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CAMILLE DREYFUS, OF NEW YORK, N. Y., AND WILLIAM WHITEHEAD, OF CUMBERLAND, MARYLAND, ASSIGNORS TO CELANESE CORPORATION OF AMERICA, A CORPORATION OF DELAWARE

FABRIC AND METHOD OF MAKING THE SAME

No Drawing. Application filed May 1, 1928. Serial No. 274,353.

This invention relates to the making of fabrics having different lusters on various parts of the same. This application is in part a continuation of our applications Serial Nos. 252,030 and 252,031 filed Feb. 4, 1928.

An object of our invention is to produce a fabric containing yarns having different degrees of resistance to the action of delustering agents.

Another object of our invention is to provide a fabric having different lusters on different parts thereof. A further object of our invention will appear from the following detailed description.

We have found that yarns of organic derivatives of cellulose possess various degrees of resistance to the delustering action of various agencies, such as boiling water, wet steam, or other hot aqueous media, etc., depending on the nature of the organic derivative of cellulose, or the nature of the solvent mixture containing the organic derivative of cellulose from which the yarns are spun. Thus, as we have set forth in our prior applications Nos. 252,030 and 252,031, if an acetone soluble cellulose acetate having an acetyl value of say 54.5% is dissolved in a solvent mixture consisting of 95% acetone and 5% water and the resulting solution is dry spun, the yarns produced thereby readily become delustered when exposed to the action of wet steam, or of water or aqueous soap solutions at elevated temperatures. On the other hand, as set forth in these applications, if the solvent mixtures contain little or no water, say 2% water or less, or an appreciable amount of water, say a solvent mixture containing 12 to 28% of water and 88 to 72% of acetone, yarns produced from the same cellulose acetate are highly resistant to the delustering action of boiling water, etc. We have also found that solutions of the same cellulose acetate in certain proportions of acetone and ethyl alcohol produce deluster-resistant yarns as set forth in our application Serial No. 271,973 filed April 21, 1928.

In accordance with our invention, we weave or knit a fabric of two yarns made of organic derivatives of cellulose, one kind being resistant to delustering and the other kind being readily delustered.

The fabric is woven or knitted in a manner to produce any desired effect. The fabric is then subjected to the delustering action of a delustering agent, whereupon the one kind of yarn becomes delustered while the other kind retains its luster, thus producing differential luster effects.

The one kind of yarn that is readily delustered may be made from any suitable organic derivative of cellulose and in a manner that will produce yarns that are readily delustered.

The deluster-resistant yarn may be made from any organic derivative of cellulose that produces yarns that are resistant to delustering, regardless of the nature of the solvent used; or they may be made from organic derivatives of cellulose that form yarns that readily deluster, when spun from certain kinds of solvents, but not from others, and which are spun in a manner to form yarns that are deluster-resistant. Instead of employing yarns made of organic derivatives of cellulose, yarns of other lustrous materials, such as natural silk that do not become delustered in the subsequent treatment may be used.

Examples of organic derivatives of cellulose that may be used in our process are organic esters of cellulose and cellulose ethers. Of the organic esters of cellulose that may be used, cellulose acetate, cellulose formate, cellulose propionate and cellulose butyrate may be mentioned. Examples of cellulose ethers are methyl cellulose, ethyl cellulose or benzyl cellulose. The yarns may be made from only one kind of the above mentioned derivatives of cellulose or they may comprise a mixture of two or more of the same. However, we prefer to employ yarns of cellulose acetate and a detailed description will be given in connection with the use of such organic esters of cellulose.

The fabric made in accordance with our invention need not be made wholly of organic derivatives of cellulose, but may be a mixed fabric containing such organic derivatives of cellulose and yarns of other

fibres, such as cotton, reconstituted cellulose, natural silk, wool, linen, etc. Since these materials have their own characteristic luster, further effects are obtained by their use. Obviously this invention is applicable for the preparation of threads or cords prepared from the two kinds of yarns that differ in the degree at which they become delustered.

After the delustering treatment, the fabric may be dyed or treated in any desired manner. If yarns of fibres other than organic derivatives of cellulose are used in the fabric, further effects may be obtained by cross dyeing. Where damask effects are obtained by our process, these may be further accentuated by printing colored designs corresponding to the damask or jacquard designs.

To further illustrate our invention, the following specific examples are given:

Example I

In order to obtain a woven fabric that is lustrous on one side and dull on the other, a fabric may be woven in which the warp consists of a deluster-resistant yarn spun from a solution of acetone soluble cellulose acetate of, say 54.5% acetyl value in a solvent mixture containing 78% of acetone and 22% of water, and the weft consists of an easily delustered yarn spun from a charge containing the same cellulose acetate dissolved in a solvent mixture containing 95% of acetone and 5% of water. The fabric may, for instance, be so woven that the warp of the fabric will comprise, say 7/8ths of one face of the fabric, and the weft will comprise, say 7/8ths of the other face of the fabric. This fabric may then be boiled either by separate treatment or in subsequent scouring, dyeing, or finishing treatments, with the result that the warp which is highly resistant to delustering is hardly affected in appearance, while the weft becomes pronouncedly delustered and opaque, thus producing a fabric which is lustrous on one side and which has a dull matte appearance on the other side.

Example II

In order to obtain damask or jacquard effects, a fabric is woven with the two kinds of yarns described in Example I on a jacquard loom or by any other suitable mechanical expedient of weaving to produce figured designs. The easily delustered yarn may be used in producing the figures or in the background. The fabric is then subjected to a delustering treatment by boiling or steaming, whereupon the effect of a dull figure against a lustrous background or vice versa is produced.

It is to be understood that the foregoing details are given merely by way of illustration, and that many variations may be made therein without departing from the spirit of this invention.

Having described our invention, what we claim and desire to secure by Letters Patent is:

1. A textile material comprising yarns of substantially the same luster of organic derivatives of cellulose having inherent different degrees of resistance to delustering.

2. A textile material comprising yarns of substantially the same luster of organic esters of cellulose having inherent different degrees of resistance to delustering.

3. A textile material comprising yarns of cellulose acetate having inherent different degrees of resistance to delustering said yarns not having been delustered prior to their formation into the textile material.

4. A fabric having differential lustre effects and comprising yarns of organic derivatives of cellulose having inherent different degrees of resistance to delustering, the differential lustre effect being due to delustering of the yarns having inferior resistance to delustering.

5. A fabric having differential lustre effects and comprising yarns of cellulose acetate having inherent different degrees of resistance to delustering, the differential lustre effect being due to delustering of the yarns having inferior resistance to delustering.

6. A fabric having a preponderance of inherently easily delustered yarns containing organic derivatives of cellulose on one face and a preponderance of more inherently difficultly delustered yarns of organic derivatives of cellulose on its other face the fabric being formed by associating together said yarns prior to delustering.

7. A fabric having a preponderance of inherently easily delustered yarns containing cellulose acetate on one face and a preponderance of more inherently difficultly delustered yarns of cellulose acetate on its other face the fabric being formed by associating together said yarns prior to delustering.

8. Method of producing fabrics comprising associating yarns of substantially the same luster of organic derivatives of cellulose of inherent different degrees of resistance to delustering.

9. Method of producing fabrics comprising associating yarns of substantially the same luster of cellulose acetate of inherent different degrees of resistance to delustering.

10. Method of producing a fabric having parts of its surface more lustrous than other parts comprising associating yarns of organic derivatives of cellulose of different inherent degrees of resistance to delustering, and then subjecting the fabric to a delustering agent.

11. Method of producing a fabric having parts of its surface more lustrous than other parts comprising associating yarns of cellulose acetate of different inherent degrees of

resistance to delustering, and then subjecting the fabric to a delustering agent.

12. Method of producing fabrics having differential lusters comprising weaving yarns of organic derivatives of cellulose of different resistance to delustering in such a manner that one face of the fabric has a preponderance of inherently easily delustered yarns and the other face of the fabric has a preponderance of more inherently difficultly delustered yarns, and then subjecting the fabric to a delustering treatment.

13. Method of producing fabrics having differential lusters comprising weaving yarns of cellulose acetate of different inherent resistances to delustering in such a manner that one face of the fabric has a preponderance of easily delustered yarns and the other face of the fabric has a preponderance of more difficultly delustered yarns, and then subjecting the fabric to a delustering treatment.

14. Method of producing a fabric having parts of its surface more lustrous than other parts comprising associating yarns of organic derivatives of cellulose of different inherent degrees of resistance to delustering by hot aqueous media, and then subjecting the fabric to a hot aqueous medium.

15. Method of producing a fabric having parts of its surface more lustrous than other parts comprising associating yarns of cellulose acetate of different inherent degrees of resistance to delustering by hot aqueous media, and then subjecting the fabric to a hot aqueous medium.

In testimony whereof, we have hereunto subscribed our names.

CAMILLE DREYFUS.
WILLIAM WHITEHEAD.