoming semistiff after every washing and ironing without any special treatment. The invention may, of course, also be employed by the dress or curtain manufacturer by applying the treatment disclosed herein to the material before it is cut for manufacture or after the garment, hanging, or curtain is completed. Either of these groups of manufacturers may spray the solution on one side or on both sides of the material or the material may be dipped in a bath containing the solution. Where dipping is employed the solution should be dilute and contain not more than ten per cent solids and may be as low as three per cent. The dipping should be conducted in such a manner as to form a coating which is sufficient to impart the desired degree of stiffness to the material but insufficient to alter the texture and appearance of the material.

The resinous solution described herein may also be employed by housewives and by commercial laundries to be used as a direct treatment for used curtains or linens in lieu of treating the same with starch. For household and laundry use a solution containing from three to ten per cent of solid resins may be employed. The solution may be sprayed on the linens, curtains, or

garments before ironing or the same may be dipped in such solution.

When the present invention is applied to linens, curtains, or garments, either by the householder or by a commercial laundry, the same should best be applied after the article has been washed with soap and water in the customary way and dried, and before the article has been ironed. The following outlines the process:

- 10 The article, such as a curtain or the like, is first washed with soap and water in the customary way. The article is then dried in the customary manner. The article is then folded several times so that it will fit the bottom of any suitable vessel.
- 15 The householder may use an ordinary square cake pan for this purpose. The commercial laundry will employ a larger vessel for it will there be desirable to treat several curtains or similar articles at the same time. It is preferred, however,
- 20 to treat each article individually in a small suitable vessel. After the article is folded and placed on the bottom of the selected vessel, the resinous solution described herein is poured over the article until the article is approximately submerged.
- 25 The article is then moved in the solution and then turned bottom up and again immersed in the solution with some stirring to assure that the article is wet and soaked by the solution. The article is then removed from the solution without wringing, is unfolded and hung to dry. The dry
- 30 article is then ironed with a medium hot iron. No wetting or sprinkling of the article is necessary.

- 35 The resinous solutions employed herein are not inflammable. The present treatment, while providing a permanent very thin coating for the curtain which obviates the necessity of repeated starchings and other similar treatment, it does not prevent the articles from taking the ordinary
- 40 dyes during subsequent washings and the dyes do not affect the stiffening.

- 45 Among other articles that need light stiffening after washing and to which the laundering process as set forth above may be applied, are bedspreads, scarfs, delicate tablecloths, napkins, children's dresses, organdy dresses, voile dresses, house dresses, aprons, or the like.

- 50 The vinyl resins that may be employed are selected for their quality of yielding a colorless coating when applied in the manner described

herein. I prefer the synthetic resin of the vinyl type such as the polymerized ethylene, or the products of polymerization of vinyl acetate or of vinyl chloride or of mixtures of the same.

I claim:

- 5 1. A textile fabric of the type known as organdy or muslin or the like, whose outstanding characteristics are that they are extremely thin and light, loosely woven, and semi-transparent, said fabric having a colorless coating on one side 10 thereof of a vinyl resin, said coating being minutely thin and only sufficient to render the fabric slightly stiffened whereby its stiffness reappears after every washing and ironing without the use of any stiffening agents, while the appearance, 15 texture, and said outstanding characteristics of the fabric remain unaltered.

- 20 2. The process of treating woven textile fabric of the type known as organdy, muslin, voile, or the like whose outstanding characteristics are that they are extremely thin and light, loosely woven, and semi-transparent, said fabric consisting in dipping the fabric in a substantially 25 three per cent solution of polymerized vinyl resin in a solvent of the class consisting of acetone, dichlormethane, and mixtures thereof, drying the fabric, and ironing the same, thereby depositing on said fabric a minutely thin amount of resin and rendering the fabric slightly stiffened while leaving the appearance and texture and 30 said outstanding characteristics of the fabric unaltered, whereby the stiffness reappears after every washing without the use of any stiffening agents.

- 35 3. The process of imparting permanent semi-stiffness to articles of wear made of woven textile fabric of the type known as organdy or muslin or the like and whose outstanding characteristics are that they are extremely thin and light, loosely 40 woven, and semi-transparent, by applying a colorless transparent minutely thin layer of resin to such articles consisting in washing the article with soap and water, drying, folding the article several times on itself, immersing the folded article in a 3% to 10% solution of vinyl resin in a 45 non-inflammable organic solvent, removing the article from the solution, unfolding, drying, and ironing the article.

HYMAN LOUIS SHOUB, 50